**DEVELOPING WRITTEN LITERACY IN BUSINESS EDUCATION:
USING A RANDOMISED CONTROLLED TRIAL TO MEASURE THE IMPACT OF
A WRITING INTERVENTION**

by

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Abstract

This thesis has developed out of a classroom practitioner's desire to find out what works when trying to improve both the quality of the writing and the attainment of GCSE Business Studies students. It investigates the body of literature on writing approaches and in the context of the current educational framework in UK secondary schools considers how suggested writing interventions can be used. It describes the use of an exploratory randomised controlled trial conducted with 14-15 year-old students in English state schools who were studying business start-ups as part of a course in 'Business Studies'. Students participating in the trial were randomly assigned to an intervention or control group within each class in each participating school. The intervention uses a 'Story Grammar' strategy to improve students' reasoning by increasing the frequency and complexity of their use of 'connectives' such as 'when', 'if' and 'because'. The analysis reports positive effects of the intervention on students' understanding as judged by the use of a standard examination style mark scheme, and the number and complexity of connectives used by students in their extended writing. The design of the experiment and its practicability as a model for investigating effects of classroom interventions are discussed.

Dedications

This thesis is dedicated to Tim.

My rock.

Thank you for your constant encouragement and support.

and

To my children David, Rachel, and Jacob who have been my inspiration.

Thank you for your love, patience, and faithfulness.

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Preface

A word after a word

after a word is power.

Margaret Atwood

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.1 Overview

This chapter introduces my field of research and outlines the academic and professional rationale behind my interest in developing written literacy. It begins by providing a background to the literacy debate, and a statement of the problem. The key gaps in the knowledge will be identified in order to ascertain and justify the need for new research. It then goes on to outline the purposes and significance of this study and what this would represent in terms of an original contribution to knowledge. This is followed by the key research questions and a summary of the research design which will demonstrate how the identified knowledge gaps can be filled. There is then a summary of the theoretical framework which provides the perspective upon which the study is based. This leads on to a statement of the assumptions, the limitations, and the scope of the study. The chapter finishes with a summary of its message, which will lead to a synopsis and a preview of the content of the chapters for the whole study.

1.2 Statement of the problem

Complaints about the lack of literacy of school leavers in the UK are not new and have been a constant theme over the last forty five years. The early 1970s saw lively debates on language teaching across the curriculum with a proposition that all teachers were teachers of language. The Language across the Curriculum (LAC) movement was the spearhead for the Bullock Report (1975), which recommended

1

that the teaching of literacy was a whole school issue and that every secondary school should develop a policy for language across the curriculum. Moving through the National Curriculum years, as the evidence grew to support the case for raising literacy standards in the UK, it provided the impetus for the introduction of the National Literacy Strategy (NLS) in 1997.

The NLS was established in 1997 by the newly elected Labour government to raise standards of literacy in English primary schools over a five to ten year period. Goodwyn (2002, p1) comments that there has not been a single policy initiative like it and explains that 'every teacher, every pupil and every LEA has been, or soon will be, fundamentally affected by this initiative on a daily basis'.

Performance measures were created in order to set national targets. For example; by 2002, 80% of 11 year olds were to reach level 4. A published Framework for Teaching (FFT) provided lesson plans, objectives and structure, and a programme of professional development was implemented. This was accompanied by a media campaign and a related series of events, including the National Year of Reading (1998-1999) and summer literacy schools.

This high profile initiative presented literacy as central to effective teaching and learning and tackling the long 'tail' of underachievement that was associated with English schools (Brooks et al, 1996). The Language across the Curriculum imperative of reading and writing in many subjects across the curriculum was, to some extent, being revisited. The NLS recognised that literacy could not be learned in isolation and that reading and writing were essential whole curriculum components.

As the first NLS pupils approached secondary schooling the implementation of the Key Stage 3 strategy and its increased emphasis on literacy provided opportunities for separate subjects to contribute to student literacy. A QCA publication provided a rationale which recognised the centrality of language use in subject learning. 'Effective teaching strategies across subjects involve pupils in many kinds of learning that require them to use language. They engage in a great deal of talking and listening, different kinds of writing and reading and the best kind of 'thinking on your feet' … The teaching objectives for language are not an alternative to, or an additional load on, the learning of the subject, but the means of supporting key learning skills.' (QCA, 2001, p5). Kate Findlay in a contributing chapter on subject literacies commented that subject knowledge and expertise were no longer sufficient in themselves and that teachers must use their pedagogical knowledge to communicate their subjects (Goodwyn, 2002, p65). From 2006 the Key Stage 3 strategy was subsumed into the 'National Strategies' (DfE, 2011, p2). Prescribed interventions to secure and achieve accelerated improvements in standards were extended to all Key Stage 3 core subjects and also into Key Stage 4. The National Strategies were a fixed five year intervention designed to raise standards of achievement and progression for children and young people by improving the quality of teaching and learning. The programmes and their materials were seen by the Department of Children, Schools, and Families (DCSF) as the key agency in delivering a core curriculum. With their completion in 2011, the coalition government decided '…to step back from much of the central provision and initiatives that have been developed over recent years and to consolidate resources and decision-making at school level, allowing schools to determine their own needs and to commission appropriate support' (DfE, 2011, p5). The revised English National

Curriculum which came into force in September 2014 stated that 'Teachers should develop pupils' spoken language, reading, writing and vocabulary as integral aspects of the teaching of every subject' and 'Teachers should develop pupils' reading and writing in all subjects to support their acquisition of knowledge' (DfE, 2013, p10). The responsibility of the safeguarding of literacy appears now to have been returned to the classroom teacher, and is monitored through school based performance management systems based on the teacher standards and the inspection visits and pronouncements of Ofsted.

The last forty years have indeed seen a raft of policies designed to improve students' literacy through the promotion of recommended teaching strategies. However, there has been and there remains a sense of 'unfinished business' as policy makers return to the need to drive up literacy standards, and as commentators suggest a need for greater efficacy, either through more theoretical underpinning and empiricism (Escholz,1980; Mroz et al. 2000, Alexander, 2001) or the need for teacher improvement as promoted by the National Strategies and also the current Teachers' Standards, where, in order to demonstrate good subject and curriculum knowledge a teacher must '…demonstrate an understanding of and take responsibility for promoting high standards of literacy, articulacy and the correct use of standard English, whatever the teacher's specialist subject' (DfE, 2013, p11). In the absence of any Department for Education (DfE) directed policies, the campaign for improved literacy has been adopted by Ofsted. Launching the report "Moving English Forward" (Ofsted, 2012), the Chief Inspector, Sir Michael Wilshaw, issued a national challenge to drive up stalled standards of literacy and English. 'There can be no more important subject than English. It is at the heart of our culture and literacy skills are crucial to pupils' learning for all subjects. Yet too many pupils fall behind in their

literacy early on. In most cases, if they can't read securely at seven they struggle to catch up as they progress through their school careers. As a result, too many young adults lack the functional skills to make their way in the modern world. We are no longer a leading country in terms of our literacy performance: others are doing better…We don't need more research or more headline-grabbing initiatives which can't be sustained. Good leadership is the key to good literacy in schools. Above all, this means being passionate about high standards of literacy for every single pupil, and creating a no-excuses culture both for pupils and for staff.' (Wilshaw, 2012). The report linked the coalition government's standards-driven agenda to the recurring call for improvements in language and literacy. 'There can be no more important subject than English in the school curriculum. English is a pre-eminent world language, it is at the heart of our culture and it is the language medium in which most of our pupils think and communicate. Literacy skills are also crucial to pupils' learning in other subjects across the curriculum.' (Ofsted, 2012, p4).

Quoting from the 2010 White Paper "The Importance of Teaching", Ofsted reported that in 2006 the UK had fallen from 7th to 17th in the OECD Programme for International Student Assessment (PISA) rankings: 'The truth is, at the moment we are standing still while others race past" (2012, p11). The OECD's 2012 PISA scores showed that England had continued to perform at the average level of an OECD country in reading, but that a number of countries which had performed at the same level as England in 2009 had outperformed England when looking at the 2012 results.

Added to this challenge are the constant concerns of employers regarding poor literacy and the subsequent impact on business efficiency. In a foreword to a report published by the Youth Literacy and Employability Commission (2013, p4) Stephen

McPartland MP comments that 'Evidence gathered for the Youth Literacy and Employability Commission clearly shows that there is a strong link between youth unemployment and literacy skills. The business sector regularly expresses frustration at the lack of practical literacy skills among school leavers and 15% of employers provide remedial literacy training. This situation has not improved despite the continued increase in attainment in schools.' This highlights the frustrations that employers feel about their need to input literacy remediation, despite claims that literacy attainment has increased over the last two decades of education and literacy strategies.

Such concerns have provided an educational imperative for policy makers and leaders of industry and commerce to raise standards of literacy in British schools, and it is against this backdrop that I claim my mandate for this research study.

1.3 Purpose of the study

The rationale for this research study has emerged from a need to investigate how student attainment in GCSE Business Studies can be improved. Following work carried out for a Best Practice Research Scholarship (BPRS) scheme in 2002 (Davies et al. 2002) and a related Curriculum Journal article (Davies et al. 2003), I wanted to pay particular attention to whether improvements in writing could contribute to improvements in attainment. The key question that I wanted to see answered was – how can we get students to improve the content, detail, completeness and quality in the composition of their writing? As a subject leader and a classroom teacher of business and economics I was conscious that my students needed to improve their subject attainment, and it was not their knowledge

and understanding that was holding them back from accessing higher marks in examinations, but often the application of their skills of analysis and evaluation. As their subject performance is assessed through written public examinations, it is their written literacy that needed to be addressed. The absence of research on literacy in business studies and the very small research knowledge base of business studies in schools suggested that I would need to explore and review a wider evidence base. Therefore, the purpose of my study is to find out which writing approach will enable GCSE Business Studies students to produce better quality writing and what associated writing techniques can help to improve their subject attainment.

My study shows how a writing intervention based on 'Story Grammar' improves the quality of secondary school students' writing in GCSE Business Studies. This strategy falls broadly into the 'writing to learn' approach to improving literacy. The knowledge base of 'Business Studies' is frequently presented through case studies and students are routinely expected to demonstrate their subject understanding by providing narrative accounts of the responses of individual business to different types of problem. The intervention strategy used in this study focuses on students' use of connectives[1] (e.g. if, because, however) in developing their own responses to case study questions. This strategy balances attention to the structural form expected within the discipline with the opportunity for students to exercise their own creativity in how they develop their narrative. This strategy is tested through a 'Randomised controlled Test' (RCT) design in which the randomisation takes place within each class participating in the study.

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[1] Connectives are words and phrases which join or link one part of a text (e.g. sentences and paragraphs) to another, in order to develop and move ideas.

1.4 Significance of the study

This study matters because the debate about how to improve literacy across the curriculum still continues forty years after the Bullock report (1975). Despite a plethora of initiatives designed to raise literacy levels, there is still concern that children in the United Kingdom leave school without the literacy levels that will increase their life chances. This study will contribute to a filling in of the gaps in the evidence base for literacy interventions that might work. There is very little literature and evidence available of writing approaches and specific writing interventions used in secondary schools in the UK, and beyond the Curriculum Journal article (Davies et al., 2003) there is no literature related to the development of written literacy in business studies. My study is significant because it will help us to understand better the writing approaches that inform our teaching and learning strategies, and will enable business studies teachers to consider more effective ways of being teachers of literacy. My study is also significant as it operates as a pilot study to support the use of randomised controlled trials on a small scale. This is helpful as it can enable classroom practitioners to develop a new method of testing interventions and trialling what might work and discovering if it does work. Robertson (1980, p7) commented 'Of all the recommendations of *A Language for Life*, the report of the Bullock Committee, the reasonable-sounding, apparently straight-forward and certainly cheap ones embodying the idea of 'language across the curriculum' have proved the most difficult to implement.' My study is significant in that it addresses a gap in this knowledge about how the difficulties of achieving whole school approaches to writing can be overcome.

I hope that my contribution will not only be found within the body of knowledge, but also in the confidence that it may give to classroom teachers to work with this knowledge to enable them to make better teaching and learning decisions for their students, and also the opportunity that my new evidence provides for research informed policy making.

1.5 Research questions

In conducting this study, I would aim to:

- contribute to the theory of writing development by showing how writing literacy development can be related to specific subject attainment, and also to undertake an empirical test of the claims of the Language across the Curriculum movement.

- clarify the meaning of the development of literacy within a subject that lies outside of the Key Stage 4 National Curriculum.

- illustrate interventions that can be used by others to develop literacy in Business Studies.

- provide evidence of the effects and the effectiveness of strategies to develop literacy in Business Studies; and

- contribute to improving the quality of students' learning in GCSE Business Studies by disseminating the results of my study to a wider population.

As a way in which I can take specific steps to achieve these aims, I have devised a list of questions that are intended to help me achieve the purposes of my research.

This list of questions begins with a bigger picture perspective and then focuses down to the very specific. This will then allow me to generate the data that can be measured, and will enable me to answer my questions. My overarching question is – how can we get students to improve the content and its detail, the completeness, and the quality in the composition of their writing? I also want to find out how students can improve their reflexivity and become more reflective writers so that they achieve more effective knowledge transfer and can therefore access more opportunities to be more successful in their lifetime of learning? This will allow a more specific focus on finding out what approach of writing allows students to write more? The key question that will be the focus of my research study is:

'Can the use of connectives help GCSE Business Studies students improve their subject attainment?'

In summary, my study will pose four key questions.

 a) How can we get students to improve the quality of their writing?

 b) How can students become more reflective writers?

 c) What writing approaches enable students to write in more detail?

 d) Can the use of connectives help to improve the subject attainment of GCSE Business students?

1.6 Research design

The research uses an experimental design for a pilot randomised controlled trial. Randomised controlled trials have been undertaken on a large scale over the last

sixty years, principally in the areas of medicine, international development, and business. They have been rarely used to test the effectiveness of public policy interventions in the United Kingdom, although two of the first randomised trials of the twentieth century were undertaken in the 1930s in educational research (Torgerson and Torgerson, 2008, p21). However, over the last five years there has been a growing movement of proponents for greater use of both small and large scale randomised trials. In 2010, a NFER publication began with a title page heading 'The future is random – the 'why' and 'when' of randomised controlled trials' (Hutchinson and Styles, 2010, p1). The launch of the report 'Building evidence into education' (DfE, 2013) saw an increase in debate from classroom teachers, teacher educators, and academics in the use of evidence based policy and specifically in the use of RCTs (e.g. Old, 2013). The report was launched alongside government funding for the Education Endowment Foundation (EEF) to roll out a programme of randomised controlled trials (Collins, 2013). This has resulted in a number of RCTs that are now being used to evaluate instructional techniques used in schools.

My study involved six participating state secondary schools within the West Midlands area. Five of the schools were designated comprehensive schools, and one school was a single sex selective school. Each school provided a Year 10 GCSE Business Studies class to participate in the study. The class undertook three writing activities over a three week period. The first writing activity operated as the pre-test, the second writing activity was the treatment activity, and the third writing activity provided the post-test. Each writing activity followed the same structure. The first and third writing activities (pre-test and post-test) were common for all students. However, for the second writing activity, the students are randomly assigned to either the control or the intervention group. The study uses randomisation within

class design to control for teacher and class level peer effects. This can be made possible through the opportunity to run the writing activity under controlled conditions where the students operate under examination style conditions within the classroom. The control group of students were given the case study and the related questions, however, the intervention group students were also provided with a stimulus prompt, which consisted of a grid of connectives designed to encourage them to use connectives.

The data collection methods consist of the measurements of the variables used to assess the writing work. The writing is graded using four criteria: (i) the number of sentences; (ii) the number of connectives used; (iii) the complexity of connectives used, and (iv), the subject (Business Studies) quality. The complexity of connectives was measured by awarding 2 marks for each correct use of a temporal connective, 3 marks for each correct use of a simple conditional connective and 4 or 5 marks for each correct use of a complex conditional connective. Subject quality was judged by using a mark scheme adapted from questions on this topic from past GCSE examination questions. These quantitative results are combined with a descriptive qualitative analysis of the writing results of a small sample cohort. From here, an interpretation of these results is pulled together in a discussion and this generates some conclusions based on the analysis and interpretation of the data collected. The design of this study enables the development of an evidence base through studies that are feasible at a local level.

1.7 Theoretical framework

Traditional approaches to writing have been categorised into either a product approach or a process approach. A product approach involves an identification of the features of effective text, and is formally instructed and teacher led. A process approach to writing emphasizes the problem solving required to achieve the goals which a text is designed to satisfy. More recent work has suggested that both approaches should be combined in instructional practice, and this is what has been undertaken in this study. This combination has involved combining a story grammar approach to encourage writing (traditionally seen as a product approach) with a process approach where writers review their work by focusing on the use of connectives.

'Story grammar' (Stein and Glenn 1979, Merritt and Liles 1987, Graham and Harris 1989) was developed to make sense of the difficulties that younger children with language difficulties may experience. Texts are analysed primarily through the unit of an 'episode' or a story scenario which is treated as a coherent text when it incorporates each of several features which make an episode a 'mini-story'. These structural features comprise: (i) a context for the action; (ii) an initiating event; (iii) an internal response or motivation of the main protagonist(s); (iv) an action that is triggered by this internal response (v) a consequence of the action and (vi) a response of the protagonist(s) to the consequence. Analysis of texts in terms of Story Grammar episodes is based on the way in which pieces of a narrative can be identified as episodic features through the way in which the bits of the story link together. A number of studies (e.g. Carnine and Kinder,1985; Dimino et al.,1990, Mathes et al.,1997) have measured the quality of 'utterances', i.e. an uninterrupted

sequence of spoken or written language, in terms of the completeness of episodes as defined by the inclusion of each of the above mentioned features (i)-(vi) which comprise a complete episode. In contrast, Hudson and Shapiro (1991) focus on the use of connectives such as 'but' and 'because' on the grounds that fragments of a text become recognizable as (for example) a 'consequence' through the way in which they are linked to another fragment through a connective.

Story grammar has been widely used to devise strategies to improve spoken literacy of younger children who are experiencing language delay. These interventions have generally aimed to make story structure very explicit so that children can understand the rules followed by texts. The balance of evidence (Dimino et al. 1995, Gardill and Jitendra 1999, Gersten et al. 2001) suggests that Story grammar interventions improve reading comprehension. Using a story grammar approach to improve written literacy (e.g. Davies et al. 2004) is less evidenced. Story grammar interventions can be viewed as falling into the 'product' approach since they model the six elements of story episodes. An alternative approach, advocated by Hudson and Shapiro (1991) focuses on the use of connectives. The incorporation of a mark scheme which encourages the use of connectives allows the students to reflect on their writing process. As such, the story grammar technique can be used as a method of combining both product and process approaches and therefore my study will use a story grammar model, but one which allows for Galbraith's (1999) complementary approach. In so doing, it is hoped that this adapted approach will also add to the body of knowledge of writing theory.

1.8 Assumptions and limitations – the scope of the study

The study makes a number of assumptions. First, since the intervention was implemented by other teachers I am assuming that they did not subvert the intervention or the randomisation. Second, the intervention design assumes that students follow the spoken instructions given by the teachers administering the written activities, and that the students also follow the written instructions within the writing activities. Third, I assumed that as the participating students are end of Year 10 GCSE Business classes that they will have completed the first unit of their GCSE specification which will have covered the subject content included in the writing activities.

The scale of the study also entails some limitations. This is a pilot RCT with a small number of schools, limiting the power of the study to detect small effects. Also, the participating schools were selected on the basis of purposive sampling. Results might have been different if the selection of participating schools had been random. Moreover, all the schools were from the West Midlands and results might be different in other regions where the mix of students is different. Finally, the intervention was very short. It is possible that a more sustained intervention would yield very different effects.

This opening chapter has provided the context for my research study along with my position. I have attempted to outline the features of my work that have shaped my research focus and allowed me to reach my key research questions. I have highlighted the reasons for investing time in looking at the ways in which the literacy problem can be addressed. I have declared my professional interest, and my interpretation of the need for 'every teacher, a teacher of literacy'. I have

summarised my research methods, explained my research design, and have outlined the scope of the study. I have also provided the theoretical framework that informs the rationale for my study. Throughout this chapter I have identified the gaps that exist in the current knowledge base, and how my study will contribute to filling any gaps, and how it can also provide a starting point for an evidence base for research informed school communities.

1.9 Summary of Chapters

In Chapter 2, I will provide the historical context for the concerns about literacy and comment on the policies and curriculum reforms designed to address these concerns. The chapter uses a timeline to illustrate how national policy in literacy has developed and has attempted to address literacy issues. It spans from the Bullock report in 1975 to the Education Reform Act of 1988 to New Labour's National Literacy Strategy of 1997 to the National Strategies in 2005, and then to the revised National Curriculum orders of the coalition government of 2014. The chapter will also consider the development of business studies in the secondary curriculum and how it may or may not have been affected by these literacy drives. The chapter concludes by considering why the findings from the policy context are important for this study.

In Chapter 3, I will present a view of the literature which focuses on what writing is, what constitutes 'good' writing, how it is taught, and its role in developing learning. The chapter begins with an analysis of the four key writing approaches. Product approaches, such as the Story Grammar approach of Stein and Glenn (1979) will be outlined. This will then lead to an account of how the product approach was

superseded by a process approach to writing (Hayes and Flower, 1977; 1981, and Scardamalia and Bereiter, 1986). The development of Genre Theory will then be described, followed by a discussion of the combined product and process approach (Galbraith,1999). The chapter will also examine the literatures based on meta-analysis as a statistical method used to measure the effectiveness of writing instructional practices. The chapter will conclude with a rationale for the writing approach used in this research study.

In Chapter 4, I will describe and justify the process by which the method of research was chosen, the methodological implications, and the nature of the implementation of the research activity. It outlines the aim of the research and the hypothesis that will be tested. It considers the methods that might be used to investigate the research question, and looks at the type of data that might be needed. The chosen research method is analysed and the rationale for its use is set against the literature for and against its use. The chapter continues with a discussion of how the intervention for the study was designed and implemented, how the data was collected and recorded, and then how it was processed and analysed. It also explains how randomisation took place, so that there could be an intervention (treatment) group and a control group. The actual implementation of the intervention is then described. The chapter finishes with a return to the assumptions and justifications for the method and also the ethical considerations required.

In Chapter 5, I will present the results of the three writing activities that have formed the intervention. The chapter reports the results of the implementation of the writing activities, and also focuses in detail on a small sample of four students' work. This includes scanned images of the writing of the students, and looks at how the marking scheme was applied and how the data collection grid was used to allow for

assessment and recording of variables. The chapter then looks at the descriptive data for the whole sample and uses a correlation matrix to identify and report the relationships of the measured variables for the whole sample. The use of assessment standardisation to ensure consistency of assessment is also explained. The chapter then moves on to a statistical analysis of the data and summarises the results of the outcome differences for the three writing activities for both the intervention group and the control group. Inferential statistics are used to report the results of further data analysis.

In Chapter 6, the results are discussed in the light of the previous literature on writing research and also within the context of educational policy. The research questions and the stages of the research process are revisited. The findings are related to the evidence and literature on improving business understanding in schools, and are then considered from the viewpoint of the extant body of knowledge on writing theory. The progress of the Language across the Curriculum movement is put into the context of the role of literacy in schools today. This is followed with a discussion of the use of small scale randomised controlled trials and how they have been viewed by the academic community. The study's limitations are then weighed up, and finally, the implications of the study's findings for both research and practice are outlined.

In Chapter 7, I will return to the research questions posed at the start of this research journey. Based on my findings I will look at what the answers now are to these questions and will then look at what these findings have to say to the literatures. I will reflect on what has been achieved by my research, how I have contributed to the body of knowledge, and will draw some conclusions from the limitations of my

research. The chapter will also present some recommendations for future research and will conclude with my final thoughts.

CHAPTER 2

POLICY CONTEXT

2.1 Introduction

This chapter sets the concerns about the literacy weaknesses of UK students at the end of compulsory schooling within a historical context. Despite the strategies implemented over the last forty years, there remains a constant anxiety over standards in literacy (Guardian,2008), and whilst the SATs have now been abolished at Key Stage 3, there are still calls for the tests to be removed from the Key Stage 2 curriculum (Guardian,2009a). Literacy in our schools still remains a cause for concern.

This chapter begins by using a timeline of development of national policy for literacy and how this has been set against educational reform. This will provide a background for an explanation of the way in which policy has been formulated and implemented to respond to the concerns over weaknesses in levels of literacy. The historical context begins with the Language across the Curriculum movement and the Bullock report, and then moves on to Callaghan's speech at Ruskin College which heralded the 'Great Debate' for a more centralised control of the curriculum. The subsequent introduction of the National Curriculum with a focus on set standards is then outlined in order to highlight the passing of curriculum control from a local to a national level. New Labour's National Literacy Strategy (NLS) operating at Key Stages 1 and 2 in primary schools and the implementation of the Key Stage 3 Strategy in secondary schools is examined and linked to the government targets that were designed to address national underachievement and the weaker literacy levels

in the UK compared with other countries. The third section of the chapter will outline the development of business studies within the secondary curriculum and will consider how this may have been impacted by the drives in literacy. The broader influences of government targets in conjunction with the launch of a more prescriptive literacy curriculum will be discussed. The chapter will then lead to a discussion of the policy initiatives and changes that have emerged since 2010 and the advent of the current coalition government and will draw some conclusions regarding the ways in which policy has been shaped.

2.2 The development of national policy on literacy

Since the early 1970s there have been five significant shifts in policy and this section is organised in separate sections, each of which focuses on one of these shifts.

2.2.1 Language across the curriculum (LAC)

The concerns and anxieties regarding inadequate and insufficient levels of literacy are not new. A perceived crisis in reading standards in the early 1970s led to the setting up of an independent enquiry in 1972, authorised by the then Secretary of State, Margaret Thatcher. The Bullock Committee was given the task of examining just the teaching of reading and to make recommendations. That brief was exceeded and a blueprint for teaching language and literacy was developed, spearheading the Language across the Curriculum (LAC) Movement. It was believed that literacy could be improved in secondary schools if all teachers could be convinced that they are teachers of language. The Bullock report, 'A Language for life' (Bullock, 1975)

21

argued that the teaching of literacy for secondary education was a whole school issue and recommended that every secondary school should develop a policy for language across the curriculum. It also called for a re-examination of what English was, how it should be taught, and what needed to be covered. The Committee recommended that teachers in primary and secondary schools should have informed views on how students make progress in learning to talk, read and write, and that they also needed to create and implement a whole school language policy. One of the central suggestions of the report was that language is the responsibility of all teachers, regardless of subject specialism. As learning takes place through the medium of language, all teachers are involved as they help to develop students' language skills in appropriate ways. This requires the teachers to have an awareness and understanding of the importance of speaking, listening, reading and writing in the learning context. Such an assertion that all teachers are teachers of language challenged any notions that language development could be divorced from cognitive development. It also confronted the perception that language development was the sole concern of the English department. The LAC movement, therefore, challenged notions about the distribution of expertise in developing literacy and promoted the idea that whilst some (English) teachers in secondary schools had specialist expertise, other teachers had non-specialist expertise that was also critical to the development of student literacy.

Whilst the Bullock report had highlighted the need for language across the curriculum, the movement had its origins in the London Association for the Teaching of English (LATE), a group of teachers who focused on the critical reflection of teaching. One of their realisations had been that when young people talk or write

about their experiences and try to make sense of them, they are actively engaged in the learning experience. Whilst the concept of constructivism had not yet been fully articulated, there was theoretical underpinning and support from the works of Piaget, Vygotsky and Bruner. Two conferences were organised by Harold Rosen in 1966 and 1968, and in 1968 a policy document was formulated on the role of language in learning. The strapline invented as the title for this document was 'Language across the Curriculum' (Barnes et al., 1969, p120).

Barnes' (1976) classroom research identified the problems that resulted for children's learning when the style of language regarded by teachers as 'appropriate' for a subject was given more weight than the learners' attempts to formulate meaning and sense. Drawing on Esland's distinction between world-receivers and world-makers, he postulated the model of transmission and interpretation modes of teaching and learning which will be discussed in detail in the following chapter on writing to learn. A transmission teaching and learning style would conform to the criteria of the discipline where writing would be seen as a 'means of recording or memorising…at the expense of writing as a means of learning' (1976, p145). Such a paradigm shift for the 'New English' of the 1970s required not just a change in curriculum, but also a change in pedagogy.

For several years the LAC movement and the work of the Schools' Council dominated the reform of curriculum material with particular reference to the accessibility of written language. However, the movement began to peter out as practice was seen as falling short of original expectations. Moving teacher actions away from a subject specific viewpoint and incorporating a new perspective that it

was possible to develop language, would require a complete overhaul of teacher training as well as informing and persuading all existing practitioners. HMI appeared to also be changing their emphasis in language learning from 'expression' to grammar, although there was some confusion about what constituted 'grammar' and its interpretation (DES, 1977, p60). Whilst Barnes, Britten and the LAC movement were focused on language and writing, there was a move towards the identification and interpretation of literacy as reading. Curriculum concerns were being re-focused from the prevailing philosophy of all teachers being teachers of language, and the notion that language was <u>across</u> the curriculum, the paradigm was now shifting to teachers being responsible for their subject as specialists and that language was <u>for</u> the curriculum.

2.2.2 Callaghan and the 'secret garden'

Chitty (1989) and others argued that the origins of the National Curriculum lay partly in James Callaghan's celebrated speech at Ruskin College in 1976 in his first year as Prime Minister when according to a report (Guardian, 2005) he 'opened up the secret garden of the curriculum into the Great Debate, enabling politicians to comment on, intervene and interfere in matters hitherto left to teachers'. This lecture which spoke of issues of standards, accountability, and the relationships between schools, industry and parents put the idea of a National Curriculum high on a political agenda for the first time. This speech followed the publication of the 'Yellow Book', a document compiled by DES civil servants addressing the concerns of government. Against the backdrop of economic downturn, the document listed the post-war achievements of an eighty per cent increase in the school population, the school

leaving age having been increased twice, a significant building programme and an expansion of the teaching force. It then acknowledged the widespread nature of press and media criticism of the performance of schools, 'we…have provided a genuinely universal free secondary education…the greatest reorganisation of schools in educational history. Yet, there are complaints. Why is this? Has something gone wrong? If so, how should it be put right?' (DES, 1976, p5)

The subsequent 'Great Debate' was an attempt to create a new educational consensus built around increased central control of the curriculum, greater teacher accountability, and a more direct subordination of secondary education to the perceived needs of the economy. From an agenda which was focused on the three 'Rs' of reading, writing, and arithmetic, and the debate about comprehensive schooling, the great debate moved the items for consideration to the 5–16 curriculum, the assessment of standards, the education and training of teachers, and the relationship between school and working life with regard to the industrial uncertainty of the late 1970s and the approach of the recession of the early 1980s. A new, more utilitarian view of the purpose of schooling had emerged as education was now linked to economic regeneration. Given the dual concerns of economic need and the desire to improve the standards of educational outcomes, greater centralisation of policy and practice in education was seen as the way in which improvement could be secured.

2.2.3 Introduction of the National Curriculum

The 1988 Education Reform Act (ERA) based on the Education Reform Bill of the previous year can be seen as the main lasting achievement of Kenneth Baker. It revised many of the principles of the 1944 Education Act and was designed to set a framework for state education. The 1944 Education Act was Rab Butler's introduction of publicly provided primary and secondary education for all; with the only prescribed requirement set out in relation to the school curriculum was that all schools should teach religious education. Apart from curriculum schemes and programmes run by some local education authorities, the curriculum for pupils aged 5 to 14 was largely determined by individual teachers, often on the basis of commercially available textbooks. The curriculum for older pupils was based on public examination syllabuses chosen by teachers. Prior to the passing of the 1988 Act, there had been a few indications of the Department of Education and Science's (DES) determination to take greater control of curriculum matters. In 1979 the then Secretary of State, Mark Carlisle, oversaw the abolition of the Schools' Council and its replacement with the School Curriculum and Development Committee and the Secondary Examinations Council whose members were appointed by the Department. In 1985 under Sir Keith Joseph as Secretary of State, the 'Better Schools' White Paper put forward the recommendation to move towards a nationally agreed curriculum.

Kenneth Baker's 1987 Education Reform Bill set out the rationale for a national curriculum with four identified purposes. An entitlement for a broad and balanced curriculum was introduced for pupils; standards were set for pupil attainment and as

an aid for school accountability; improvements in continuity and coherence within the curriculum, and the aiding of public understanding of the work that is carried out in schools. Following consultation and amidst public and professional outcry, the 1988 Education Reform Act (ERA) was passed and the framework for the National Curriculum was established. The Act stated that the key principles in developing the National Curriculum were that it would be underpinned by two aims. Firstly, to promote the spiritual, moral, cultural, mental and physical development of pupils (thereby echoing the 1944 Act), and secondly, to prepare pupils for the opportunities, responsibilities and experiences of adult life. The curriculum would be structured around 'Key Stages' and would be subject-based, covering the 'core' subjects of English, mathematics, and science, and the 'foundation' subjects of art, geography, history, music, physical education and technology. These subjects would be studied from 5 to 16, with the introduction of a modern foreign language from 11 to 16. The syllabus for each subject at each Key Stage would be set out in a 'programme of study' which also included a scale of attainment targets to guide teacher assessment. Whilst religious education (RE) and personal, social and health education (PHSE) sat outside the National Curriculum subjects, there was still a requirement for these to be taught. During the first few years of implementation a number of non-statutory 'cross-curricular' themes were added to the basic curriculum framework.

ERA set a new agenda in and for education which was characterised by central government control of the content of the curriculum across the 5 -16 year age range. This was coupled with a weakening of the powers of local government in educational matters through an enforced delegation of their responsibilities for management and

budgeting to the schools themselves.   According to Chitty, (1992, p37), ERA had 'increased the powers of the Education Secretary to a quite alarming degree, and restored to central government a control over the school curriculum which had been surrendered in the inter-war period. While gathering more power to the centre, it simultaneously introduced important limitations on the functions of local education authorities (LEAs), who were forced to give greater autonomy to schools, heads, and governing bodies. Above all, it effectively ended that ill-defined partnership between central government, local government, and individual schools which had been such a prominent feature of the educational scene since the settlement of 1944.'

ERA was essentially the legislation which enabled a shift in the basic structure and ethos of education. It was ambitious in its move to redesign a major public service from top to bottom. There was widespread professional opposition. The state imposed curriculum with its traditional subject disciplines and its testable body of knowledge was perceived as over prescriptive and unwieldy and the antithesis of the prevailing choice and diversity philosophy. Tomlinson (1993) outlined the professional concerns of the overburdened teacher, the reduction in teaching time, the unreliability of the evidence of pupil achievement, and the lack of regard for added value and the social environment within which schools operated.   Chitty (2002) considers with hindsight the differing interpretations of the Act. He contrasts a more benign view that the Act was all about raising educational standards, producing a better-educated society, and improving the management of schools with the perspective that the Act's main purpose was to challenge the 'producer interest' in education and make it accountable to the customer. A public service which had provided equally for all, had now been transformed into one powered by market

forces. The development of literacy had now been subsumed into the core subject of English and set within the constraints of subject specific programmes of study. Any curriculum concerns appeared to have been hidden behind the 'control' issues which were taking central stage.

Whilst debate on ERA might be seen as having been dominated by 'control and power' issues, there were some comments on the curriculum itself. In a 'think piece' for the National College of School Leadership, Tim Brighouse (2005) in a document designed to stimulate discussion and entitled 'Accidents can happen' considers two mistakes in national curriculum planning. The first was the academic focus of the 1870 curriculum, and 'the second major accident was the introduction of the national curriculum in 1989. Not that a national curriculum was necessarily a mistake; after all, the state has a right to determine what is needed collectively for the future benefit of society. It was more that the purpose, scale, framework and choices for inclusion in the curriculum were inappropriate.' He criticises the emphasis on the single curriculum as not suiting all, and summarises it as being over-prescriptive and full of unbalanced choices with subject panels making single decisions about content and overlooking the need for a cohesive big picture.

In a footnote to 'Towards a New Education System: The Victory of the New Right?' Chitty (1989) explains that Kenneth Baker's request for comments and advice from interested parties drew more than twenty thousand responses. He refused to make this material available, but a selection collected together by Julian Haviland, a former Times political editor was published in 1988 under the title 'Take Care, Mr. Baker! : The Advice on Education Reform Which the Government Collected But Concealed.' (Haviland,1988). The government was clearly embarrassed by the generally hostile response to most of its proposals and tried to create an impression that there was in

fact popular support. Whilst there had been some support for some aspects of the proposals, there was not one response which endorsed without reservation the new curriculum structure.

The introduction of the National Curriculum in 1988 provided a nationally determined programme of study for English teachers to implement, and benchmarks that could be used to judge students' progress. The responsibility in secondary schools for literacy was put firmly back in the hands of teachers of English. The 1988 Education Reform Act which created the framework for the National Curriculum appeared to harden the divisions between subjects and formalised a very clear rejection of the LAC movement.

The Act stated that there would be attainment targets for children aged 7,11,14 and 16 which would provide standards against which pupils' progress and performance could be assessed by the individual teacher, and also, through a national system of tests (Standard Attainment Tests or SATs). The introduction of national targets put achievement in literacy at the forefront of the performance indicators by which the whole schooling system would be judged. The additional provision of a national scheme of school inspections through a reconstituted HMI was introduced in the Education (Schools) Act (1992). The Office for Standards in Education (Ofsted) would carry out inspections of schools by a team of inspectors who would report directly to schools, parents, and government. The argument here was that the twin pressure of Ofsted led government surveillance and the competition from other local schools would induce schools to use the benchmarks to raise standards of literacy. Grounded in evidence based policy, any improvements could be quantified through the use of measureable targets.

Such plans for statutory assessment and the subsequent regime of testing may have proved to be the Achilles heel for ERA. The assessments have been subject to a variety of criticism. Two of the main points of concern are that they place children under constant stress for their whole academic lives, and that the principal purpose of national curriculum testing has become the generation of data for school league tables. Statutory assessment has also been seen as testing the teachers as well as the pupils (Ball, 1990). The initial purpose of assessment within the National Curriculum was to 'show what a pupil has learnt and mastered and to enable teachers and parents to ensure that he or she is making adequate progress' (The National Curriculum 5-16: A Consultation Document, p11). At this early stage of consultation, assessment was envisioned to be beneficial for the individual learner with the emphasis on formative assessment. As the Bill progressed and the commissioned Task Group on Assessment and Testing reported back, the ambiguity at the heart of the proposals was being uncovered. Could a national system serve both the interests of the individual learner and the demands of those whose priority was to define national standards and to measure performance in relation to them? (Haviland, 1988) The RSA Examinations Board was 'not convinced of the practicability or desirability of established national standards at 7, 11, or 14.' (ibid, p77). Teacher unions opposed the use of test results as performance indicators. 'The NUT rejects the view that tests can be used as a competitive stimulus between pupils and between schools.' (ibid, p88). In a 2003 publication 'The Case against National Curriculum Tests', the NUT quotes from two studies conducted by Cambridge and Warwick Universities which concluded that the tests distort the curriculum and educational experience available to children, and that this can de-

motivate children, especially low achievers, and constrict the curriculum. After years of confusion, upset, concern over unmarked tests, and proposed boycotts of the tests, the Key Stage 3 tests were abolished in October 2008, and a report (Guardian, 2009b) declared that Ed Balls had said that ' the tests were not cast in stone' and was currently considering the future of the Key Stage 2 tests. Much of the protest surrounding these tests was led by English teachers.

The use of literacy tests as a means of measuring the performance of pupils can lead to the generation of prescriptive and formulaic schemes of learning. The dissent from practitioners and the eventual 'dissolution' of such national testing indicates that teachers may not be convinced that pupils learn effectively following such strategies. This may be a significant factor in the debate about the purpose and usefulness of developing writing.

2.2.4 The National Literacy Strategy (NLS)

In July 1997, David Blunkett, the new Secretary of State, published the first White Paper of the new government. This document set out six policy principles that were designed to drive the changes that were to be central in the development of the NLS:

- Education will be at the heart of government;

- Policies will be designed to benefit the many, not just the few;

- Standards matter more than structures

- Intervention will be in inverse proportion to success;

- There will be zero – tolerance for under-performance; government will work in partnership with all those committed to raising standards.

The White Paper also announced the introduction of the National Literacy Strategy. (DfEE,1997) and thus began the biggest school improvement plan in the world involving 150 local authorities, 18,500 primary schools, approximately 200,000 teachers and three million children. Michael Fullan who led an international team from Canada appointed by the DfEE to report back on the Strategy's progress, described the NLS as 'among the most ambitious large-scale educational reform strategies in the world and, without question…among the most explicit and comprehensive in their attention to what is required for successful implementation' (2000, p5).

The National Literacy Strategy (NLS) was introduced into all primary schools in England in September 1998. This followed a pilot project in 1996, which involved schools in fourteen Local Education Authorities. The strategy was planned for teachers to teach a daily 'literacy hour', which followed a pattern of 30 minutes of whole class teaching, then group work, and concluding with a plenary session. The 'literacy hour' was introduced into primary schools as a contingent part of the National Literacy Project (NLP) set up by the DfEE (Department for Education and Employment) in 1996, which then became the National Literacy Strategy and from there developed into the National Primary Strategy. A published Framework for Teaching provided lesson plans, objectives and structure and a programme of professional development was implemented. This was accompanied by a media campaign and a related series of events, the National Year of Reading (1998-1999) and summer literacy schools. This was to be a policy which, dominated by the 'literacy hour' would impact every teacher, every pupil and every LEA on a daily basis. The Framework for Teaching (FFT) specified in considerable detail the

programmes of work to be carried out in each term of each primary school year in relation to three levels of work in text, sentence and word. The FFT also indicated word lists to be learnt, and detailed planning and monitoring procedures.

In developing and implementing the National Literacy Strategy, the Literary Task Force had pointed to the UK's 'tail of underachievement'   (Brookes et al, 1996) and suggested that the causes of this were underachieving schools, poor teaching methods and poor teacher training. Implicit within the launch of the NLS for primary schools was a recognition that the National Curriculum was not working, and there needed to be a fresh initiative. The National Curriculum had held the belief that all that was required was to specify the programmes of study and the targets would be sufficient to improve teaching. It was assumed that teachers might 'naturally' choose the most effective methods of teaching. The National Literacy Strategy took this one step further by deciding what teaching methods should be used.

The strategic goal for the new Labour government was that if they were re-elected and returned for a second term of office, by the end of 2006 all children leaving primary school would be reaching the 'expected average standard' for an 11 year old. A specific interim target was set that by 2002 80% of all children leaving primary school would have achieved a Level 4. In order for schools to achieve this target they were to produce literacy action plans, there would be new responsibilities for the local education authorities (LEAs), and the National Curriculum would be modified in other subjects to provide the extra time for literacy. Initial teacher education would have more literacy instruction and training and there would be specific professional development for existing teachers. The NLS promoted a particular pedagogy where there was a move from demonstration and supported work, which might be viewed

as work with 'product' outcomes, to a focus on independent work, with inherent 'process' features, within a daily structure.

Questions were raised about how this goal was formulated. By definition, an average cannot be exceeded by all members of an age group who have a spread of reading or writing ability. There was no explanation for the rationale of adopting the target age of 11, and not 7 or 14. Why had the target been defined in National Curriculum terms? Hannon (2000) suggests that no one had offered a better alternative.

The introduction of the NLS thus raised not only concern over the appropriateness of the goals and targets set, but also other important issues. For such a large scale initiative there had been little discussion about how you judge school performance and how you reduce inequality by raising standards in the general population. Echoes of the concerns raised at the inception of the National Curriculum re-emerged as the degree of central control at the expense of local initiative was considered, as well as the extent of imposition of pedagogy in relation to teacher autonomy. Although the voice of the teacher practitioner was not heard much, one of the more fundamental issues brought to the surface involved the discussion of what is worth aiming for in literacy education and how it should be taught.

One of the most salient criticisms of the NLS was that it had neither a rationale nor a basis in research. Its justification and the research evidence were published retrospectively (Beard, 1999) leading to considerable debate. Beard outlines the several 'predisposing' influences which had underpinned a confirmation of the

promise of the NLS to raise standards and improve the life chances of many children. These success factors were drawn from school effectiveness research; international data on primary school pupils' reading performance; findings from literacy programmes with underachieving pupils in the USA and Australia; school inspections; and the early success of the National Literacy project (NLP). An evaluation of the NLP had provided significant evidence of how literacy standards can be improved, and of some of the demands that the NLS would make on teaching skills, school management and professional development.

In response to Beard's defence of the Strategy implementation, Wyse (2003) argued that there was an urgent need to have a formal review of the NLS Framework for Teaching (FFT). He could not support the use of inspection evidence, school effectiveness research and child development evidence as reliable sources of evidence to support the FFT. Beard's response (2003) highlighted that there was evidence that the NLS had spearheaded a sustained increase in literacy attainment, especially in reading, but attacked Wyse's response as lacking in debate about the teaching of reading and the statutory status of the National Curriculum for English.

Joliffe (2004) repeats the message that the missing link was the underpinning pedagogy which needed to be explicitly understood for the Strategy to be effective. To this effect, she claims that the NLS was not prescriptive enough and in so doing was calling for further government intervention. This raises the question of whether it might be feasible for government to get involved in the fine detail of the curriculum. Graham (1998) pointed out that the NLS was deficient in its assumption that an

intensive teaching model is better than a model of how children learn. This shift from the encouraging of learning to direct teaching was derived from a desire to emulate the methods perceived as successful in countries such as Korea.

Whilst Stannard and Huxley (2007) are of the opinion that the NLS was under-theorised in its original form, it appears that much of it was drawn implicitly from research. The NLS modes of writing composition were influenced by the EXEL teaching model (Wray and Lewis, 1997) and clearly informed by the Australian genre school (e.g. Cope and Kalantis, 1993) and by the neo-Vygotskian concept of scaffolding (Bruner, 1985). They also identify traces of influence of composition studies (Bereiter and Scardamalia, 1987) in the modelling and interventions of shared and guided writing.

A major feature of the strategy was an emphasis on the use of direct and 'interactive whole class teaching'. The suggestion is that more interactive forms of whole class teaching will promote high quality dialogue and discussion. In the NLS framework successful teaching was described as 'discursive, characterised by high quality oral work' and 'interactive, encouraging, expecting and extending pupils' contributions' (DfEE, 1988, p8). Critics argued (including Alexander, 2001; Brown et al, 1998, Galton et al, 1999, Mroz et al., 2000) that the idea of interactive, whole class teaching has not been well explained and there is little evidence to show that it is any different from traditional whole class teaching. Hardman and Smith (2003) found that traditional patterns of whole class teaching persisted with teacher questioning only rarely being used to assist pupils to articulate more complete or elaborate ideas.

So, was the NLS successful in its attempts to improve the literacy problem? Shiel (2003) highlights that the purpose of the NLS was to provide a steady and consistent strategy for raising standards in literacy over a 5-10 year period. He noted that the NLS had been successful to a point. Slavin (2003) felt that the NLS was successful in that it met the expectations of stakeholders wanting to see English held as a curriculum priority. The final report of the Toronto University evaluation claimed that 'much has been accomplished', but that this 'will require sustained professional learning experiences over many years if improvements in teaching practice are to be lasting'. The report concluded that there had been 'value for money'. (Joliffe, 2004, p6).

Fisher (2002) concluded that the NLS had introduced change in the teaching of literacy and there were indications of improvement in literacy as a result of the NLS, but that this was dependent on individual teachers. The failure of the NLS to provide explicit pedagogical information to teachers on how to use the published Framework for Teaching (FFT) had resulted in a variety of interpretations leading to different levels of success.

Analysis of the data from schools has shown that whilst Key Stage 2 pupils did not achieve the 80% target for 2002, there was evidence of a leap in standards (from 57% of pupils achieving Level 4 in 1996 to 75% achieving Level 4 in 2000). Tymms (2004, p477) raised concerns that Key Stage 2 test scores were not suitable for the purpose of measuring trends in standards over a number of years. He compared substantial rises in KS2 test results between 1995 and 2000 with data from a range

of independent tests and studies. He found that there was some increase in standards over this period, but they were not as great as the official statistics suggested. He argued that the 'introduction of a new 'high stakes' test…can be expected to lead to an initial rise in test scores, even if it does nothing to raise standards, due to the incentives for teachers to provide instruction in 'test techniques' and 'teaching to the test' ' (p477). Following a small scale enquiry the Statistics Commission (2005, p7) agreed with this conclusion and recommended that any public presentation of these figures should acknowledge that part of the rapid rise in the test scores can be explained by factors other than a rise in standards.

In 2002 Ofsted stated that there had been no change in attainment in English at the end of Key Stage 2 since 2000. Whilst there had been a rise of three percentage points since 2001, and as such a continuation of the steady upward trend since 1999, it was considered that pupil attainment in English was still too low. Results in reading had fallen for the second year running, and the strategy had not narrowed the gap between the performance of boys and girls in writing.

2.2.5 Key Stage 3 Strategy and the Secondary National Strategies

In spite of such considerable debate, the NLS was extended into Key Stage 3. New Labour education policy remained focused on increasing academic achievement with improved literacy as the lynchpin to success. In 2001 the Key Stage 3 Strategy for the secondary stage of education was introduced, with a Key Stage 3 framework for English focused principally on addressing writing. Whilst reading results had

improved at Key Stage 2, writing results were consistently lower than reading. This extension was a response by government to enable the improvements at Key Stage 2 to be carried further into an 11-16 context, and eradicate the 'dip' in achievement that was occurring during the early stages of Key Stage 3.

The literacy strand of the strategy initially focused on key principles and practices, and had an English strand, a strand for literacy across the curriculum, and a catch-up programme targeted at students seen as below the expected level for 11-year-olds. All the strands relied on the teaching objectives of the English Framework. This followed the word, sentence and text level pattern of the primary framework but had a greater emphasis on text level. It included revision objectives, speaking and listening and drama plus thinking skills, as well as following the English curriculum orders for Year 7.

By the end of Key Stage 3 as a pupil progresses through the next transition into Key Stage 4 and preparation for public examinations they were expected to be:

'A shrewd and independent reader:
- Orchestrating a range of strategies to get at meaning in text, including inferential and evaluative skills;
- Sensitive to the way meanings are made;
- Reading in different ways for different purposes, including skimming to quickly pick up the gist of a text, scanning to locate specific information, close reading to follow complex passages and re-reading to uncover layers of meaning;
- Reflective, critical and discriminating in response to a wide range of printed and visual texts.

A confident writer:

- Able to write for a variety of purposes and audiences, knowing the conventions and beginning to adapt and develop them;
- Ability to write imaginatively, effectively and correctly;
- Able to shape, express, experiment with and manipulate sentences;
- Able to organise, develop, spell and punctuate writing accurately.

An effective speaker and listener:
- With the clarity and confidence to convey a point of view or information;
- Using talk to explore, create, question and revise ideas, recognising language as a tool for learning;
- Able to work effectively with others in a range of roles;
- Having a varied repertoire of styles, which are used appropriately.'
(DfEE, 2001, p10)

It was envisaged that the framework would be delivered by English teachers but that the links throughout the curriculum would be made explicit to all staff so that all curriculum areas would strengthen pupils' literacy development. The framework included cross-curricular objectives relating, for example, to reading for information, since all English teachers teach skills that others draw on.

In a QCA publication 'Language at work in lessons - Literacy across the curriculum at key stage 3' (QCA,2001) the role of literacy in the newly rolled out Key Stage 3 secondary strategy was outlined within cross-curricular contexts and the importance of establishing whole-school approaches to key aspects of literacy and language achievement across all subjects to develop not only writing skills, but also listening, talking and reading skills, was provided through exemplar material for the Key Stage 3 National Curriculum subjects. Outcomes such as 'Staff from all subjects champion and lead the focus on language and literacy' (2001, p68) recreated the emphasis of the LAC movement of the 1970s. Examples of effective practice in writing are

provided through illustrations such as 'the need for pupils to develop the ability to write their own coherent texts, sometimes of significant length, is generally recognised and encouraged; pupils are helped to organise the content of their writing into complete texts, sometimes through writing frames, which suggest organisation via appropriate connectives, provide structure for paragraphs and lead to closely argued texts.' (2001, p49). The document highlighted as critical the need to have whole school approaches to the routine marking of pupils' written work for language as well as for subject knowledge, and also the requirement for a focus on the types of writing that are characteristic of the subject. (2001, p67).

Early evidence on the Key Stage 3 Strategy showed an increase in Key Stage 3 pupils achieving Level 5 or above from 64% in 1999 to 68% in 2003. It is difficult, however, to attribute this directly to the extension of the NLS.

In 2004 Ofsted reported that the Key Stage 3 strategy was improving teaching in all the core subjects, but more was needed to promote literacy across the curriculum, and despite the existence of catch up classes the less able pupils were getting left behind. In English, many low achievers were still having significant problems with their writing. However, the strategy had seen a positive effect on pupils' attitudes, particularly boys in English lessons, as lessons had greater purpose and challenge. (Ofsted, 2004)

In an update to his 2000 article, Fullan (2007, p4), argues that the 'education, education, education' priorities of New Labour in 1997 enabled government to ensure that England was the first country in the world 'to use an explicit theory of large-scale change as a basis for bringing about system reform' and that it was this

shift that changed the ownership of the improvement agenda in literacy from a school and local authority level to a centralized model.

2.2.6 Literacy and the Gove Years

The arrival of the Coalition government in 2010 and the culmination of the National Strategies provided the new Education Secretary of the re-named Department for Education with a platform to launch the mission to re-shape education. In November 2010, the publication of the Schools White Paper 'The Importance of Teaching' (DFE, 2010) declared that this government's approach to raising standards would focus on allowing schools freedom to decide on their teaching and learning strategies and to raise the status of the teacher (2010, p8).   The National Curriculum would be reviewed and this would result in less government prescription (2010, p10). The White Paper contained little in respect of literacy issues. An advanced search of the White Paper elicited sixty nine instances of the use of the term 'standards' but only fifteen instances of the use of the term 'literacy'.   Six were in relation to international test comparisons (PISA; PIRLS), three were in relation to one early years' case study, one was to do with improving early years' reading literacy, three were to do with the basic skills tests that entrants to the teaching profession undertake, and two were quoted in endnotes. From 2010 – 2014 ('the Gove years') there has been a shift in focus from a skills based curriculum to a facts based curriculum.   The emphasis on the learning of the key facts and 'cultural literacy' where the curriculum provides the facts, ideas, and literary works that need to be learned in order for citizens to operate effectively, became the underpinning idea in the Education Secretary's 'back to basics' approach (Guardian, 2013). The need to

improve literacy is recognised, but is seen more as a drive to abolish illiteracy. In a speech delivered in April 2014, Michael Gove promised an education system which would work for every child. 'We need to ensure we eliminate illiteracy and innumeracy in Britain in the same way as developing nations know they need to secure clean drinking water and eliminate malaria if their children are to flourish.' (Gove, 2014).

2.3   Business Studies, national policy, and assessment.

The following section considers the role and characteristics of business studies as a subject discipline within the Key Stage 4 curriculum. It identifies the assessment objectives and the methods in which pupil attainment can be assessed.

Business, economics, and enterprise education (BEE) is not a statutory part of the Key Stage 3 National Curriculum, and so lacks a prescriptive list of performance levels and standards. At Key Stage 4 it is not a part of the core curriculum, but is offered as an option at GCSE level.   Thus, assessment is driven by public examination demands. The duality of the subject has allowed two distinct assessment frameworks to compete for influence. The vocational courses (NVQs) have their roots in behaviourist psychology and are based on competencies, skills, and the development of portfolios which showcase what the learner can do. The academic courses (GCSE) are assessed through an objectives based specification against which the learner attainment is matched. Straddling these two assessment frameworks lies the applied route (Applied GCSE) which whilst perceived by the awarding bodies as a vocational GCSE, is assessed in the same manner as the academic GCSE.   In 2011 the Wolf report recommended that 'The DfE should

44

distinguish clearly between those qualifications, both vocational and academic, which can contribute to performance indicators at Key Stage 4, and those which cannot. The decision criteria should be explicit and public. They will include considerations of depth and breadth (including consultation with/endorsement by relevant outside bodies), but also assessment and verification arrangements which ensure that national standards are applied to all candidates.' (Wolf, 2011, p13). This review became the driving force for the government's reform of vocational qualifications and by 2014 a clear decision had been made concerning the qualifications which would count in performance tables (BIS, 2014, p5).

2.3.1 National policy and the experience of Business Studies teachers

Within the secondary stage of education there is a very distinct separation of age groups with the categorisation of Key Stage 3 for 11-14 year olds, Key Stage 4 for 14-16 year olds, and Key Stage 5 for post 16 learning. Between 2005 and 2011 curriculum policy, under the remit of the Qualifications and Curriculum Authority (QCA) was determined by the National Strategies for 11-14, and the 14-19 Unit for Key Stages 4 and 5. These government departments had different agendas and differences in pedagogies were reflected by the differences in approach. It is unlikely that many business studies teachers will have had much experience of Key Stage 3 and the National Strategies (with the possible exception of ICT), and may possibly have been unaware of the drives in literacy, and the impact of the National Strategies on the way in which English was taught and the corresponding change in

focus on standards and assessment. This suggests that any transferability of such developed skills may have been limited by subject facilitator ignorance.

It does need to be noted, however, that with the advent of specialist school status, and the launch of the first tranche of Business and Enterprise Schools in 2002, that this disjunction between business studies and national policy may have been lessened by the impact of the school specialism which introduced a 'bespoke' curriculum for Key Stage 3 to promote Economic and Business Understanding (EBU). However, the removal of specialist school status, and the return to GCSE delivery and assessment being within a clear key stage has now seen a reversal of this policy.

2.3.2 Assessment of learning in Business Studies

The research context for the purpose of this thesis is concerned with the performance of GCSE students, and thus the definition of business studies as a subject is essentially defined by the awarding bodies and their specifications which detail the outcomes in terms of assessment objectives. Each assessment objective outlines the information acquisition and handling that the learner will be required to demonstrate in relation to the subject content that has been identified in the specification. GCSE Business Studies outcomes are driven by external assessment and are subject to external control.

Ofsted (2003) in a document entitled 'Good assessment practice in Business Studies' state that the formative, diagnostic, summative and evaluative purposes of attainment in Business Studies are the same as in any other subject. However, the

forms and procedures of assessment that are used significantly depend on the nature of the learning objectives and on the teaching and learning strategies adopted. (2003,p2). A list of reported 'good' formative assessment practice includes objective questions, structured questions, and extended writing, data based questions, coursework and practical tasks. These might be similar to tasks that would be set in external examinations. In addition, a further range of teaching and learning techniques that could be employed might involve role plays, simulations, projects, and actual business experience, such as mini-enterprises and work experience. Ofsted also comments on the significance of techniques such as matching, true/false scenarios, completion exercises and short answers, in providing a quick 'ready reckoner' of learner progress.

External assessment is conducted through written responses, both through the traditional externally assessed examination and through internally assessed coursework. For GCSE the quantity of writing required is dependent upon the marks awarded for the answer to the question asked. The quantity of written response may also be indicated by the number of lines made available for the students to write on. A two mark question may require a short answer response and may have two lines provided for that response, whereas a 10-12 mark question may have 12–15 lines provided. The difference between these responses is determined by the nature of the question. The variations in the level of rigour required are demonstrated through the use of the command word in the stem of the question. A question which requires a student to explain may be worth 2-4 marks, whereas a question which requires a judgement to be made may be worth 10–12 marks.

Internally assessed coursework requires students to produce a piece of continuous prose, which may take the form of an investigative report. The coursework activity itself may be broken down into discrete tasks, but the overall word count will be in the region of 1000 - 2000 words.

As mentioned in section 2.2.5, the literacy strands of the National Strategy were based on the teaching objectives of the English framework which signposted clearly what would need to be covered with regard to content. Objective 3 in Year 7 of the 'Framework for teaching English' identified the following content:

'Establish the stylistic conventions of these text types:

Information

Recount

Explanation

Instructions

Persuasion

Discursive writing'.   (DFES, 2001, p22)

It can be argued, therefore, that the style of questioning used to assess students in Business Studies examination papers was based upon the prior learning experiences of students at KS3, and, so it follows that it could then be suggested that the written requirements of Key Stage 4 Business Studies examination questions were to some extent reflected within the National Strategy, and therefore the National Curriculum requirements at Key Stage 3, and may be said to have provided the prior learning necessary to manage the demands of this style of

assessment. Whilst there may have been an attempt to see the Key Stage 3 Strategy as a natural extension of the Key Stage 2 Literacy Strategy, and as a precursor to the literacy demands of Key Stage 4 (DFES, 2001, p5) there appears to be little evidence to report that students were able to transfer these skills into the post 14 subject focused and examination led curriculum.

The three main awarding bodies in England focus on four assessment objectives for the assessment of Business Studies, and within those four categories there are three or four levels of progression. Assessment objective one (AO1) is based on knowledge and understanding, Assessment Objective two (AO2) is application, Assessment Objective three (AO3) is analysis, and Assessment Objective four (AO4) is evaluation.

Davies and Brant (2006, p88) in trying to make sense of awarding body assessment criteria, explain that in order to decide how to distinguish one type of information processing situation from another '…we need to look at Bloom et al.'s taxonomy'. Bloom's (1956) classification of learning objectives within a behaviourist paradigm continues to have a significant impact on teaching, learning, and assessment and its pervasiveness can be seen in the assessment objectives devised by the awarding bodies. The nested hierarchical categorisation of knowledge, comprehension, application, analysis, synthesis, and evaluation has provided the basis for determining levels of learning, and also suggesting that higher levels cannot be achieved until the levels beneath have been covered.

The following figure demonstrates how Bloom et al.'s taxonomy of educational objectives is translated into command terms which will be set against specific subject content moving from the most simple to the most complex.

Bloom's category of outcome	Command terms for assessment purposes
Knowledge	Define/Name/Recognise/Recall
Comprehension	Identify/Illustrate/Explain
Application	Select/Predict/Use/Demonstrate
Analysis	Compare/Contrast/Criticise/Differentiate
Synthesis	Discuss/Argue/Relate/Summarise
Evaluation	Judge/Determine/Defend

Figure 2.1   Translating Bloom's taxonomy into command terms for assessment purposes.

Davies and Brant (2006, p93-98) identify some possible problems in using Bloom's taxonomy, and highlight the difficulties that examiners may have in awarding marks according to assessment objectives. Firstly, there may be some uncertainty about whether the assessment objectives should be regarded as a hierarchy. The interpretation of some mark schemes of 'analysis' and 'evaluation' will not subsume the lower levels of objectives in the way that the hierarchy of the taxonomy would suggest. Examiners often use higher order terms to refer to outcomes that would be classified by Bloom as lower order. Bloom's use of the term 'evaluate' is for the evaluation of ideas, evidence and argument. However, a GCSE or A Level Business Studies learner will be encouraged to evaluate decisions or evaluate options faced by a decision maker. Are the learners to present an argument, or to evaluate an argument?   Such an example of the ambiguity of use of language within the

assessment objectives can highlight the problematic nature of question setting and the development of mark schemes and grade descriptors. The endemic problem of any assessment which relies on written answers and one that lies at the heart of this research investigation is also raised, and that is that learners with better literacy skills are advantaged as they are better able to express their understanding in writing much more clearly than those with lesser skills.

2.3.3 Learning in Business Studies

An Ofsted subject report for 2002/2003 on 'Business Studies in secondary schools' (HMI, 2004) clearly identifies that 'underachievement in Business Studies is often associated with weaknesses in written English, but recognises that some departments have devised strategies to help overcome these weaknesses through the use of writing frames, the development of technical vocabulary and by encouraging extended written responses.'   (p3).

In 2005 a QCA annual report on curriculum and assessment for Business reasoned that Business is a popular subject because it 'provides opportunities to develop pupils' skills in literacy…' (2005, p7). Five years later an Ofsted report 'Developing young people's economic and business understanding' reported that ' …although there was very little unsatisfactory teaching in the schools surveyed, around a third of the lessons were uninspiring.' (2008, p5) The report also commented on the overly descriptive nature of coursework which contained insufficient emphasis on analysis and evaluation. In an interview with David Butler, HMI, Specialist Adviser for Business and Enterprise Education he is asked to suggest the best ways in which the evaluation skills of learners can be improved. His response demonstrates the

lack of clarity that has just been highlighted in the previous section '… teachers need to be absolutely clear in their own minds about what evaluation is. We see too many examples of teachers awarding marks for evaluation when all the students have done is to express opinions or to say that one solution is better than another without supporting their judgements by reference to the evidence.' (EBEA, 2009, p7)

2.3.4 Implications for the role of writing in learning Business Studies

The importance of writing in learning business studies tends to be focused on the assessment outcomes of the public examinations and the awarding body requirements. Writing to demonstrate learning is the key component in the summative external assessment for GCSE as well as AS/A2 Business subjects. Outcomes are assessed through the written response.

Writing in order to learn how to think like a business person, how to reason and solve problems, how to evaluate practice, and how to ascertain what might be the best method, is less well developed. Davies et al (2003) reported on developing the quality of narrative skills through case studies where story grammar was adapted to improve the subject understanding and literacy of 14-16 year olds, but generally the evolution of writing activities which focus on writing for learning has not advanced further than the ubiquitous writing frame.

In an e-mail personal communication with HMI Butler (Butler, D. (2009)) the question was asked as to whether HMI currently saw the role of writing in the classroom for business education as a demonstration of what has been learned, or as a generative process to improve learning. The response explained that HMI appreciated that

writing could be used as a generative process to improve learning, but their investigations focused on the provision of evidence of what has been learned, as such evidence resulted in the 'end' written product rather than the learning stages that the writing has been through. HMI Butler identified the difficulties in finding and locating evidence of the stages of the process of understanding in pupils' written work. He indicated that there is a high probability that 'most business teachers see written work as providing evidence of what students have learned, rather than a generative process to improve learning.' HMI would expect to see a writing or a communication policy in business education which would be linked to a whole school policy and to assessment. They would also focus on classroom practice in developing the correct use of technical vocabulary.

A Staffordshire document (Staffordshire Subject Self-evaluation Support Programme (2005-2007)) linked to subject self-review processes for the period 2005 – 2007 lists eleven criteria that indicate good provision of Business Education. Criteria 2 states that 'Business Education provision is good when learners develop communication, numeracy, ICT, problem solving and work management skills and are helped to master the 'language' of the subject' (p2) and criteria 11 states that 'assessment processes are well-integrated and the learners themselves are helped to recognise and celebrate their achievement and progress' (p5). There is no mention of the development of writing, either for demonstration or illustration of what has been learned, or as a method of generating learning.

Since its inception as an examination subject in the 1970s, business studies has remained a stand-alone subject within a curriculum offer. This appears to have exempted it from central policy making. However, business studies teachers are dependent on students being literate, and this has created a symbiotic relationship

53

between the requirement for student literacy and the development of learning in business studies.

2.4   Discussion of themes in the development of policy

This section returns to the focus of defining literacy, and the need to identify who is responsible for teaching literacy, and then considers the influences on policy makers as they have created and revised the literacy curriculum.

2.4.1 Definitions of literacy in schools

As approaches to managing the development of literacy have evolved over the years, so too have the definitions associated with the term. As the scope for literacy has broadened, literacy has become more than just being able to read and write. It is now understood as comprising the ability to comprehend, interpret, analyse, respond and interact with an increasing number of complex sources of information. Multiplicities of literacy abound including the concept of global literacy 'to be fully literate is to have the disposition to engage appropriately with texts of different types in order to empower action, feelings, and thinking in the context of purposeful social activity.' (Wells, 1990, p14)

The NLS definition of literacy for secondary schools is found in the 'Rationale' section of the *Framework for Teaching English Years 7-9* (DFEE, 2001, pp. 9-10) '…the notion of literacy embedded in the objectives is much more than simply the acquisition of basic skills which is sometimes implied by the word: it encompasses

54

the ability to recognise, understand and manipulate the conventions of language, and develop pupils' ability to use language imaginatively and flexibly…

…English teachers have the leading role in providing pupils with the knowledge, skills and understanding they need to read, write, speak and listen effectively, but this document also addresses other subject staff. Language is the prime medium through which pupils learn and express themselves across the curriculum and all teachers have a stake in effective literacy.'

2.4.2 Whose responsibility?

Forty years later, and the messages promoted by the Language across the Curriculum (LAC) movement in the 1970s are still on the agenda. The question of responsibility for improving literacy and learning is still being contested. The current emphasis on whole school literacy has seen a return to the notion that every teacher is a teacher of literacy. As the first NLS pupils approached secondary schooling, it appeared that the Key Stage 3 strategy and its move into the National Strategies with an increased emphasis on literacy was providing opportunities for separate subjects to contribute to student literacy. A QCA publication provided a rationale which recognises the centrality of language use in subject learning. 'Effective teaching strategies across subjects involve pupils in many kinds of learning that require them to use language. They engage in a great deal of talking and listening, different kinds of writng and reading and the best kind of 'thinking on your feet'… The teaching objectives for language are not an alternative to, or an additional load on, the learning of the subject, but the means of supporting key learning skills.' (QCA, 2001, p7). Kate Findlay in a contributing chapter on subject literacies comments that subject knowledge and expertise are no longer sufficient in themselves and that

teachers must use their pedagogical knowledge to communicate their subjects (Goodwyn, 2002). Literacy development has been closely associated with the development of subject learning and this thesis makes the assumption that business education teachers share in this responsibility for developing students' literacy, as well as depending on the development of student literacy to enable subject achievement in business education.

2.4.3 Response of policy makers in shaping the literacy curriculum

In England, the last seventy five years has seen the transition from an educational environment where the pedagogy and programmes of study related to reading and writing were decided by the schools, teachers, and local authorities, to one in which 'successive governments and their agencies progressively implemented a policy of extensive national assessment at all levels' (Soler,2006,p3). Creating a literacy curriculum has proved problematic with differing models of the breadth of 'English' as a subject and different and evolving definitions of literacy from the ability to read and write, to competence and knowledge in a particular area. Deciding on where the emphasis should lie has polarised viewpoints. These shifting views, often driven by different ideas and principles may be seen as essentially politically driven. Laugharne,(2007, p.65) suggests '…there have been broad oppositional shifts since the beginning of the twentieth century from reading (literature); to speaking and listening, language across the curriculum and the use of English in the 1970s and 1980s; to a focus on writing in the National Writing Project (NWP) (1985-1989) and grammar in the Kingman Report (1988). The strong legacy of the last two can still

be seen in the National Curriculum English documents (DES and WO 1990; DfEE and WO 1995; DfEE 1999) and more recently, in England in the National Literacy Strategy (NLS) (1998) and Literacy Framework.' These political imperatives opened the way for the 'standards agenda' which has underpinned the shift from English as a broad-based subject to one which is focused on literacy and standards. Literacy has outgrown the subject discipline and is no longer seen as a set of static skills, but must 'involve literacy in action, critical literacy, literacy as a social practice and multiple literacies' (Cambridge Assessment, 2013, p20).

For policy makers, the direct control of the literacy curriculum and a widespread association of literacy and standards with a focus on targets provided recognised and tangible measurements of success. Solving literacy problems provided a vehicle to prescribe instructional practice, quantify the level of achievement, and therefore was also a means to improve educational attainment. For New Labour, tackling educational standards and literacy would create a more equal society and help to close the gaps created by deprivation and reduced educational attainment. In addition, socio-economic factors, such as the changing nature of the workplace, and the increased complexity of technical jobs were increasing the demand for school leavers and adults who had good literacy skills. The Moser Report (2001) recognised the need to have literacy as a central tenet of social policy. Improving literacy standards was a key component of the Labour party's electoral platforms in 1997 and 2001.

Following the election of the coalition government in 2010, the publication of the Schools White Paper 'The Importance of Teaching' (DFE, 2010), and the closure of the National Strategies, there appears to have been a return to an approach where the schools decide on teaching and learning, and surveillance and governance has

been devolved to Ofsted. Government is responsible for ensuring a national curriculum where the need for prescriptive pedagogy is reduced, but the core content of knowledge is clearly identified. Effective teaching and learning is monitored through the progress that a student makes through a prescribed number of qualifications, raising standards is measured in relation to international test comparisons and literacy has become the tool in the toolkit that enables a successful learner to compete on a global basis.

What remains the same for policy makers is the firm line of continuity regarding the drive for improvements in standards, the need to centralise such aims, and the requirement to be able to measure the progress. However, disjunctions that emerged from the literacy strategies, such as the inconsistencies inherent in the ways in which policy is implemented, may have been removed through the reduction of centralised prescription of pedagogy. Yet, as Ofsted has become the judge and arbiter for the success of the outcomes of learning, with aspects of literacy built into the key judgements made in school inspections, the need for literacy within separate subject disciplines and literacy across the curriculum has been reinforced, but without the support or infrastructure of the national frameworks. This most fundamental change now requires individual schools to take responsibility for developing their own practice.

2.5   Implications for this study and conclusion

The findings from this chapter are important in understanding how students have been and are taught to write. The students who have participated in this study have been instructed according to the prescription of the National Strategies.   The

significance of the findings from this chapter is important as it makes the connections between being able to read and write and the competence and knowledge needed for school leavers to move on and function successfully in today's world.

Practically, this chapter has been important for a non-core subject teacher to discover what the core teachers have been implementing, and finding out whether students can transfer their literacy learning into a different subject discipline. Although the emphasis on the role of the subject specialist in developing literacy has tended to alternate according to the political will of the season, the underlying rationale is now well established. However, as business education has remained isolated from the core curriculum and the national literacy initiatives, the impact of the thinking about literacy and its practice in the subject has been very small. This is an underpinning reason for the purpose of my research, so that this significant gap in the literature and evidence base can be addressed.

In summary, this chapter is important as it has allowed me to understand the policy and its background, has identified the gaps in the literature, has provided a rationale for my research, and will now enable me to move to the next chapter where I conduct a literature review of the writing theories. This will make it possible to begin to find any links between the research evidence and the policy.

The next chapter will consider the literature on approaches to writing and the role of writing in developing learning.

CHAPTER 3

APPROACHES TO WRITING (Literature Review)

3.1   Introduction

The purpose of this chapter is to review approaches to defining what 'good' or 'effective' writing looks like, how it is taught, and its role in developing learning. The chapter begins with the consideration of what writing is, leading to an account of the four key writing approaches within a historical perspective.   Firstly, product approaches such as the work of Stein and Glenn (1979) and how the impact of interventions based on the principles of story grammar have informed the development of writing. Secondly, the nature of the change from product to process and the work of Hayes and Flower (1977; 1981), and Scardamalia and Bereiter (1986) and their considerations of the ways in which writing is taught will be examined. This will lead on to the development of Genre Theory (Halliday (1978); Lewis and Wray (1995); and Ivanic (1998; 2004) and a consideration of whether or not this revived product approaches. A discussion of different approaches will then review ways of combining product and process approaches (including an emphasis on metacognition) and will draw from the work of Klein (1999), Galbraith (1992;1996;1999), and Palincsar and Brown (1984). This will be followed by a consideration of reflexivity and writing with a focus on the work of Vygotsky, Britton, Archer, and Myhill. This will lead to an identification of the factors which have impacted on the creation of a formal writing curriculum. The use of meta-analysis as a statistical method used to measure the effectiveness of writing instructional practices will be considered and two major reviews of interventions will be used as

key reference points in summarising the impact of previous interventions in the field of writing to learn. Following an evaluation of the four approaches to writing, the chapter will turn to an explanation of the rationale for the approach that will be used in the research activity for this thesis. The chapter will conclude with a summary of the key issues, but will also return to the question of what makes for good writing in Business Education.

3.1.1 What is writing and what is 'good' writing?

In the presidential foreword to a report commissioned by the Carnegie Corporation of New York (Graham and Perin, 2007a), Vartan Gregorian quotes from the American Commission on Writing. 'If students are to make knowledge their own, they must struggle with the details, wrestle with the facts, and rework raw information and dimly understood concepts into language they can communicate to someone else. In short, if students are to learn, they must write.' (p2)

 So, what is writing?

Fischer (2004, p12) argues that no one definition of writing can cover all the writing systems that exist and have ever existed. Instead he states that a 'complete writing' system should fulfill all the following criteria:

- it must have as its purpose communication;

- it must consist of artificial graphic marks on a durable or electronic surface;

- it must use marks that relate conventionally to articulate speech (the systematic arrangement of significant vocal sounds) or electronic programing in such a way that communication is achieved.

Writing in any context can be seen as a response to a situation, or a stimulus, or an idea. Such a response will be governed by a particular context which may then determine the form that the writing will take with regard to structure, vocabulary, genre, grammar and punctuation. Writing allows for words and ideas to be ordered so that the reader or listener can understand. In this sense writing can be seen as a linear activity. It is through the act of writing that connections can be made and organised in order to create a more systematic set of relationships which can be used to develop ideas further. Writing can also be seen as a recursive activity in which rewriting allows for a recurring experience. Whilst writing is the act of the individual, and therefore is evidence of a subjective position, it can also be the object which can be measured against objective standards.

Asking writers to explain what writing is will elicit varied responses. An educational instruction website (goodreads.com, 2015) has listed a number of quotes from different individuals explaining the craft.

- 'Writing is communication, not self-expression. Nobody in this world wants to read your diary except your mother.'
  (Richard Peck, writer of young adult fiction)

- 'Writing has been for a long time my major tool for self-instruction and self-development.'
  (Toni Cade Bambara, short story writer)

- 'I don't see writing as communication of something already discovered, as 'truths' already known. Rather, I see writing as a job of experiment. It's like

62

any discovery job; you don't know what's going to happen until you try it.'
(William Stafford, poet)

- 'I've always disliked words like 'inspiration.' Writing is probably like a scientist thinking about some scientific problem or an engineer about an engineering problem.'
(Doris Lessing, novelist)

- 'Writing is [like] making a table. With both you are working with reality, a material just as hard as wood. Both are full of tricks and techniques. Basically very little magic and a lot of hard work are involved. . . . What is a privilege, however, is to do a job to your satisfaction.'
(Gabriel Garcia Marquez, novelist)

The common denominator amongst these explanations was the notion of hard work, that in order to write there needed to be perseverance and determination. There is little elucidation of the key aspects of the craft.

Writing is a complex task, requiring co-ordination and fine motor skills, as well as cognitive skills (Myhill and Fisher, 2010; Fisher, 2012). Lavelle (2007, p219) comments that writing is both an art and a science. A standard agreed definition of writing is hard to come by, and so it might also be assumed that a definition of 'good' writing will also be complicated to unravel. Judging what is considered to be 'quality' writing is a grey area, which, when unpicked, will unearth variation, discrepancy, subjectivity, as well as possible conflict. Is there a gold standard for writing that can be precisely described?

Definitions of 'good' writing have generally referred to three broad criteria; structure, accuracy and engagement. However, different definitions interpret these criteria in different ways whilst placing different weights on each criterion. For example, one instruction web site defines good writing as:

1. Good writing has a clearly defined purpose.

2. It makes a clear point.

3. It supports that point with specific information.
4. The information is clearly connected and arranged.
5. The words are appropriate, and the sentences are clear, concise, emphatic, and correct. (Nordquist, 2009)

Li (1996) reported that the most common view among composition instructors is that, on the one hand, recognition of good writing is based on intuition that almost defies articulation, but, on the other hand, there is nonetheless a muted consensus concerning what the criteria for good writing may be. Lumley comments that teachers' judgements of writing quality indicate 'a somewhat indeterminate process'. (2002, p10)

In a study which analysed teachers' constructs of writing in the secondary school English classroom, Lines (2012) suggests that the notion of what is good writing is a matter of judgement. The disparity in perspective of the purpose of writing is used as an illustrative point. For Sharples (1999), the writing classroom is a community of practice, but for Marshall and Wiliam (2006) it is a community of interpreters. Marshall (2007, p3) claims 'It is hard to delineate precisely what makes a piece of writing good generically' and 'Progression in writing is fuzzy, characterised by a broad horizon rather than clearly-defined goals' (Marshall, 2004, p101). Six constructs of quality writing emerge from her study investigating the impact of contextualised grammar teaching on students' writing:

1. Good writing is emotionally engaging
2. Good writing is self-expressive
3. Good writing is consciously crafted

64

4. Good writing is fit for purpose
5. Good writing is technically accurate
6. Good writing is instructive. (p176)

Lines highlighted the tension that many teachers experience a tension between their personal constructs of writing quality and what they see as being rewarded by national assessment criteria.

The most recent regulatory requirements (Ofqual, 2014, p8) regarding writing for awarding organisations offering GCSE qualifications in English Language are:

- producing clear and coherent text:

writing effectively for different purposes and audiences: to describe, narrate, explain, instruct, give and respond to information, and argue; selecting vocabulary, grammar, form, and structural and organisational features *judiciously* to reflect audience, purpose and context; using language *imaginatively* and *creatively*; using information provided by others to write in different forms; maintaining a *consistent* point of view; maintaining *coherence* and consistency across a text

- writing for impact:

selecting, organising and emphasising facts, ideas and key points; citing evidence and quotation *effectively* and *pertinently* to support views; creating *emotional impact*; using language *creatively*, *imaginatively* and *persuasively*, including rhetorical devices (such as rhetorical questions, antithesis, parenthesis).

The problem of how you identify 'good' or 'quality' writing is apparent within the qualitative terms that have been highlighted. In order to assess quality writing these qualitative terms will need to be quantified. As such, the descriptors are insufficient to allow a common measure to arise, and so there will be little surprise that teachers expect there to be variations in judgements of writing quality.

A further obstacle for teachers is that the descriptors for the gold standard have been subject to change as teaching approaches to writing have changed over the last fifty years. These changes will be considered in more detail in the next section. The importance of being able to define a measurement of writing quality is not only significant for assessment, but also comes to the fore when considering the evidence base for finding out what works when trying to improve literacy levels. The increase in the use of meta-analyses of writing instruction procedures (Bangert-Drowns, 1993; Graham, 2006; Graham & Harris, 2003; Hillocks, 1986) using the outcome measure 'Writing Quality' to identify interventions which were effective in improving writing performance means that without such clarification of measurement, the strength of the evidence cannot be seen as reliable.

3.1.2 Why is writing important?

As outlined in the last chapter, writing standards have remained a cause for concern, not just within the UK, but also in other English speaking countries. As writing is considered to be fundamental for effective engagement in professions, social, community, and civic activities, learning to write well is a pre-requisite for success in school and in the world of work. Writing is a valuable mechanism for communication, for learning, and for self-expression. Without the appropriate skills, individuals may be disadvantaged with restricted opportunities for education and employment (Graham et al., 2012; Graham, 2008; Graham and Perin, 2006). Graham and Perin (2007a) argue more passionately for writing to have the main emphasis suggesting that 'young people who do not have the ability to transform

thoughts, experiences, and ideas into written words are in danger of losing touch with the joy of inquiry, the sense of intellectual curiosity, and the inestimable satisfaction of acquiring wisdom that are the touchstones of humanity' (p1).

3.1.3 What makes for good writing in Business Education?

At this point I would like to introduce the issue of good writing for Business Education. A Business Studies educator will need to be aware of the characteristics, techniques, and skills that will enable a business studies student to write well for their subject. Searching for literature which might identify these attributes of 'good' writing in Business Education has proven to be an elusive activity. There are instruction websites (e.g. smallbusiness.chron.com, 2015) which offer advice on good writing for business letters and other business documents, but beyond the advice from Ofsted and the GCSE awarding bodies and the evidence from Davies et al (2003) as previously mentioned in Chapter 2, there is little evidence that clarifies the techniques or skills required for good writing for business studies students. This would not only suggest that there is a gap in this evidence base, but also highlights the importance of business teachers needing to be aware of the corpus of literature on writing education.

3.1.4 What is the research evidence on writing?

The Language across the Curriculum movement of the 1970s spearheaded by the 1966 Dartmouth Conference of Anglo-American English educators, and the subsequent 'A Language for Life' report from the Bullock Committee, was

instrumental in shaping a more progressive teaching of language and writing in both England and America. In America, this was translated into Writing across the Curriculum strategies, and the development of 'Writing to Learn', and a focus on the relationship between writing and cognitive development.   The effects of the recommendations of the Bullock Committee that every secondary school should develop a policy for language across the curriculum, as well as a re-examination of the debate into what English was, how it should be taught, and also what content needed to be covered, were to be seen in the 1988 Kingman and 1989 Cox reports (DES, 1988b; DES and WO, 1989b), as well as within the implementation of the National Curriculum.   However, despite such influence, the 1980s saw the impetus fade. This may be a contributing reason for the lack of further research and study on writing development.   It may also have been moved into the background as a result of the UK focus on literacy in terms of reading, and the surge of research that accompanied these strategies (Myhill and Fisher, 2010)

A DfE Research Report (2012) conducted by the Education Standards Research Team detailed the research evidence on writing both in and out of school.   The report brought together and categorised the existing statistical and research evidence on writing from the UK and also from overseas into five areas: (i) pupils' achievement; (ii) effective teaching; (iii) gender gap; (iv) pupils' attitudes; and (v) writing as an activity outside school.   The report identified key gaps in the evidence base (DfE, 2012, p1).

Referring to recent evaluations (What Works Clearinghouse, 2012; Gillespie and Graham, 2010; Andrews et al, 2009: Graham et al, 2011; Santangelo and Olinghouse, 2009), the report considered what effective teaching of writing looks like and suggested six strategies as its key findings:

- Teach pupils the writing process;
- Teach pupils to write for a variety of purpose
- Set specific goals to pupils and foster inquiry skills
- teach pupils to become fluent with handwriting, spelling, sentence construction, typing and word processing
- provide daily time to write
- create an engaged community of writers   (DfE,2012, p3)

This report referred to a systematic review carried out by the EPPI-Centre (Andrews et al, 2004) which had as its research focus, the question 'What is the effect of teaching sentence combining in English on 5-16 year olds' accuracy and quality in written composition?' The report stated that they had found that sentence combining is an effective means of improving the syntactic maturity of students in written English between the ages of 5 and 16. The report also stated that they found that in the most reliable of the studies, immediate post-test effects were seen to be positive. The results were derived from a synthesis of eighteen studies, seventeen from the USA, and one from Canada. Most of the studies were of children between nine and sixteen years of age.

As a result of their findings, the authors recommended that the National Curriculum in England and accompanying guidance should be revised to indicate that the teaching of sentence combining is an effective method; that teaching materials and approaches should include recognition of the effectiveness of this approach; and there needed to be a review of the effectiveness of the present materials designed to help young people to write. (p2)

Whilst the DfE report (2012) was able to refer to this study, it reported that 'There is little evidence on specific interventions to help pupils with writing, and little evidence on interventions for secondary school pupils' (p6). Given that the one UK authored

source of evidence referred to was a review of overseas studies, this would, indeed, suggest a glaring gap in the evidence base. It also makes it harder for classroom teachers to accept and implement the guidance given, when there is no evidence that it might work within their working framework.

3.2 The teaching of writing – a historical perspective.

The following section provides a chronological consideration of approaches that have been taken to analyse the way in which writing should be taught. It will look at how the 'traditional' product approach led to what was ousted by the new paradigm of the process approach. It will look at the development of the Australian School of writing and the emergence of Genre Theory. It will consider why the work of Badger and White (1980) developed a more hybrid process to the prevailing genre approach. It will also consider the influences that have seen a movement towards a metacognitive approach that combines both product and process approaches. It will also apply the 'Winds of Change' thinking of Hairston (1982) when she considered the paradigm shifts of Kuhn.

3.2.1 Product approaches to writing

Post war approaches to the teaching of writing involved the identification of features of effective text. This product based approach was also known as a model text method of instruction. Instruction was teacher led with an emphasis on summative assessment with effective writing measured by the attainment of linguistic knowledge and competence. That is, accuracy was emphasized in form and structure. Writing

was expected to be linear in form and had a sequential focus consisting of model, form, and duplication. The assessment of such composition was summative in the way it was measured by the final outcome. Pincas (1980, p25) identifies four stages within the linear composing process of a product approach. Stage 1 is a familiarisation stage where learners are made aware of certain features of a particular text. Modelling of an effective outcome may occur in order for the learner to understand what needs to be imitated so that their piece of composition can also be successful. Stages 2 and 3 consist of controlled and guided writing where learners might make use of gap fill style activities which provide guided practice but with an increasing amount of freedom. Stage 4 allows the learners to write freely as they are now in a position to replicate the model. Therefore, writing tasks will have a focus which follows a sequence of model, form, and duplication, with a clear outcome of correct language.

Product-based approaches to the development of literacy usually take the form of highlighting key aspects of outcomes to learners and helping them to aspire to levels of text production that are currently beyond their grasp. For example, the teacher may use a cueing system based on story grammar to help writers to check that they are producing complete rather than incomplete episodes in their stories. Stein and Glenn's (1979) story grammar analysis was devised to help teachers identify aspects of pupils' understanding and story-telling that needed development. Story grammar decomposes texts into episodes and each episode into certain kinds of component. For an episode to be complete it must include a minimum set of components. Stein and Glenn classified the structure of a story into six key elements. The first element of a story is its 'setting'. This element would introduce the main characters and set the time and place of the story into a context. The next element would involve an

'initiating event' where an action or a happening would pose a problem or a dilemma for the story. The next story element would see an 'internal response' where the protagonists will react to the initiating event. The fourth element is about the 'attempt' where the protagonist will act or will plan to solve the problem or resolve the situation. The subsequent story element will be the 'direct consequence' which occurs as a result of the actions of the protagonist. The final element of the story is the 'reaction' where the protagonist responds to the consequence. Such a structure allows the learner writer to pinpoint if there is anything missing from their story. If they are missing an element this can be incorporated and can thus make the story complete. Thus, story grammar analysis as a model aims to improve cognitive literacy and improve the quality of the final compositional outcome. Mandler and Goodman (1982, p508) state that 'the psychological validity of story structure refers to the extent to which story constituents influence processing, regardless of the ability to bring such knowledge to awareness'. That is to say that regardless of whether a learner is aware of it or not, the more they use the elements to store and recall information about a story the more valid the structure they are using becomes.

Such narrative interventions with the provision of a setting, problem, and an outcome transforms the notion that what might be seen as behaviourist repetitive actions within a product approach, can be viewed as a more Vygotskian scaffolding approach. Whilst such scaffolding does not involve the teaching of substantive matter it does enable the writer to complete a task and thus improve their writing performance (Graves and Montefiore, 1991). Story grammar has been cited (Fitzgerald and Teasley, 1986; Raphael et al., 1989; MacArthur and Graham, 1987) in its contribution to writing achievement. Literature on the effectiveness of writing instruction which features narrative text structure has also been noted by Stein,

1983; Graves, Montague, and Wong, 1990; and Montague, Graves and Leavell, 1991. Graham and Harris (1989) reported substantial improvements in the quality of the students' writing following story grammar instruction.

However, product approaches became viewed as restrictive and demotivating. Modelling is seen as problematic if learners are intimidated by a model which is seen as too perfect. Tasks can often be seen as boring or dry if they cannot be personalised. The study of models may lead to a sacrifice of style for content. Escholz (1980, p24) spoke of 'mindless copies of a particular organisational plan or style.' Silva (1990, p13) deemed that writing activity was 'an exercise in habit formation and therefore behaviourist in nature'. Encouraging students to use the same plan in a multitude of settings and applying the same form regardless of content was being viewed as '…stultifying and inhibiting writers rather than empowering them or liberating them' (Escholz, 1980, p24).

In her paper 'The Winds of Change: Thomas Kuhn and the Revolution in the Teaching of Writing' Hairston (1982) refers to Kuhn's hypothesis that revolutions occur when old methods cannot solve new problems. Kuhn termed such theoretical changes 'paradigm shifts', and Hairston (p77) uses Kuhn's theory as an analogy to support her argument that writing instruction was in its first stages of a paradigm shift – from a product oriented approach to a process-centred perspective. The emerging paradigm embodied Hairston's description of writing as '…messy, recursive, convoluted and uneven. Writers plan, revise, anticipate and review throughout the writing process, moving back and forth among the different operations involved in writing without any apparent plan.' (p85). With the research that was taking place at the same time, linguistic knowledge was being de-emphasized, and was being replaced with the notion that writing was an act of discovery for both skilled and

unskilled writers and was not linear in nature. Thus began a move from the traditional product approach of reproducing a model, and a move towards a process approach which encouraged more creativity and which saw teachers intervening during the writing process. It might be thought that the emergence of this new approach was a reaction to the seemingly restrictive confines of the product approach, but it could also be linked to the need for new ways of dealing with writing difficulties, as the traditional approaches were not working effectively with a new generation of writers in an American academic environment which was embracing greater access to academic participation. Hairston (p86) lists the twelve principal features of the emerging paradigm as:

- It focuses on the writing process; instructors intervene in students' writing during the process.
- It teaches strategies for invention and discovery; instructors help students to generate content and discover purpose.
- It is rhetorically based; audience, purpose, and occasion figure prominently in the assignment of writing tasks.
- An instructor evaluates the written product by how well it fulfils the writer's intention and meets the audience's needs.
- It views writing as recursive rather than a linear process; pre-writing, writing, and revision are activities that overlap and intertwine.
- It is holistic, viewing writing as an activity that involves the intuitive and non-rational as well as the rational faculties.
- It emphasizes that writing is a way of learning and developing as well as a communication skill.
- It includes a variety of writing modes, expressive as well as expository.
- It is informed by other disciplines, especially cognitive psychology and linguistics.
- It views writing as a disciplined creative activity that can be analysed and described; its practitioners believe that writing can be taught.

- It is based on the linguistic research and research into the composing process.
- It stresses the principle that writing teachers should be people who write. (p86)

3.2.2 Process approaches to writing

An Anglo-American seminar held in 1966 on the Teaching of English provided an important stimulus for the development of process approaches to writing. A report from this seminar discouraged an emphasis on formal teaching of grammar and emphasised children's direct engagement in the writing process in a non-prescriptive manner. A sea change was being generated by the confluence of: the thinking of Britten and Rosen and the Language across the Curriculum movement; changing thinking about the role of the learner and the role of the teacher; the American Writing Projects which had started in California Bay, but which were also being conducted in numerous other states; and the writing specialists who were undertaking directed and controlled research on the composing processes of writers (Perl, 1979 ; Flower and Hayes, 1980).

Process approaches to writing development involve teaching strategies pupils can use to express themselves through the act of writing. These approaches emphasize engagement with and through writing. This is often delivered through a stepped method which moves through a number of stages. These stages consist of a pre-writing phase; brainstorming; drafting; revising; editing; and publishing. Graves (1983) argued that pupils need ownership of the writing process, and that this could be achieved by encouraging children to write with an audience in mind, and for a

particular purpose, and with a style of writing that is appropriate for the purpose. According to Jordan (1997, p168) pupils will be empowered through process writing as they decide the direction of their writing '…by means of discussion, tasks, drafting, feedback and informed choices (thereby) encouraging students to be responsible for making improvements themselves.'

Palincsar and Brown (1984) argued that thinking about <u>how</u> we learn (the process) as well as <u>what</u> we learn (the outcomes) is essential to the successful development of literacy. The process of writing refers to the way in which students prepare, draft and revise their work. Bereiter and Scardamalia (1987) distinguish between knowledge telling and knowledge transforming. Knowledge telling is referred to as a 'think-say' method where ideas are retrieved from the memory and are translated directly into well-formed text. Planning and revision are brief and superficial. Whilst the end result may cover the relevant material, the text will be encyclopaedic in style and lack any evaluation or reflection. Such a style of writing is likely to be employed by children or novice writers. On the other hand knowledge transformation takes place as the writer actively designs a text which satisfies communicative goals with respect to the reader. Ideas are retrieved from the memory but are then constructed and evaluated with reference to the communicative goals. Revision of the writing is more extensive and may involve changes in the content and the structure, thus resulting in a more reflective piece of text. Such an approach relies on a philosophy of teaching which has the development of intentional cognition as its aim. Galbraith (1999) distinguishes expert writing from novice writing by its sense of purpose. Knowledge telling can become knowledge transforming if there is a reality that can be communicated. Thus pupils need to be set authentic tasks that require them to

76

engage in knowledge transformation rather than tasks that can be achieved by simple knowledge telling.

Teaching to develop literacy may therefore aim to improve students' processes, their understanding of outcomes, or both, and typical practice has changed substantially over the last 30 years. Up to the 1970s the teaching of writing involved identifying the features of effective text and was formally instructed and teacher led. As these traditional practices and assumptions were questioned (Emig, 1971, cited in Galbraith, 1999) the emphasis on writing changed to a more 'process' approach where the value of the writing activity concentrated on the goals which the text was designed to satisfy. Hayes and Flowers (1980) formalised the basis behind this new rationale. Writing was viewed as a process of problem solving in which ideas were actively constructed to satisfy communicative goals and that a variety of cognitive skills including planning, translating and reviewing were part of the process.

The transition from product to process and knowledge telling to knowledge transforming must involve the active participation of the pupil accompanied by the active agency of the teacher. Scardamalia and Bereiter (1986) introduced the idea of the teacher as agent being involved in both substantive and procedural facilitation. Substantive facilitation is defined as interactive teaching whereby the teacher focuses on the content rather than the form of students' writing. It occurs when teachers act as collaborators and become actively involved in the writing task by providing new information to the students and take on some of the executive burden associated with the task. Procedural facilitation provides students with a scaffold or a supporting framework for gaining access to previously acquired knowledge. As the

students internalise these procedures or routines such external prompts can be removed. Both of these approaches identify the interventionist role that the teacher must take in order to provide the agency needed to allow the students to become actively involved in both the product and the process. The effectiveness of process approaches to developing literacy has been reviewed by Galbraith and Rijlaarsdam (1999, p94) who identified that in the last 35 years the writing process model has changed considerably from activities of 'translating preconceived ideas' to what we see now which focuses on the 'construction and evaluation of ideas'. They suggested that in order to optimise writing, teachers should offer intervention prompts as part of the process. Galbraith and Rijlaarsdam called this 'procedural facilitation' (p96). They also suggested that students should be given the opportunity to apply their knowledge to real problems and goals, rather than abstract concepts which may lead to disassociation (p99).

3.2.3 Genre Theory

The genre approach to the teaching of literacy emerged during the 1980s through the work of academics investigating the acquisition of speech. Genre is a word that describes different types of text and classifies them according to the situational context. Writing becomes a set of varied types of text which are shaped by the social context of the writing event.   Learning to write involves learning the characteristics of different types of writing which serve specific purposes in specific contexts (Ivanic, 2004, p225). Writing is seen as a social activity in response to a particular situation.

Dean (2008) identified Miller's (1984) article 'Genres as Social Action' as a pivot point in the emergence of this new perspective. Miller's argument reclassified genre from a type of text to an action that one takes in a community in response to an immediate need or emergency situation. Dean comments that as the article was first published in a speech journal, there was a slow uptake as it was unfamiliar to rhetoric and composition scholars. It was not until the mid-1990s that genre theory developed an audience.

Hyons (1996) identified three broad schools of genre theory. Chronologically, the first school is the New Rhetoric Group which comprised North Americans working within a rhetorical tradition and influenced by the need for first language composition. Their focus was the investigation of contexts. Their methodology was rooted in ethnography rather than the analysis of text. Their objectives were to find out the attitudes, beliefs, and values of different communities of text users that genres imply and construct.

The second main school developed out of work that was started in Sydney in the late 1980s, and is thus called 'the Sydney School'. Johns (2002, p5) comments that 'Australia is the place in which practitioners have been most successful in applying genre theory and research to pedagogy.' This approach was motivated by an underlying commitment to social justice which focused on language and literacy education in schools and also within adult migrant programmes. It was felt that those students already most disadvantaged would be the ones even less likely to succeed when tutored through a process based learning to write by writing system. Hyland comments (2002, p114) that 'a rich and sophisticated pedagogy has

developed to provide the historically disadvantaged with access to the cultural capital of socially valued genres through an explicit grammar of linguistic choices'.

The Australian genre pedagogy was formalised through the theoretical work of Michael Halliday's (1994) Systemic Functional Linguistics, a formalised grammar of discourse, which stressed the social purposes of genres. Language is systematically linked to context and the language teaching is expected to be conducted in a way which reflects the use of language by speakers and writers in 'meaning making situations' (Johns, 2002). The emphasis on improving language and literacy skills by teaching learners the skills that expert readers and writers already know brings to mind the cognitive approach of Flower and Hayes (1980; 1981; 1984) and their argument that the most important difference between the novice writer and the experienced writer lies in the writing processes, and that if novice writers can be taught to think about the writing task in the same way as the expert writer, the novice would improve their writing skills. The Sydney School's approach was underpinned by a similar line of thinking that the difference between experience and inexperience can be reduced when the inexpert writer is schooled in the kinds of linguistic, syntactic, and structured features that a particular situation requires.

The third school of genre theory sees a genre as a means of achieving a communicative goal. English for Specific Purposes (ESP) considers how the shaping of the meaning of texts can be influenced by other texts, but also takes into account the text structure as based on some Vygotskian principles of pedagogy. According to Swales (1990), the shared communicative purposes of a discourse community shape and provide the rationale for the genre.

Hyland (2002, p113) commented that through the 1990s genre approaches had a considerable impact on the ways that discourse has been understood. He argued that genre offered applied linguists a theory that is socially informed and authorised a pedagogy grounded in textual and contextual research. The drivers of this increased attention have been a desire to understand the relationship between language and its user contexts and how these contexts change over time, and the need to employ such knowledge in language and literacy education.

Genre analysis focuses attention on the social event of the writing and how this affects the way in which the texts are constructed (Martin, 1989; Cope et al, 1993). It has also been instrumental in identifying the characteristics of different texts in detail. Cope (1993, p7) defined genre as 'a term used in literacy pedagogy to connect the different forms text takes with variations in social purpose'. He concluded 'so, any literacy pedagogy has to be concerned with the formalities of how texts work, but also with the living social reality of texts in use.'(p7). Another reason for the development of genre analysis was concern with the dichotomy between the product and process approaches. Dean (2008) argued that genre theory was worth exploring because it addresses these pedagogical concerns. She argued that genre theory 'fattens' the process approach to teaching writing. The process approach explores how the writing is accomplished, but genre theory is able to define what that writing is. In a review of her work on the National Writing Project website, Tom Fox (2009) sums up Dean's reasons for supporting the use of genre theory in teaching and writing as:

- It conceives of writing as a social action.

- It provides us with a clearer understanding of the variety of ways that writing takes action in communities.

- It explores not only how writing gets done, but names and describes the way it gets done.

- It provides us with a rhetorically rich theory of writing.

- It challenges us to teach writing as participation in a community. (Fox, 2009)

However, whilst genre theory can be seen as useful for classifying texts and challenging the assumption that good writing is always the same, its status as a pedagogy is unclear. Some may find it controversial as texts cannot always be fitted into neat categories. Some might criticise the ideology of genres, and that texts cannot be free of embedded values and beliefs. There are other questions that might be asked such as how do we know what students might learn from the texts, and to what extent can the development of a writer's capacity to use genre forms creatively be measured? These questions might be answerable with a product or a process approach. There is very little written that questions the worthiness of adopting such an approach to teaching writing, and this may be indicative of the current universality of what might be seen as the reality show of writing pedagogy.

3.2.4 Metacognitive approaches – combining product and process approaches

Metacognition deals with the recognition and understanding of one's own knowledge, what is known, and what is unknown, and one's ability to understand, control and manipulate one's cognitive processes (Meichenbaum, 1985). The term was first

coined by Flavell (1976), a developmental psychologist, who used the following example to explain what metacognition was about. 'I am engaging …in metacognition if I notice that I am having more trouble learning A than B; if it strikes me that I should double check C before accepting it as fact; if it occurs to me that I had better scrutinize each and every alternative in any multiple-choice task situation before deciding which is the best one; if I sense that I had better make a note of D because I may forget it…' (p232). Individuals become more aware of their thinking processes and develop their knowledge of when and where, as well as how and why to use specific problem solving strategies.

A distinction has been made between metacognitive knowledge and metacognitive regulation (Flavell, 1979, 1987; Schraw and Dennison, 1994). What individuals know about themselves as cognitive processors, the different approaches that can be used to learn about a task, and the demands of the learning task itself, is considered to be metacognitive knowledge. Whereas metacognitive regulation refers to the alterations that individuals have to make to their processes to help manage their learning, such as planning, comprehension monitoring, and evaluation. In order to understand, both cognitive and metacognitive strategies are used. Knowledge is constructed using cognitive strategies such as recalling information from memory, comparing or contrasting, drawing inferences. This helps a learner understand a text, or solve a problem. In contrast, metacognitive strategies ensure that an overall learning goal has been achieved. Using such guidance, regulation and evaluation strategies suggests that 'thinking about thinking' is taking place, and thus, deep learning is taking place.

Metacognitive strategies can be taught (Halpern, 1987). The opportunity to access a wide range of such strategies can lead to successful learning where metacognitive skills can be transferred into new settings (Pressley, Borkowski, and Schneider, 1987). Through instruction, rather than learners becoming experts in seeking guidance, instead they become experts in thinking about and self-guiding their own learning.

The problem solving processes that emerge from writing allows for metacognitive approaches to be applied. Declarative knowledge (what has to be learned), procedural knowledge (how it has to be learned), and conditional knowledge (knowing why and when a particular strategy has to be used) suggests that metacognitive monitoring and control are key components of writing. Writing requires thinking, and then thinking about that thinking. Writing, therefore, is applied metacognition. Didion (1980) is quoted in Hacker et al (2012, p.161) 'I write entirely to find out what I'm thinking, what I'm looking at, what I see, and what it means.'

Locke (2015, p131) suggests that providing students with specific, achievable goals related to the writing task is an effective teaching strategy. The combination of product and process writing goals can have an even greater impact. He cites the research of Schunk and Swartz (1993) who were investigating how goal setting and progress feedback affect self-efficacy and writing achievement. The purpose of the investigation was to explore the effects on children's achievement outcomes of process and product goals and goal progress feedback during writing instruction. Three experimental conditions were set up, where students were allocated to an outcome focused product goal, a process goal where strategies were focused on facilitating an outcome, and a process goal with feedback. In one third of these conditions students were exposed to two kinds of the procedures. The learners who

were exposed to process goal setting and progress feedback outperformed other groups in respect of writing skill and strategy use, suggesting a direct connection between process goal setting, progress feedback, and strategy instruction which can be seen as product-based (1993, p351). Whilst this research was designed to contribute to the goal setting and self-efficacy literatures, writing is accepted as a problem-solving process that reflects goal-directed behaviours (Flower & Hayes, 1981; Scardamalia & Bereiter, 1986).

Galbraith (1999, p93) argued that whilst traditional writing instruction product approaches have been superseded by the focus on cognitive processes, that direct interventions which lead into cognitive processes should not compete with approaches that focus on the social and motivational context within which the writing process is embedded, but instead should complement each other.   This increasing emphasis on the social and motivational context which is lodged within the writing process allows writers to develop their knowledge of the goals of writing in different contexts. In moving between these different contexts writers can study the conflicts that arise out of having different goals and conventions. For the teacher, the task is now to help the students to understand what the different goals of the different discourse communities might be. Galbraith suggests that this could be seen as a return to a product-based approach (p99), but explains that there are important differences between such socio-cognitive approaches and writing approaches focused on product, but associated with traditional rhetoric. 'Writers' goals are not pre-existing properties of a genre, but rather emerge in the course of writing itself' (p99). Hyland (2003, p18) supports this focus on the inclusion of social constructs, claiming that process approaches have little to say about the ways meanings are

socially constructed, and so they fail to consider the forces outside the individual which help to guide the purposes, establish relationships, and in so doing shape writing.

Palincsar and Brown's (1984) reciprocal teaching strategy can be viewed as having already created a model which could achieve the complementary approach of this combination of product and process approaches. Their framework can be used in planning teaching so that the activities required of students make demands on their thinking that are similar in type to those that teachers experience in delivering lessons. Students are encouraged to follow the model of the teacher by taking on their role. This will involve the student in summarising a piece of text, composing questions on content, clarifying meaning and predicting future content. This enables students to be involved in idea generation and evaluation of substantive information which fosters the development of their understanding. Lewis and Wray (1995) have encouraged the use of reciprocal teaching in their development of an EXIT (Extending Interactions with Texts) model which provides examples of ways of working with texts to make the reading and writing process experiential and interactive, thereby raising student motivation and interest in the task.

3.2.5 Reflexivity and writing

One of the aims of this study is to find out how students become more reflexive writers, and whether they learn from what they have written. How can GCSE Business students shape their written responses within a decision-making context? Will the context of the business scenario allow them to be creative in the ways in which they write, and can this creativity yield new learning opportunities?

Pollner (1991) describes reflexivity as 'an "unsettling", i.e. an insecurity regarding the basic assumptions, discourse and practices used in describing reality.' (p370). Cunliffe (2004, p497) suggests that in practice, this means that reflexivity involves a critical examination of the assumptions that underpin actions, and a further examination of the impact of those actions. Reflection allows the learner to develop through an examination of what has happened, and by looking at event scenarios from as many angles as possible. Experiences are reviewed or relived in order to bring them into focus and to make sense of them. Reflexivity finds strategies which question attitudes, thought processes, assumptions and values. A reflective practice writer may explore and experiment with different writing approaches in order to be able to think from within experiences and events.

In an introduction to her book "Reflective practice" Bolton (2010, p3) quotes Winter (1988, p235) – 'We do not "store" experience as data, like a computer: we "story" it.' Reflexivity provides the writer the option to learn from what they have written, as well as the way in which they have written it. Reflective practitioners write in order to learn.

Whilst Vygotsky may be seen as predominantly a development and child psychologist, his contribution to the idea of language as a social tool and his interpretation of the inter-relationship between language and thought, provided a perspective of language which Myhill and Wilson describe as 'a tool which integrates learners into the wider culture at the same time as transforming individuals' minds' (2013, p101). Vygotsky considered the connection between language and thinking as vital. 'The relationship between thought and word is a living process; thought is born through words.' (1962, p153). Vygotsky identified three distinct stages in the process of language development. Firstly, language develops externally for social

purposes. Secondly, language develops individually where the learner develops a speech for themselves. Thirdly, an inner speech, or an inner voice is created, where external speech is transformed as internalised ideas and mental images are drawn upon. The usefulness of the inner voice lies in "thinking things through" and then being able to write out that thinking. Thus, written discourse is created from the combination of the interplay between such inner voices and the social contexts within which they operate. This creation of inner speech is a result of reflexive practice.

Britton viewed language for learning as separate from language for informing. Language for learning was expressive language, whereas language for informing was transactional language. A 1975 study reported on his concern that the discovery function of language was being neglected, that the farther students went in schools, the less expressive writing they performed. The older the students, the more likely they would be asked to perform transactional writing tasks which were mostly informative, rather than persuasive or speculative. 'The small amount of speculative writing certainly suggests that, for whatever reason, curricular aims did not include the fostering of writing that reflects independent thinking… Students appear to be performing informative writing tasks without engaging in the thinking processes required to give full meaning to what is learnt.' (Britton et al. ,1975, p197). Britton felt that being able to explain to yourself, through a medium such as expressive language could simultaneously improve transactional language. Emig's thinking (1971) followed a similar argument which suggested that students compose using two modes. Reflexive composition was more concerned with personal experiences and emotions, whereby extensive composition was a more formal approach concerning itself with the communication of information. Emig and Britton both put

out a call for more personal writing opportunities which would foster reflexive practice and contribute to greater learning opportunities.

Archer's work (2003, 2007,2012) has attempted to undertake a sociological analysis of reflexivity developing from her concerns about structure and agency. Her main contribution lies in the way in which reflexivity is seen as an internal dialogue. These internal conversations comprise the internal discussions that people have with themselves, and through which they formulate their beliefs, values, attitudes, and goals as they evaluate social contexts. '"Reflexivity" is defined as the regular exercise of the mental ability shared by all people to consider themselves in relation to their (social) contexts and vice versa.' (Archer, 2007, p4). Ryan (2014b, p133) considers that Archer's theory of reflexivity provides a theoretical underpinning for engagement in writing and the agency of writing. Reflexivity enables writers to act out their agency by critically shaping their responses to problematic structures, (Biesta and Tedder, 2006, p11). This will involve the writer in planning out possible courses of action, considering what might be a feasible response at this point in the writing situation, and then deciding on a way forward. The impact of these decisions and choices create a form of learning, as this new knowledge can then be woven into the next course of action, and thus a new cycle of reflexivity begins. Effective writers, whatever the context, are active decision-makers who arbitrate their own concerns and considerations (e.g. interests, beliefs, goals, knowledge and capabilities) with their particular circumstances (e.g. school curriculum and assessment requirements, teacher expectations, composition expectations) to write in certain ways. (Ryan, 2014, p133). Therefore, students will need the opportunity to develop writing decision-making using a reflexive approach. This is seen as a

powerful way to probe the decisions that a person makes and the consequences and implications of the effects of such decisions.

More recent research in writing has seen a focus on writing as a social practice (Myhill, 2005) but also as a social performance (Ryan, 2014b). Myhill argues that writing is a meaning-making activity rooted in social contexts (2005, p84). In a contributing chapter she argues that writing gives students the power to voice themselves. 'Writing is a mirror of the self, the soul and the world. Through writing, we can give voice to our most intimate thoughts…through writing we can shape and articulate new knowledge, new ideas…through writing, we can reflect on the past and the future.' (Green, 2011, p58). She talks of opening up the process of writing as a decision-making activity and helping young writers to become aware of a 'repertoire of infinite possibilities' (2013, p194). The importance of metacognitive strategies in the translation process will enable students to move their inner voice with its mental ideas and representations into written text production. Writing is now viewed from a design perspective which draws together cognitive processes, linguistic processes, and social processes, as writers make their choices.

Ryan foregrounds the complexity of writing in shaping thoughts into words and texts that are appropriate for the purpose, audience, and medium of a variety of communicative forms. The need for writers to make continuous decisions about the way in which they represent their subject matter suggests that writing is a creative performance. Drawing from Myhill's idea of writers as active designers of text, Ryan suggests that effective writing choices are dependent on 'access to a repertoire of textual and creative knowledges and skills' (Ryan, 2014, p131). Ryan questions whether there may currently be a lack of creativity in writing and composition practice in schools. This may be to do with student motivation to write or whether there is a

lack of opportunities to 'play with words and generate new possibilities for voice in writing' (p132).

Reflexivity in writing provides writers with the opportunity to undertake self-regulation strategies which then generates a meta-reflexivity where writers insert an additional loop into their internal dialogues through a questioning of the answers that have been elicited from the reflexivity process. These further questions may not have any answers, but can form the basis of a need for further learning and knowledge. Reflexive writing is increasingly becoming 'an important component of intellectual work' (Berens et al., 2007, p145). Whilst reflexive practice has been an innate component of the process approach, the need to articulate how the Vygotskian inner voice and its connections between language and thinking and how the expressive writing of Britton and Emig allows language to create learning, has been rooted in Archer's theory of reflexivity. Analysis of the cyclical process that reflexivity generates has provided a subsequent base for a consideration of the meta-cognitive strategies that young writers need to be taught so that they can reflect on their own processes and create their own intervention strategies to help themselves become better writers and better learners.

3.3   Writing across the Curriculum

This section reviews the history of 'writing-to-learn' in schools, starting with the 'Writing across the Curriculum (WAC) movement'. Although the Writing across the Curriculum offered a set of core principles it was not a generic strategy to be acted out in the same way in every school. The underpinning value was that language is integral to learning. In a personal communication to the NRWEL authors of 'Writing

to Learn, Learning to write: Revisiting Writing across the Curriculum in North West Secondary Schools', Bangert-Drowns (2004, p29) claimed that WAC 'seeks three things: to increase the frequency of student writing, to integrate and elaborate writing strategies throughout the different content areas, and to promote the instrumental use of writing as a tool for other academic ends…Seen in this way, WAC is considered to be more than just writing instruction, more than just making students write more, more than trying to get students to write better. It is the strategic integration of carefully designed writing tasks in any content area to serve the ends of learning, authentic communication, personal engagement, and reflective authorship.'

3.3.1 Writing and Learning

In what is considered to be one of her seminal works (McDonald, 2002), Janet Emig declares that 'writing serves learning' (Emig, 1977, p122). She insisted that writing is a unique form of learning because of its ability to integrate, connect, be active, and is available for immediate visual review, and also 'because writing as both process and product possesses a cluster of attributes that correspond uniquely to certain powerful learning strategies' (p122). The idea that writing has a heuristic role had already been pointed out through the writings of Vygotsky (1962) and Bruner (1971) who had identified that higher cognitive skills such as analysis and synthesis could be developed fully through the medium of written language. Emig considered that both the written product and the writing process were important in thinking about the nature of writing, thinking and learning. As Emig's work was being lauded in the United States for the role that it played in furthering research and pedagogy on the

writing process, Britton and his colleagues in the United Kingdom were considering what the functions of writing might be (Britton et al.,1975). These two works have been linked to the inception of the Writing across the Curriculum (WAC) movement.

Emig's focus on the notion that writing enables thinking was developed further through the work of Applebee. In 'How writing shapes thinking – A study of Teaching and Learning' co-authored with Langer (1987, p4) it was posited that good writing develops careful thinking. In their studies of writing in American high schools they discovered that superficiality was a hallmark of student writing, and that there was 'little evidence of well-developed problem-solving strategies or Critical Thinking skills'. They identified that students often found it difficult to perform either an analytical writing task or a persuasive writing task. Their suggestion was based on the premise (1987, p4) that 'because writing and thinking is so deeply intertwined, appropriate writing assignments provide an ideal way to increase student experiences' and 'students need broad-based experiences in which reading and writing tasks are integrated with their work throughout the curriculum.' They argue (p130) that students who write at greater length 'tend to perform better than students who write less even after allowing for a general tendency for better students to do better at everything'.

3.3.2 Writing to Learn

Writing to learn strategies are often seen as more informal tasks which allow students time and space to work through problems. Elbow (1994, p1) clarifies the distinction between writing which demonstrates learning, and the other type of writing

which may not be polished writing but which allows the student to 'learn, understand, remember and figure out what (they) don't yet know'.

Whilst the thinking behind writing to learn initiatives is that the writing process facilitates the learning of the content, the research evidence remains somewhat inconclusive.

Klein's (1999) 'Reopening inquiry into Cognitive Processes in Writing-To-Learn' begins by theorising that writing produces generally positive but inconsistent effects on learning, however, the reasons for such inconsistency are unknown. He cites evidence from researchers which demonstrates that writing affects learning. Fellows (1994) claimed that students writing about relationships among concepts produced better understanding at post-test. Horton et al. (1985) claimed that students assigned to write summaries during specific set of class sessions showed greater comprehension and problem solving on post-test. McCrindle and Christensen's (1995) journal writing students scored higher on a final multiple-choice content exam. They also used more metacognitive strategies and learned more abstract material.

Klein decided that rather than asking if writing contributes to learning, his review would focus on _when_ writing contributes to learning, and _how_ it does. His review would consider the cognitive processes through which writing – to - learn operates.

Klein identified four theories which explain that writers select operations that allow them to learn during writing (p211). The remainder of this section will review these four theories.

- that writers spontaneously generate knowledge 'at the point of utterance' (Britton, 1982) (generating language without planning or revision)

- that writers externalise ideas in text, then reread them to generate new inferences (Young and Sullivan, 1984) ('forward search' writers externalise ideas in text then reread text and make new inferences based upon it.)

- that writers use genre structures to organise relationships among elements of text, and thereby linking elements of knowledge (Newell, 1984)

- that writers set rhetorical goals, and then solve content problems to achieve these goals (Bereiter and Scardamalia, 1987; Flower and Hayes, 1980). ('backward search – writers set rhetorical goals, then from these derive content sub-goals, and transform their knowledge to accomplish these).

Klein sees Britton's (1982) 'Shaping at the point of utterance' hypothesis as important because of its influence on the Writing across the Curriculum movement, and also because it is accessible to 'novice' writers. He argues (1999, p 212) that evidence concerning this hypothesis and its contribution to learning during writing is 'sparse and largely indirect' and is limited to the assimilation of new experiences to existing concepts rather than existing concepts being changed. He quotes Britton's belief (1982, p141) that writers, like speakers 'often begin statements without knowing what they will say, inventing the content only as they produce the language'. According to Britton, shaping at the point of utterance converts tacit knowledge into explicit knowledge and it is the use of 'expressive' writing which is 'primarily written down speech' which lends itself most to 'shaping at the point of utterance' as new meanings are generated.

Klein acknowledges the small number of studies that have examined the effects of spontaneous writing on learning. He finds the evidence for the generative value of spontaneous writing anecdotal and lists a number of quotations which claim that free writing can generate new content for a writer. If this were to be the case, he argues

that such new content could possibly represent new knowledge. From the Writing across the Curriculum advocates, he finds no data that is concerned with the effects of expressive writing. He finds some indirect correlation evidence from Newell (1984) and Newell and Winograd (1989), where students took notes, answered study questions, or wrote essays under 'laboratory conditions'. Essay writing was found to contribute the most to learning distinguished by a greater amount of composing time rather than through the greater prevalence of reflective activities, and this would favour Britton's view that spontaneous writing contributes to learning. He cites Copeland's (1989) indirect evidence from a study looking at written student texts following a test of recall and a test of transfer which suggested that it was the number of written ideas and not the organisation of those ideas that was consistent with Britton's theory that simply generating material is important in writing. He also considers Galbraith's (1992; 1996) theory of discovery through writing in this spontaneous phase, and considers Galbraith's claim that low self-monitors use spontaneous 'spelling out' to make implicit knowledge of a topic explicit. The findings from Galbraith's study of British psychology undergraduates implied that low self-monitors produced more new ideas in essay form than in a notes condition. Klein accepted Galbraith's view that for low self-monitors discovery in writing consists of unplanned generation of 'local' ideas and that this can be used to support the spontaneous hypothesis.

Klein's critique of the value of spontaneous writing is informed by Bereiter and Scardamalia's (1987) suggestion that the value of spontaneous writing, which they call 'knowledge telling' is limited because the content that is retrieved from one concept to the next is being retrieved from the long term memory and so writers learn little that is new through such a process. Stotsky (1995) critiques the use of

'personalised' writing where new material is added to prior knowledge, but does not think that prior knowledge should be limited to personal experience. Klein considers that there may be a limitation on Britton's value of spontaneous writing as free writing may not be able to revise students' existing conceptions. Klein concludes (p220) that there may be some real, but limited effect of spontaneous knowledge generation on learning. Anecdotally there may be some indication that writing can 'have a life of its own' and can produce 'content that the author has not anticipated' but reports that there is no theoretical or empirical evidence that spontaneous writing contributes to conceptual change, and concludes that more research is required with regard to the effects of spontaneous writing on learning.

The second theory considered by Klein is forward search. This is formulated around the concept of recursive review, whereby writers re-read and review initial drafts of their texts in order to make sense of their ideas through inference and the detection of contradictions. He suggests that as with spontaneous utterance there is little empirical evidence to support the hypothesis. Klein claims that the theory relies on the plausibility of some indirect evidence which includes analogies from problem solving using other media, and research that shows that more skilful writers use review to increase their text coherence. Out of the four hypotheses for his review, this is the only one that relies on writing only.

The suggestion involved in forward search is that ideas are preserved if they are recorded in text, and it is the preserved product that allows writers to take recursive action and reread the ideas so that they can be developed further. Klein refers to Newell and Simon's (1972) information processing model which linked memory capacity and the development and organisation of information. As written text is relatively permanent, it can be used by writers as an aide-memoire for recording and

reviewing ideas. As the text holds the information, the writer is then able to use their remaining working memory to 'recursively review, analyse, and transform this information' (p221 quoting Donald, 1991). Writers can find new ideas which were not perceived at the time of writing. He cites studies by Fitzgerald (1987) and Young and Sullivan (1984) which refer to the use of revision to compare ideas and parts of text, and then to reorganise and rewrite.

He returns to Galbraith's (1992; 1996) romantic position on discovery through writing which encompasses both spontaneous writing at the point of utterance and the disposition of the writer which may be constrained by the combinations of concepts available in the writer's semantic memory and limited also through the amount of information that can come from an utterance. If the writer is disposed to coherent organisation, then the text will be. Subsequent re-drafting will allow disparate ideas to be incorporated into more meaningful form. Klein (p222) considers Galbraith's model to be consistent with 'dual-drafting' strategies where there is spontaneously generated text which spells out a 'disposition', and 'summing up' which is enabled through evaluating, revising, and integrating information.

Klein explains that the notion of forward search is his own, and has been formulated to contrast with a backward search hypothesis. He states (p223) that 'In forward search, the individual mentally represents the elements of an initial problem state, and then uses this state to select operators that transform the elements towards a goal state.' In a writing to learn situation the writer's current draft of the text is the initial problem state.   This becomes a template which can be used to create transformations through deriving inferences, evaluating, or re-organising through selecting, classifying, sequencing and linking. The goal state of the final written product will therefore include the writer's new knowledge.

Klein develops his evidence base primarily from an arithmetic analogy used by Young and Sullivan (1984) in their argument for writing. This study noted that most students can solve brief multiplication questions mentally, but need pencil and paper to solve multi-digit questions. This allows the students to record the products of their initial calculations and then these can be used for review, and then added together to produce a final product. Klein reasons that as most forms of problem solving require the use of artefacts, it is not surprising that writing will as well. He links (p224) this similarity in analogy to research conducted in cultural psychology which shows that 'in most daily activities, individuals rely heavily on artefacts to recall information and generate inferences'. Klein continues to find anecdotal evidence to support his forward search theory, and refers to Britton's inkless experiment with his colleagues whereby when writing using dry pens on carbon paper, it was found that they could easily write text and narrative, but when trying to formulate theoretical problems, not being able to re-read hindered the ability to construct and complete an argument (Britton et al., 1975, p35). Other research (Van Nostrand, 1979; Newell, 1994) is used to suggest that where students are guided into review and revision through use of analytical techniques there is likely to be evidence that learning has taken place. Klein is keen to emphasize the scarcity of research which bears directly on his forward search hypothesis, and acknowledges that his review is reliant on research which focuses on the writing process rather than writing-to-learn activity. Klein is concerned that if his review demonstrates that the practice of review can lead to transformation in the content and structure of writers' texts this might allow the possibility that review can also contribute to changes in knowledge. He claims that the forward search hypothesis holds some plausibility and is consistent with the tendency of writers to revise their statements immediately after speaking or writing

them, rather than revising them mentally before utterance (p226). He quotes from Benton *et al* (1993) and Wallace and Hayes (1991) where skilful writing, measured by text coherence, is characterised by the use of review. However, this is countered by Gould (1978) and Bereiter and Scardamalia (1987) whose studies, albeit of brief writing tasks, discovered that reviewing may not be necessary for text coherence.

Concluding on the use of forward search as a strategy for seeing learning through writing, Klein suggests that there is insufficient evidence, and that which there is, is based largely on anecdotes and analogy, and so further empirical investigation is required.

Klein claims that the genre hypothesis is the most researched in writing – to - learn literature, whereby genre refers to the kind of discourse that a text exemplifies. He lists argumentation, comparison/contrast, explanation, analogy, and personal writing as prominent examples in writing-to-learn literature. (p230). Different genres can produce different responses to learning. Craik and Lockhart's (1972) expression of 'depth of processing' is used to acknowledge that some genre such as analytical writing through essays require deeper processing than other genre such as dictated lecture notes. Klein considers several individual studies, which examined relationships among genre, cognitive operations, and learning outcomes in more detail. Langer and Applebee's (1987) study of twenty three teachers who were already involved in writing across the curriculum generated some experimental episodes that compared the effects of various genres upon learning. A demonstration of the effects of analytical writing showed that essay writing produced 'substantially' more operations than answering study questions, or writing study notes, with a higher level of hypothesising, as well as higher levels of recall and organisation. Another experimental study showed that analytical writing improves

comprehension through more effective recall. Hayes (1987, p234) was able to support a hypothesis that 'elaborative writing does require students to integrate new information with their prior knowledge and to represent new information abstractly'

These studies cause Klein to ask the question of how writing in the analytical genre contributes to learning. With reference to Newell's (1984) reading to write study the possibility that the reason why essay writing might have enhanced learning is due to the increased time spent on task. He compares this with the findings from Durst (1987) who concluded that an analytical writing task can 'evoke' high level thinking through the use of higher level questions and spoken evaluation, even when these do not produce a text with an analytical structure. Klein infers that Newell and Durst may have seen differing results as a result of the design of the treatment. Other studies which suggest that analytical writing does not always enhance learning are considered and Klein considers the view of some authors who have tried to assimilate the mixed findings from genre literature by suggesting that writing may not promote the recall of text content, but might promote the understanding of relationships between ideas. Such 'divergent outcomes' are explained by Penrose's (1992) study which showed that learning depends on students successfully negotiating a series of critical points. In some instances students might adopt a genre that has not been requested by the teacher and so attempts for analytical or elaborative writing might misfire. Klein suggests that there may be a sequence of three critical phases through which genre affects learning. At the first juncture, the writer chooses to either adopt or not adopt the writing goal in an elaborative genre, regardless of instructions from the teacher. At the second point the attempts of the writer to meet the requirements of the genre may or may not lead to greater text coherence, and at the third point the coherence of relationships and cognitive

operations may or may not lead to substantial changes in knowledge. This sequence of phases can be seen in terms of a cognitive strategy as students adopt a goal, select strategies that might allow the goal to be achieved, and then carry out these strategies through particular operations that transform content, and as such create new knowledge. Klein claims that genre writing tasks produce predictable results. As a cognitive strategy is goal directed, it will be highly dependent on the intentions and motivations of the writers, who have very different purposes from each other and also from their teachers when writing. Teacher expectations concerning type of genre may not be made clear to students. Klein cites Stockton (1995) who found that university history professors explicitly stressed to students the importance of argumentation in essay assignments, although their comments and grades showed that they actually expected students to write narratives, with arguments subtly 'embedded' within them (p238). Klein suggests that there may be a possible link between students' genre knowledge and their success in writing-to-learn. Having considered the use of analytical writing, Klein turns to the use of personal writing, but follows the lead of Stotsky (1995) in arguing that there is no compelling evidence that the personal writing genre contributes to learning, although used in conjunction with other informal elaborative genre may contribute to thinking, and thus learning.

Klein's review of what he calls 'backward search' models focuses on the work of Bereiter and Scardamalia (1987) and Flower and Hayes (1980). Klein claims that this theory is supported by indirect research which has demonstrated that novice writers compose better and more coherent texts when they are taught to adopt the strategies of the 'expert writer' . There is still a need for empirical testing to support the claim that backward search processes transform knowledge.

The backward search models are based on the premise that knowledge is constructed when writers set rhetorical goals. Following this they generate content to address these goals, and then revise the rhetorical goals to encompass the content. Both models have been developed around the work of Newell and Simon (1972) and their problem solving model. According to Flower and Hayes (1980, p243) writers are able to provide detail for the rhetorical goals of a writing task by accommodating 'the interests and knowledge of their audience, the personae that they wish to project, and the formal characteristics of the required text.' In order for these top level rhetorical goals to be achieved, writers need to set sub-goals, and then in order to achieve these sub-goals need to retrieve and re-organise knowledge. As the network of goals and sub-goals becomes more elaborate, the opportunity for the generation of new ideas that were not part of the original plan increases, and that this regeneration of top level goals comprises 'discovery'.

Bereiter and Scardamalia's (1987) model involves a content and a rhetorical space. The rhetorical space is used by the writer to work out the problem 'What do I say?' and includes actual or intended text from the rhetorical situation. The content space consists of beliefs about the topic under consideration and it is here that the writer works out the problem by asking themselves 'What do I mean?'. The working out in this space through the development of inference and making decisions transforms beliefs and ideas. 'Knowledge transforming' is seen to be the domain of the expert writer where the need for rhetorical transitions among topics leads to the discovery of new relationships among ideas. In contrast a novice writer will rely on a 'knowledge telling' process which is convergent with Britton's 'shaping at the point of utterance'.

Klein acknowledges that whilst both models involve return and revision and thus contrast with the notion of forward search, there are some differences. The Flower

and Hayes 'discovery' model is based on learning through logic and reasoning 'dialectical processes' whereas the 'knowledge transforming' model of Bereiter and Scardamalia allows for reflection in both the content and the rhetorical space. He claims that in comparison with the other three hypotheses, that the backward search model requires the most sophisticated writing strategies. This can be set in contrast with Britton, who believed that planning and revision would hinder the spontaneity of language required to shape knowledge.

In putting forward an evidence base Klein identifies that most research for this hypothesis is classified according to whether a writer is a novice or an expert. The research shows that expert writers use the more sophisticated strategies of the two models already outlined, but the research conducted cannot directly test the claim that these strategies have actually contributed to discovery or knowledge transformation. The two models identify that expert writers set goals and plan before they begin to write, and that novice writers begin to write immediately possibly having set some sub-topics. The expert writer is more likely to make revisions, and is able to assess text coherence. Yet Klein claims (p247) that whilst these backward search models can be seen to produce 'rhetorically' good writing, there is no conclusive evidence to demonstrate that such good writing has contributed to learning. There is some evidence that does not support this hypothesis, and Klein cites two studies that have suggested that new ideas are derived from drafting and re-drafting text rather than goal-directed planning (Galbraith, 1992: 1996; Torrance et al., 1996).

Klein summarises his findings on the backward search hypothesis by suggesting that the two models, and in particular, the knowledge transforming model have been widely accepted by educational psychologists, as they make explicit the possibility

that it is not the writing that causes learning, but the cognitive strategies employed and applied during the writing process that allows learning to take place. He reiterates the lack of empirical evidence needed to prove that writing is a tool for learning, and whilst acknowledging the plausibility of the backward search models in goal and sub-goal setting in writing-to-learn, suggests that there are still too many unanswered questions from this hypothesis.

Each of the theories reviewed by Klein makes a different claim about the writing process, and as they address different phases within composition, they can be seen as compatible. Britton's 'shaping' involves the simultaneous generation of ideas and the translation of this language into text. Some ideas will emerge without planning. Learning may be increased if writers are prompted to 'continue writing'. The forward search hypothesis involves the review of current text and in order to generate new ideas, sees the selection of operations such as generating, organising, evaluating, and revising. Learning is increased through facilitating the processes of rereading, followed by generating, organising, and evaluating. 'Inkless' writing reduces learning. The genre hypothesis focuses on the structure of the text, rather than the compositional process. It is the hypothesis that has been the most systematically tested against measures of writers' learning (p252), and has the most positive effects. Providing writers with more structures such as sentence stems will increase learning. The backward search models are distinguished by their claims about goal and sub-goal setting. Learning is increased when the opportunity for more rhetorical goal setting increases content sub-goal setting, which may lead to increased content problem solving, and thereby learning. Klein notes that all four cognitive hypotheses have common ground in a problem solving theme which revolves around producing,

planning, reflecting on, and structuring text. They are not mutually exclusive or independent.

In summary, whilst Klein found evidence for each of the hypotheses, he concluded that, excepting genre, there was a general level of under-investigation. Klein's review remains a state of the art study, and it is this piece of literature that has provided me with a basis for my research design. In Section 3.5 I will explain how this has informed my study.

3.4   Meta-analysis and evidence of writing impact

Meta-analysis is a statistical technique which is able to combine the findings from independent studies and summarise these results on a larger scale through contrasting and combining the evidence base from different studies. A number of methods including observational studies examining the writing instruction practices of effective teachers of writing (Pressley et al,1997), correlation studies measuring the correlations between writing performance and particular teaching procedures (Applebee et al, 2003) and single-subject design studies (De La Paz, 1999) have been used to study writing, but the evidence base for comparing the effectiveness of specific teaching strategies is limited, and the use of meta-analysis for research on writing instruction has tried to fill the gap by showing us what the evidence is when all research activities are scrutinised. Hillocks (1986) began with an examination of nearly five hundred studies, where seventy three of which were considered to be of a sufficiently rigorous 'good' research design. These studies were carried out with one treatment being conducted in one set of classes and another in comparable classes. This was the impetus for the use of meta-analysis as a technique which could enable

researchers to regulate the consistency and strength of the impact of teaching practices on the writing quality of student composition, and could then highlight and suggest those strategies which could be replicated with a similar degree of success.

Bangert-Drowns' (2004, p48) meta-analysis of forty eight school-based writing to learn interventions showed that writing can have a small, positive impact on conventional measures of academic achievement. This review concluded that writing 'does appear to facilitate learning to some degree under some conditions' and as such is a useful tool for learning.

The objectives behind the meta-analysis of 48 school based writing-to-learn programmes were to address the following questions:

- Can teachers bring about improvement in academic performance by having students write about the subject matter content of the lesson ('strong text' perspective)?
- Is the extent of academic performance improvements related to the kinds of writing tasks?
- What effect will the frequency of the writing task and the length of the intervention (treatment) have?
- What effect will the educational context have (student ability levels, subject studied)?
- What effect will the research design have? (p49)

Effect sizes were calculated through a conventional measure of content-related academic achievement e.g. final grades, standardised tests and measured using Cohen's d – a standardised mean difference (the mean academic performance of the conventional instruction group subtracted from the mean performance of the writing to learn group divided by the pooled standard deviation). Having eliminated some variables the overall effects of 75% of the study outcomes being positive

suggested that a fairly consistent positive achievement effect was attributable to writing-to-learn interventions. There was a significant relationship between grade levels and effect size and the longer treatments had more positive effects. However, longer written assignments had less positive effects but meta-cognitive stimulation and evaluation of current understanding yielded more positive effects. The three variables which were significantly related to effect size were:

- Minutes per in-class writing task (higher outcomes)
- Meta cognitive stimulation (higher outcomes)
- Students in grades 6-8 (lower outcomes).

These findings (p58) suggested that writing to learn produced small, positive effects on school achievement. The factors that also needed to be taken into account were that the control students being conventionally taught were also writing and that other learning measures may better detect the cognitive effects of writing to learn, e.g. the sophistication of the conceptual structure. Grade levels, minutes per writing task, and the presence of prompts for meta-cognitive reflection moderated writing-to-learn achievement effects. A reason for grades 6-8 having lower outcomes was thought to be the transitional nature of this age group where students are learning new subjects and new writing forms.

Longer writing tasks in writing-to-learn interventions were related to smaller outcomes. The reasons for this were possibly because longer writing assignments may have reduced motivational consequences and that possibly if all assignments are conducted in class time there is less time for course content coverage. The provision of feedback showed no significant relationship with the effect size. Treatment length may moderate the effects of writing-to-learn. It was felt that if

writing is to have a positive influence on learning, this influence needs to be cumulative over time – as students become more familiar with assigned writing tasks and as more course content is covered.

The study concluded (p58) that 'Writing can be expected to enhance learning in academic settings, but it is not a potent magic. Contextual factors – including the intensity of the intervention, the nature of the writing tasks, and the ability of the students to take the best advantage of writing's operation – moderate the influence of writing on learning.'

Graham and Perin (2007) explain that whilst the Bangert-Drowns' study was published in 2004, the search for studies ended in 1999. The increase in writing studies in that time had been significant, and therefore, more meta-analysis was possible. This enabled further studies to be conducted to attempt to identify strategies that have high impact on writing outcomes (Goldring et al., 2003; Graham, 2006; Graham & Harris, 2003). However, it is Graham and Perin's (2007b) thorough analysis of the body of writing research that currently provides the 'What works' guidance that can impact on the classroom practitioner. The strength of this most recent meta-analysis in its field was its focus on attempting to sort and analyse previous studies and previous meta-analyses by identifying their strengths and weaknesses as methods of research related to experimental writing intervention. The recommendations from this report created a ranked guideline list of eleven elements of effective adolescent writing instruction.

1. Writing strategies
2. Summarisation
3. Collaborative writing
4. Specific product goals

5. Word processing

6. Sentence combining

7. Pre-writing

8. Inquiry activities

9. Process writing

10. Study of models

11. Writing for content learning. (2007b, p445)

3.5   Evaluation of writing approaches and how they have informed my research design.

The purpose of this evaluation is to determine which of the writing approaches might be most effective in enabling students to perform better in GCSE Business Studies. A successful writing model will enable students to possibly write more extensively through the creation of more complex and sophisticated sentences. This will allow students to investigate issues in greater detail and reflect on the quality of arguments or possible strategy alternatives, and this increase in awareness will lead to an improvement in skills of analysis and evaluation.

Story grammar as a narrative technique provides a framework within which understanding can be developed through instruction of the story context, the actions that may occur, and the possible story endings or resolutions. This can then prompt the student to turn their thoughts about the story into a more structured and detailed written response. The story grammar approach has a natural affinity with the case study approach used in the teaching of business studies (Davies et al., 2003), and as the GCSE examinations use case study questions to assess student understanding, it seems an obvious choice of a narrative writing technique for my study, where improvements can be made in the subject understanding of students.

110

The traditional product approach is important to my study as the emphasis has to be on the end product. GCSE examiners assess the output of the written product put in front of them. Focusing students on successful examination technique requires the students to be able to routinely imitate a modelled practice. Being able to practise successful writing features in controlled conditions familiarises students with writing techniques and also allows for teachers to undertake a standardised assessment of the writing output and relate it to marking schemes. However, the rigidity of the need for the organisation of ideas to be more important than the ideas itself could stifle the creativity of the written response. This suggests that a process approach may be useful with its central focus on the creative process of writing. Students are given a freedom to develop their ideas within the tasks, and there is no pre-conceived outcome. Within my intervention design, the story grammar approach is used in the form of a case study, and this enables a combination of both a product approach, as well as a process approach.

The product approach and the process approach are not incompatible, and there does not appear to be any reason why there should be only one approach. Process writing can be integrated into the practice of writing models, and writing models can be replicated whilst ideas are being developed as writing takes place. Therefore, my study follows Galbraith's (1999) combined product and process approach which takes knowledge telling to knowledge transforming, and creates the opportunity for knowledge constituting, within the remit of a story grammar (Stein and Glenn, 1979) narrative.

The following chapter will focus on the method used. It will re-iterate the aim of the research, and then justify the method of research used. It will also explain how the

research intervention was designed, why and how it was piloted, and how the research was implemented.

CHAPTER 4

METHOD

4.1   Introduction

This chapter describes and justifies the process by which the method of research was chosen and also how the implementation of the research activity was carried out. The aim of the research is to develop the writing skills of students in order to improve the detail, completeness and quality of composition, and this development of the written composition will lead to improvements in subject understanding and literacy. As stated in Chapter 3 the research will test the hypothesis that a series of narrative intervention strategies based on story grammar techniques will lead to students writing more extensively and improving their understanding of business and economics issues through more effective demonstration and application of the knowledge and understanding required at GCSE level.   It acknowledges that different methods can be used to investigate a research problem and accepts that the method chosen may affect results. It looks at whether the data could have been collected through quantitative or qualitative research or if both types of research were necessary for triangulation purposes. It analyses the chosen research method and considers the literature for and against its use. The generation and collection of the research data is considered and its consistency is measured against accepted practice in the field.   Anticipated problems are identified and the steps taken to prevent these problems from occurring are outlined. Actual problems that did occur are identified and the ways in which their impact was minimised are explained.

Following an explanation of the methodology and the positivist stance taken, the rationale for the choice of using Randomised Control Trials (RCTs) is outlined. An explanation of the way in which a RCT takes place is described and then the usefulness of the use of RCTs are explored followed by the arguments against their use. This is then set against the background of how RCTs have and are being used to find evidence of effectiveness in educational research. The chapter then considers in more detail the rationale for the decisions that have been made regarding the use and implementation of the RCT. The factors under the spotlight include the method of intervention, the scale of the intervention, the timescale, and the design of the intervention. Decisions on how the sample schools were chosen, and how the class participants were to be allocated between the treatment and control groups are explained. Variations that might be expected to occur, and the steps taken to minimise such variation are outlined. The chapter then looks at how a pilot study could help, and reports on the pilot study that was carried out. The next section focuses on how the RCT was actually implemented, and the procedures used to enable the implementation, the data collection and recording, and the data processing and analysis. The following section returns to the assumptions and justifications that have been made, by outlining the methodological assumptions and establishing how the reliability and validity of procedures was ensured. This section finishes with a reference to the ethical considerations required by this research study. The final section of this chapter concludes with a summary of the key issues within the chapter and an endorsement for the method chosen.

4.2   Methodology

Positivism is a paradigm that claims that the 'social world', just like the 'natural world' consists of objective and quantifiable truths, which are independent of our existence and representations of it (Hall and Hall, 2004). Therefore, the truth is out there waiting to be discovered. Positivism as an approach to analysing assumptions about the nature of science was first identified as a philosophical position by Augustus Comte in the nineteenth century who argued that social phenomena could be viewed in the light of physiological laws and theories and then were able to be investigated empirically just as physical phenomena could.   Thus, explanation proceeds by way of scientific description (Acton, 1975). Such a position allowed for a doctrine of positivism which held that all general knowledge is based on sense experience and can only be advanced by means of observation and experiment. The term "positivism" has evolved since Comte, having been used in different ways by philosophers and social scientists but still has a residual stance at its core that is derived from the notion of natural science as the paradigm of human knowledge. The implications of this are that the social scientist is an observer of social reality and that investigations by social scientists have a parallel with natural science enquiry. This means that the analysis of such investigation will be expressed in the same law-like generalisations that the investigation of natural phenomena generates. In so doing the social scientist becomes an analyst or interpreter of their subject matter.

Positivism draws on both deductive and inductive reasoning. Deductivism is based on the syllogistic assumption that through a sequence of formal steps of logic, from the general to the particular, a valid conclusion can be drawn from a valid premise. On the basis of what is known about a particular area and of any relevant theoretical

considerations the researcher will deduce a hypothesis and then translate it into operational terms that will specify how the data can be collected in relation to the concepts that make up the hypothesis. Theory and the hypothesis deduced from it come first. In contrast, inductive reasoning tests theories by gathering facts and collecting data that provide the basis for laws. The researcher infers the implications of his or her findings for the theory that prompted the research investigation. The new findings are then fed back into the existing stock of theory. However, the linearity of the deductive approach where one step follows another in a clear logical sequence has been blurred by instances where the researcher's view of the theory or the findings change as a result of the analysis of the collected data or new theoretical ideas or findings might be published by others before the researcher has published their own. Cohen, Manion, and Morrison (2000, p4) in identifying a combined inductive-deductive approach quote Mouly (1978):

'a back-and-forth movement in which the investigator first operates inductively from observations to hypotheses, and then deductively from these hypotheses to their implications, in order to check their validity from the standpoint of compatibility with accepted knowledge. After revision, where necessary, these hypotheses are submitted to further test through the collection of data specifically designed to test their validity at the empirical level.' (Cohen et al., 2000. p 14)

This combined approach enables the development of a pathway between theory and research. Therefore, positivism's underpinning ontology is that social reality is objective and independent of our experience and relates to an epistemology that assumes that there are objective truths that can be ascertained through the gathering of data through controlled experiment and observation.

116

A typical method of data collection for the positivist paradigm is that of experiment, and in order to carry out my research I needed to devise a test which could manipulate causal influences and observe systematically whether there were any changes in the phenomena under review. In order to discover whether this experiment would work in a real educational setting, it needed to be a field experiment, and thus the research needed to be carried out in the classroom. From such methodological considerations I arrived at a method. I decided to use a Randomised Controlled Trial as the tool to help me investigate the effectiveness of my chosen intervention. The next section will develop the contextual background surrounding the use of a randomised controlled trial (RCT).

4.3 Randomised Controlled Trials

This section will consider the purpose of randomised controlled trials, how they are designed and conducted, how they are used, and their benefits and limitations.

4.3.1. What is a Randomised Controlled Trial?

 A RCT is a planned experiment using a scientific procedure that is designed to compare two or more forms of treatment or behaviour. The RCT begins when a researcher hypothesises that a particular intervention or treatment will cause a change in behaviour. This hypothesis is tested by comparing the average outcome for individuals randomly assigned to either a treatment group (experimental group) or to a controlled comparison group. The two groups are then followed up over a specific time period to see if there are any differences in the results. The general

principle underpinning this experimental research is that if two identical groups are selected, one of which (experimental group) is given the special treatment and the other (control group) is not, then the differences between the two groups at the end of the experimental period may be attributed to the difference in treatment.

RCTs have their history in clinical studies but are now being used in social and educational research. They may be considered to be the most reliable form of generation of scientific evidence because they are able to determine in a rigorous way whether a cause – effect relationship exists between the treatment and the outcome. In clinical medicine, the RCT is well established as one of the most effective ways in which to identify the relative impact of alternative interventions on predetermined outcomes (Rothwell, 2005, p82).

Gorard and Taylor (2004, p110) attribute the salience of this research design to the random allocation of subjects or participants to the alternative treatments in relatively controlled conditions so that any differences in outcomes between the intervention and the control groups can be assigned either to chance, which can be quantified as a statistical probability or likelihood, or can be due to the effect of the intervention and the difference in outcome. The positivist approach informs the experimental method's assumption that once the two groups are randomised they are homogenous, and this implies that an objective comparison can be made between the two groups and any observed differences can be attributed exclusively to the effects of the social phenomenon given the set of pre-defined variables to be tested. Often quoted as the "gold standard" in the generation of empirical evidence to assess the efficacy of public policy interventions and provide what is felt to be a robust research tool for evidence informed policy making, some researchers and

commentators are calling for more randomised controlled trials in educational research (Torgerson and Torgerson, 2001)

4.3.2   Arguments for Randomised Controlled Trials

The Cabinet Office report 'Test, Learn, Adapt' claimed that RCTs '…are the best way of determining whether a policy is working' (Haynes et.al.,2012, p5). RCTs can provide the clearest and strongest signal of the effect of an intervention, as well as attempting to eliminate as much bias as possible (Grossman and Mackenzie, 2005, p516). An RCT design can give credence to the differences in outcomes between a treatment group and a control group being caused by the treatment, since the randomisation process can equalise the groups on all other variables (West and Spring, 2014, p5).

A randomised controlled trial can provide an unbiased, balanced and reliable method for determining whether a treatment can be effective. The randomisation process is able to ensure that systematic differences in external influences between groups do not occur and that an unbiased estimate of the average effect of the intervention is obtained. The design of the experiment can ensure that bias (either conscious or unconscious) is avoided. Predictive factors which can be controlled can be balanced between the treatment (intervention) group and the comparison (control) group, as randomisation ensures that the factors that could influence the outcomes are equalised. Randomisation is able to provide a valid method of evaluating the probability that two groups receiving equivalent treatment will have different outcomes because of chance alone.   Any trends in time can be accounted for by using concurrent control groups. Results from well-designed trials are more likely to

be convincing as efficacy can be measured and testing for statistical significance can be interpreted.

4.3.3 Arguments against Randomised Controlled Trials

Although RCTs can be seen as powerful tools of evidence generation their use has been limited by ethical and practical concerns. Ethicists are often unwilling to see subjects or participants treated or in receipt of an intervention until there is a reasonable basis on which to believe the intervention to be effective. Equally it may be considered to be morally dubious to deprive or deny a control or comparison group of a treatment which might be beneficial.   From the medical point of view, should a placebo intervention be considered to be ethical?

Some RCTs may be seen as ethical but infeasible, for example, because of difficulties in randomisation or potential contamination. RCTs can also be more costly and time consuming than other methods of research. Significant previous research will have already been conducted to get to the point where any further proposed intervention treatment can be warranted. Black (1996, p1215-1216) suggests that there are limitations which might prove RCTs to be '…unnecessary, inappropriate, impossible or inadequate'.   He suggests that 'The limitations of randomised controlled trials can be seen as deriving from either the inherent nature of the method (a limitation in principle) or from the way trials are conducted (a limitation in procedure).'   He identifies four situations where RCTs may be inappropriate. Firstly, the scale of the study may hinder the impact as they are rarely large enough to measure accurately infrequent adverse outcomes, and also arising from this issue is the difficulty of evaluating interventions designed to prevent rare

events. Thirdly, when the outcomes of interest are too far in the future and thus the timeframe is too long, a randomised controlled trial may not be practical. Finally, the very act of random allocation of participants may reduce the effectiveness of the intervention (1996, ibid.). Rothwell (2005, p93), whilst applauding the reliability and internal validity of the data on the effects of a treatment, raises concerns over the external validity of RCTs and the extent to which procedures and results can be replicated. Cartwright and Munro (2010, p265) discuss the difficulties of replicating an intervention elsewhere, and suggest that a lack of external validity weakens any conclusions about the transferability of the effect. West and Spring (2014, p20) suggest that the difficulty of separating the control and the treatment group may lead to contamination and a weakening of the randomisation procedure. Whilst RCTs appear to be less susceptible to bias than other research designs, this does not infer that randomisation is without bias. Bias can arise through a poor concealment of participant allocation and their possible awareness of the treatment. Subversion bias may occur where participant recruitment and the formation of the baseline treatment and control groups is manipulated, and the groups are not equivalent. It is harder to create balanced treatment groups in smaller trials, whereas larger trials would allow the treatment groups to be more similar. Larger trials can also provide more precise estimates of results as confidence intervals around the results will be tighter. Attrition bias may occur with a loss of participants following the randomisation, and where the fall out differs between the groups. Missing data might influence the true treatment effect. Interpreting non-statistically significant events needs to be carried out carefully as there may be uncertainty between 'absence of evidence of effectiveness' and 'evidence of absence of effectiveness' (Lewis and Warlow, 2004, p184). There might also be ascertainment bias where the person or organisation reporting the

outcomes is biased towards a particular result. Rudd (2013) suggests that RCTs can be seen as 'mechanistic and reductionist' with a sole emphasis on isolated outcomes. He also suggests that there may be weaknesses in only evaluating the impact and not the process. Whilst a RCT may show that an intervention or treatment has more beneficial outcomes, it does not address why the intervention has worked, or more significantly in some cases, has not worked.

Given such difficulties, it may be seen as surprising that there has been an increase in the use of RCTs (Haynes et. al.,2012, p6). This suggests that the benefits of using RCTs are much greater than the problems associated with the principles and the procedures. In weighing up the balance of the arguments for and against, the strength of being able to find out what worked in one situation and the associated rigour and development of an evidence base has been sufficient for other disciplines to commit to the 'gold standard' of the randomised controlled trial.

4.3.4 Randomised Controlled Trials and evidence of effectiveness in educational research

Whilst RCTs have their origin in the field of education dating back to the early twentieth century (Oakley, 1998 in Davies (1999)), it has been the medical community which has expanded and developed the use of RCTs and enabled it to become the predominant clinical research methodology. The educational research community has focused on the development of qualitative research methodologies and the use of non-experimental research methods. Yet the rally call for greater use of RCTs (Haynes et. al., 2012) and the report that followed 'Building Evidence into Education' (DfE, 2013) has intensified the need for educational research that can

demonstrate what works in education. Research allows us the opportunity to become more certain in an uncertain world. 'We want to know which educational interventions, curricular innovations and teaching methods are effective in increasing knowledge, skills, and understanding…The 'gold standard' research method for addressing the 'what works?' question in 'evidence-informed' policy-making and practice is the randomised controlled trial.' (Torgerson and Torgerson, 2008, p1).

Given that the drive for evidence based information and the need to measure potential outcomes has been growing over the last twenty five years, there are instances of RCTs having taken place in UK schools. Some of these experiments measured interventions which had been in place for a number of years. A large RCT was undertaken between 1988 and 1990 to assess the effectiveness of two types of anti-smoking curricula (Nutbeam et al., 1993) The results showed that the intervention had had little effect and yet the treatment had been in operation since 1986. Over the five years of non-effective operation, resources had been wasted in many schools where teachers had been trained in what was suggested to be an ineffective teaching method. The subsequent anti-smoking curriculum allowed itself to be evaluated in a more rigorous trial. Analysis of the data showed that the intervention group had a slightly increased risk of taking up smoking (although not statistically significant). The importance of this evidence generation and its dissemination prior to a national roll out to the general school population should not be dismissed.

The CEM Centre at the University of Durham has been instrumental in developing TERSE reports which report the findings of short term and small scale interventions, several of which are designed using RCT features. Goodson (1999) randomised Year 2 pupils to undergo either formal or informal testing. It was found that pupils

performed better when tested in an informal working environment, rather than under formal test conditions. Butler (1988, p1) randomised students into three groups, which after testing received either just a numerical grade or a more detailed comment on their performance, or both of these feedback mechanisms. Those receiving just comments performed better in subsequent tests. This was found to be particularly so among a subgroup of lower achievers. The authors of these studies concluded that clear answers had been provided to important questions and that such studies are examples of where RCTs can be used as a most effective method in the development of empirically driven knowledge. However, little consideration was given to the external validity of these results, and whether the interventions could be replicated elsewhere. Yet, as well-intentioned interventions can possibly yield damage rather than better results, this underused approach can be seen as a valuable tool (Fitz-Gibbon and Tymms, 2001).

The importance of randomisation and the elimination of bias in the provision of more reliable results are considered to be of key significance when analysing the outcomes of interventions. Torgerson (2001) contrasts the research methods used in case control studies and quasi-experiments when a well-designed randomised controlled trial might allow for more robust results. She emphasizes the harm that might be inflicted upon children if curriculum innovations are not subjected to a RCT. 'Society insists that a new drug… is required to undergo an evaluation by a RCT. However, a curriculum innovation such as the National Literacy Strategy, which will affect the lives of millions of children, is not exposed to the rigours of a randomised trial!' (2001, p316).

Critics of the RCT rush are concerned that teaching and educational settings are complex and diverse, and a simplistic research design which is attempting to find

causation, cannot encapsulate the multi-faceted teaching and learning environment. Lather (2004, p759) argues that the movement towards evidence-based policy and practice oversimplifies complex problems. She is also concerned that the 'evidence-based' movement where a government foray into legislating scientific method within educational research, becomes, in effect, an 'accountability' agenda. Skourdoumbis (2013, p892) outlines the extent to which teacher effectiveness research aimed at redressing student underachievement is informing the rationale of Australian education policy. This approach has drawn a direct relationship between teacher practice and student outcomes. Skourdoumbis calls into question how such a model can be solely attributed to the pedagogic strategies employed by teachers, and questions the extent to which teaching practice directly related to student achievement can be quantified. He concludes that such research works against the purposes of education. In a response to an article written by Tim Harford entitled 'The random risks of randomised trials', Dylan Wiliam identifies some factors that make the use of RCTs problematic. He suggests that sampling needs to be focused on a cluster (such as the class or the school) rather than individual students, as interventions are often related to the individual class teacher or to a whole school policy. He cites a second problem with educational interventions where the range of achievement within a single group of students is likely to be so large that the differences between those receiving the intervention and those not receiving the intervention will tend to be relatively small in comparison. Thirdly, he suggests that it might be difficult to get people to implement the programmes as designed and described. Finally, he considers that the results of a randomised controlled trial of an intervention might be successful because of the presence of factors that are not present in all educational settings. This would not allow generalizability to other

settings and suggests that even where a randomised trial can be conducted, for the results to be interpretable, they usually need to be accompanied by careful theorizations, which often benefit from careful qualitative observations of the phenomena under study. (Wiliam, 2014).

However, even with these concerns and consideration points, with the movement for more evidence, and as the chosen method to generate this evidence, RCTs have become the key focus, not just for government with their funding for the Educational Endowment Foundation to support 59 RCTs in 2300 schools, but also in the groundswell of classroom practitioners who are actively involved in informal 'TeachMeets' around the country, and the thousands of teachers who have been subscribing to 'ResearchED' conferences over the eighteen months. 'ResearchED considers itself to be a grass-roots, teacher-led organisation aimed at improving research literacy in the educational communities,…and providing a platform for educators, academics, and all other parties to meet and discuss what does and doesn't work in education.' (Bennett, 2015).

4.4   Rationale for decisions for method

This section will set out my rationale for the decisions that I made to use a randomised controlled trial as my method instrument.   It will introduce the intervention method that is used, the rationale for the design of the intervention, how the sample participants were chosen, the timescale for the intervention, and how decisions were made to counter any variations across the participating centres.

4.4.1 Method of Intervention

Having decided to undertake the research using a Randomised Controlled Trial, the method of the intervention had to be decided. As the aim of the research activity is to develop the strategic writing skills of students in order to improve the detail, completeness and quality of composition and in turn see an improvement in subject understanding and associated literacies, it was deemed necessary to have an intervention which would allow for a deliberate and conscious shift in some aspect of the learning activity in order to produce changes in learner performance. The writing intervention would allow the student to independently develop his or her own narrative. The focus of the research activity would be on the improvement of the execution of the writing task through a concentration on the quantity and thereby quality of the text produced. The interventions would be designed to encourage the development of narrative writing through writing more extensively.

A series of narrative strategies based on story grammar techniques was developed with the formulation of the hypothesis that the intervention strategy would lead to students writing more extensively and improving their understanding of business and economics issues through more effective demonstration and application of the knowledge and understanding required at GCSE level. It was considered that the extent of the benefit of the intervention might vary from student to student, for example, higher attaining students may not benefit from the interventions as much as lower attaining students.

The majority of the interventions based on story grammar structure have been used to help develop narrative writing skills of younger students in primary schools or students with language or learning needs. Davies, Bentham, Cartwright and Wilson

(2003) concerned themselves with the question "Can an intervention based on story grammar help secondary school students too?" Their work was based on 14-16 year old secondary students studying GCSE Business Studies and the aim was to demonstrate that research on the narrative development of younger children can provide a basis for improving the subject understanding and literacy of Key Stage 4 (14-16 years) students. Their work suggested that lower attaining students who have difficulties with extended writing and who do not easily master simple principles, showed an improvement in their writing when the structure of the tasks made story grammar rules more explicit. The work of this research activity will enable these findings to be taken forward and allow them to be tested in a more formal way.

As writing is a complex and multi-faceted task, and involves a variety of cognitive processes, the choice of writing intervention needed careful consideration. Deciding on which writing strategy could be effectively used as an intervention within the scope of the experimental conditions required a careful investigation. I wanted my intervention and its results to be seen as trustworthy and relevant by the teaching community. I wanted teachers to be able to say that my results were informative and could be associated with Hattie's (2009) 'visible learning' approach where the role of teachers is enhanced as they become evaluators of their own learning .

My choice of writing intervention was informed by Graham and Perin's (2007b) thorough analysis of the corpus of writing research that has provided a 'What Works' guidance that can impact on the classroom practitioner. I chose to take the strategy of sentence-combining from the ranking of the eleven most effective writing strategies and look at how effective it could be for my study. This also provided a follow up to my involvement in a Best Practice Research Scholarship (BPRS)

activity which had concentrated on the use of connectives in one classroom setting, with an underpinning purpose of improving writing for GCSE Business Studies students (Davies et al., 2002). I decided that the intervention strategy that would be used in this study would also focus on students' use of connectives (e.g. if, because, however) in writing their own case studies. This strategy would balance attention to the structural form expected within the discipline, with scope for students' creativity in how they are able to develop their narrative.

4.4.2 Rationale for the scale of the intervention and the design of the intervention.

One question that needed to be addressed was that of the scale of the intervention. It was important to decide how many interventions including any pre-test and post-test assessments would be required. Within the school environment there can often be considerable disruption to the normal curriculum. Teachers are unlikely to offer their classroom and their students if they feel that their schemes of work and normal working routines are being compromised. Therefore, any intervention strategies for the purposes of this research should be directly related to the current schemes of work. However, how many interventions would it take to create an observable effect? One intervention can generate an instant effect where such differences are observable immediately after the intervention. However, if the required observable differences are likely to be subjected to delays as a gestation period is required, then a more longitudinal pattern of several interventions might be more useful in determining observable effects. Whilst a series of interventions may help in distinguishing cause and effect more clearly and clarify understanding on how an

intervention leads to an effect, there may be a risk of data attrition. Raudenbusch, (2008, p23, p33) considers that "differential attrition and non-random missing data convert an initially randomised experiment into a non-randomised experiment or a quasi-experiment". In order to eliminate this risk, a multiple imputation was conducted to reduce the impact of missing data.

Davies et al (2004) used a unit of work lasting between 4 and 6 lessons whereas Brooks et al (2006) used one intervention. From this I was able to propose that one intervention across a cluster of schools would allow for an observable effect.

The interventions comprised independent learning activities designed so that they could reduce the impact of varying degrees of teacher participation. This meant that the instructions could be read out and students could follow the tasks autonomously. Three successive writing activities were created which would be completed in consecutive lessons. The first would be undertaken by both an intervention group and a control group. This activity would serve as a pre-test which would provide a baseline assessment for both the control and the intervention group. The second writing activity would be the actual treatment activity and would be carried out by both groups, but the intervention group would have an additional written stimulus that would encourage them to remember to use connectives. The control group would have the same case study and questions, but would not have this prompt. The third writing activity would be the same activity for both groups, and would serve as a post-test. In order to eliminate the effect of the students' ability to plan, it was decided to actively build in planning time for both the intervention group and the control group in order to negate any potential impact of this influencing factor.

Having decided that the intervention would use a 'Story Grammar' strategy to improve students' reasoning which in order to improve their reasoning would incorporate a stimulus to increase the frequency and complexity of their use of 'connectives' such as 'when', 'if' and 'because', and having also made a decision to have three successive writing activities, so that the first and the last could function as a pre-test and a post-test, I needed to write the case study questions. The underlying principles I used were:

- Each writing activity needed a problem that could be solved.

- There needed to be sufficient story information to understand the problem.

- Students should be able to come up with a solution.

- To keep the students interested, each writing activity would become an 'episode' in the bigger story.

- The responses that the students would write would be scenario based.

- The design of the questions would use the same questioning techniques and command words as used by GCSE awarding bodies.

- Each writing activity would only last for twenty minutes, so I would use an indicative 'one mark for a minute' maximum.

- The pre-test and post-test writing activities would be identical in format, marks awarded for each question, and format of marking scheme, so that an accurate measurement of change might be guaged.

- The second writing activity where the intervention takes place will be identical for both control and intervention group. However, the intervention group will be provided with a stimulus prompt of a connectives' grid which will encourage them to use more connectives, and also to use more complex connectives.

- The first and third writing activities will consist of three questions and will be marked out of a total of 12 marks. This will allow time for the students to read the case study. The second writing activity will consist of four questions and be marked out of 20 marks. The purpose of this variation is to provide both control and intervention group students an opportunity to write at greater length, and it also differentiates the treatment writing activity from the pre-test and the post-test.

My framework for assessing and analysing the narrative writing of the students and allowing for data collection and data analysis, was based on developing criteria that would allow me to measure the extent of improvement based on four assessment indicators:

- The number of sentences written in the pre-test, post-test and intervention activities;
- The number of connectives used;
- The value of the connectives used (based on a system of scoring connectives);
- Subject attainment based on GCSE Business Studies assessment objectives used by the awarding bodies.

This would allow me to look at whether both student writing with its detail, completeness, and quality of composition has improved, and also whether subject attainment has improved. If a causal relationship can be identified, it would suggest that improvements in writing can lead to improvements in subject performance in GCSE Business Studies.

4.4.3 Decisions on choosing the sample participants within participating centres.

Choosing the schools to invite to participate in this study was a key decision. Without the clout of a trusted research organisation, I knew from my own experience that I would find it difficult to gain access to talk to head teachers and subject leaders for business studies.   Using a database of Staffordshire and other local schools in the West Midlands where subject leaders had been involved in teaching and learning meetings, I contacted all of these schools. The choice of schools was therefore based on institutions that had a history of being involved in teacher practitioner research and where some teacher participants had expressed interest in interventions that might enable students to write more extensively. It was felt that where there was a proven history of involvement in active research that it would be easier to negotiate access to the institution. Randomisation of the choice of schools was always going to prove impracticable, and therefore I knew that the key factor in randomisation would be the allocation of students to the intervention group and those to the control group. Making a decision about how the intervention students and control students should be managed without disrupting the normal school timetable needed careful consideration regarding the arrangements between control and intervention groups. The possibilities available were to conduct the research study within one class in one school where both intervention and control students participated simultaneously within the same classroom, or to conduct the research study in one school with two classes, where one class operated as the treatment sample, and another class became the control group. The third consideration was to categorise a school sample as either intervention sample or control sample.

Looking at the first option of intervention and control students co-habiting in one class I felt that the advantages would be:

- Reduces any "Hawthorne Experiment" effect of intervention students realising that they might be getting additional treatment.

- Parallel design may enable the impact of any effect or difference to be more immediately observable as any extraneous variables are removed.

- The baseline pre-testing is able to assume similar teaching treatments as participants have been in the same class receiving the same instruction and learning activities.

- Students are in the same mixed ability class or the same set.

- Reduces the disruption to a school's learning programme and scheme of work.

However, the main disadvantages would be the threat of leakage from the intervention group to the control group and the difficulties of ensuring a random sample selection.

The second option of having separate classes within the same school for intervention and control students would be advantageous in that it might reduce the potential for leakage within the duration of the intervention and that it might enable a clearer observation of the students as they receive the intervention as they are either one group or the other. However, the key disadvantage being that the baseline pre-testing cannot assume similar teaching treatments as participants have not been in the same class and may not have received the same instruction and learning activities.

The third option of allocating the two sample groups between schools would eliminate the potential for leakage between participants, however, there may be an increase in the sample selection bias as differing demographics, social and economic factors, curricula, and choice of awarding bodies might create further extraneous variables.

Following these considerations I decided that the benefits of the first option outweighed the other two, and with clear operating instructions for staff, the 'leakage' potential could be avoided. My proposal, therefore, was to allocate students to both control and intervention groups in the one class.

4.4.4 Timescale of Intervention

The experimental research activities would take place during the summer term of the first academic year of study (Year 10) at Key Stage 4. This was chosen as for most secondary students GCSE Business Studies is not introduced into the curriculum until Year 10. This would mean that the intervention activity would be used as a reinforcement activity as the subject content will have already have been covered. It could then be used as a stimulus activity for the preparation for the Controlled Assessment unit.

This would also allow the opportunity in Year 11 for the control group to be instructed in the nature of the intervention if the performance results were proven to be significant, and for the intervention group to be re instructed if there was proven to be a negative impact. All three (pre-test, post-test and the intervention activity) experimental tasks would last for 20 minutes.

4.4.5 Variation across schools

In order to reduce any variation of implementation in the participating schools, a single set of instructions was issued. Teachers would be advised that the intervention came through the written content of the instructions for the differentiated task and not through any teacher guidance. However, it was anticipated that there would be variation in the actual implementation. This might be evidenced in the timings of the intervention and control activities. There would be variation in the timings of the lessons when the interventions took place. Some of the interventions might take place in the morning lesson, others might take place in the afternoon. As the intervention only lasts for a maximum of 20 minutes some teachers might choose to use it as the starter activity for the whole session, others might incorporate it into the "second half" of the lesson. Even though the writing activities are sequential, there will be variation found in the teaching and learning styles and techniques and classroom management of the classroom teacher operating between the completion of the three writing activities. There will also be variation between different subjects within the different timetables for all of the students in all of the participating centres. Given that this RCT would be a real 'live' test, it was accepted that there was likely to be some variation surrounding the implementation. Knowing that this might happen provided an opportunity to increase the usefulness of the study through the identification of any significant differences emerging in such circumstances.

Following these decisions, and the creation of the writing activities, I decided that I needed to carry out a pilot study. The next section will look at the purpose of the

pilot study and how the pilot study was used to prepare for the actual implementation of the RCT.

4.5   Using a pilot study – rationale and results

This section will look at the reasons why a pilot study was incorporated into the research design, and will also report on its results.

4.5.1 The purpose of the pilot.

An important part of the research design was to ensure that a pilot study was undertaken and would act as a smaller version for the larger study. As a test of feasibility this would hopefully improve the likelihood of success. De Vaus (1993, p54) advises 'Do not take the risk. Pilot test first.' and a pilot study would allow for more rigorous preparation for the actual implementation of the RCT. The purpose of the pilot study was to ensure the validity of the writing activities, and also the procedures involved in administering the three tasks. It was important to check that the instructions provided to the classroom teachers supervising the writing activities made sense, and were understood both by supervisor and by student. This would enable them to be replicated in every sample classroom within the actual study. The timings of each writing activity needed to be monitored to ensure that students were able to answer all the questions in the allocated twenty minute timescale. It was also important to ensure that for activity 2, both intervention and control groups could operate under controlled assessment conditions in order to eliminate any possible contamination between the two groups as they completed that activity.

The pilot study also involved the pre-testing of the data collection, reporting and analysis. These procedures needed to be trialled in order to ensure the effective management of the data expected from the larger scale RCT. The manual measurement of the variables and the subject performance assessment for each of the writing activities required a routine procedure in order to guarantee that the measurement of outcomes would be performed in the same way for each participant and sample school. The use of a spreadsheet to record the data also needed to be trialled as it had to be sufficiently user friendly to avoid any possible 'typo' and data transfer errors. The ability to analyse the data using the standard spreadsheet functions was also tested.

Having experience of being involved with previous research activities in schools and having faced the inherent difficulties that arise when schools participate in research activities, the initial plan with the pilot study had been to include these results if there needed to be no change with any of the writing tasks. However, as I was involved in administering the pilot, the students did not have their usual classroom teacher or a school cover teacher, and it was felt that this might influence the results. It would, therefore, allow me the opportunity to obtain qualitative feedback from discussing the writing activities and the intervention with the students.

4.5.2 The Pilot Study

The pilot study was undertaken with a small cohort of students at one of the high schools which had originally agreed to be a participating centre, but on receiving the instructions felt that they were unable to implement the research activities within the timescale as additional school summer activities were going to involve a collapsed

curriculum during the RCT study period. In discussion with the subject leader it was agreed that if I as the researcher would supervise the pilot study, the school would be able to provide a small group of Year 10 Business students who had been placed within the subject area during work experience week and who would trial the activities in order to secure a feasibility study. The purpose of this was to ensure the practicality of the research exercise; that the students had sufficient time to complete the activities to the best of their ability, and that the instructions provided for the classroom teachers were sufficient and allowed for both control and intervention groups to complete the writing tasks in the same room without likelihood of contamination. It was also important to check that Year 10 students who were one year through their GCSE Business course would be able to understand the questions asked in each of the writing activities. The three writing tasks in the trial were carried out by five students with predicted GCSE (FFT) grades of A – C, over a one and a half hour period. This allowed for an explanation of what the students would be doing and the way in which the trial would be carried out.

The students were read the instructions that all participating centres would be given and then undertook the pre-test, followed by the second writing activity which comprised the intervention and control activity, and then the post-test activity. Three students were assigned to the intervention group and two were part of the control group. The students were unaware of the group to which they had been assigned.

Following the completion of the three writing activities a discussion with the students identified that they had enjoyed the series of writing tasks, and in particular had engaged with the storyline developing across the three pieces of writing. In

identifying the intervention task with all five students, the three who had been assigned to this group agreed that the prompt of the connectives grid had made them think about the way in which they developed their answers so that they could use more connectives in their writing. This was useful in ascertaining that the intervention was clear and accessible for those assigned to this treatment.

Following these trial writing activities, it was important to test the marking and assessment procedures and the marking grid devised to collect the data. For each centre the writings of each student were to be collected according to the activity number. The pre-test activity was marked first, then activity 2, and then the post-test writing activity. Firstly the number of sentences would be counted and an "S" would be recorded on the left hand margin in red to denote a full sentence. At the end of the writing the number of sentences would be totalled and then recorded on the marking grid. Secondly, the number of connectives would be recorded. This would be done by underlining the connective in green. If the connective had been used inappropriately, then it would receive a stroke through the underline. This would then ensure that when totalling the number of connectives, these would not be counted.

Thirdly, the connectives would be listed on the grid. The grid of connectives that had been used in the intervention activity was replicated onto the marking and data collection grid. Each time a connective was used a mark was made next to that word. Any additional ones used by the student were added to the grid. These were then totalled and then multiplied by the value given to that category. For example, three uses of the connective "because" at four points, gave a value of twelve. The total value of the connectives used would then be recorded on the marking grid. Fourthly, the subject performance would be assessed. The writing comprised

140

responses to either three questions (in Activities 1 and 3) or four (Activity 2) questions. The work was then assessed according to the marking scheme and awarded a mark out of 12 (Activities 1 and 3 - pre-test and post-test) or a mark out of 20 (Activity 2 – the treatment activity). For data analysis purposes this mark was converted into a percentage and then this allowed the level of attainment to be correlated with an equivalent GCSE grade. The following figure 4.1 shows a copy of the marking and data collection grid used for each writing activity for all students.

ID and school	Sentence count	Connectives Count	Connectives value	Attainment Score	Grade

Connectives used:

2 points	3 points	4 points	5 points
When	While	If	However
And	During	Because	Despite
After	Whilst	So	Nevertheless
Before		But	Although
		While	Alternatively

Figure 4.1   Copy of the marking and data collection grid used for each writing activity for
             all students.

Each piece of writing would be assessed by myself, and would follow this procedure. The reason for only having one assessor is to reduce the variation within the assessment process. At the end of the assessment, the data from the marking and data collection grid was recorded on to a spreadsheet. Table 4.1 on the next page

shows the method of recording and analysing the data which was tested using the pilot group's experiences of completing the writing activities.

Control or Intervention	FFT		Sentences Count	Connectives Count	Connectives Value	Average Connectives Value	Attainment Score (12)	Attainment Score as %
I	A		15	20	64	3.2	8	66.67
I	B		8	8	19	2.38	8	66.67
I	B		18	11	42	3.82	9	75
C	C		3	5	14	2.8	5	41.67
C	C		13	12	28	2.33	9	75
		Mean I	13.67	13	41.67	3.13	8.33	69.44
		Mean C	8	8.5	21	2.57	7	58.33
		SD	5.94	5.63	20.14	0.62	1.64	13.69
		Effect Size	0.95	0.8	1.03	0.91	0.81	0.81
		t-test	0.37	0.46	0.32	0.39	0.45	0.45

Table 4.1   Copy of pilot group's data collected and analysed for Writing Activity 1 (pre-

test)

Having entered the raw data from each set of writing activities for a school, then statistical tests were applied to allow for data analysis. An effect size was calculated through measuring the mean and the standard deviation for this set of data using the standard "Excel" spreadsheet formulas. Having calculated the effect size, a t-test was then formulated in order to assess the significance of any statistical difference between the groups. The following figure 4.3 demonstrates how these standard spreadsheet formulas were used to analyse the data collected.

| | Activity 1 | | | | | | |
Control or Intervention	PPT	Sentences Count	Connectives Count	Connectives Value	Average Connectives Value	Attainment Score (12)	Attainment Score as %
I	A	15	20	64	=G6/F6	8	=(I6/12)*100
I	B	8	8	19	=G7/F7	8	=(I7/12)*100
I	B	18	11	42	=G8/F8	9	=(I8/12)*100
C	C	3	5	14	=G9/F9	5	=(I9/12)*100
C	C	13	12	28	=G10/F10	9	=(I10/12)*100
	Mean I	=AVERAGE(E6:E8)	=AVERAGE(F5:F8)	=AVERAGE(G6:G8)	=AVERAGE(H6:H8)	=AVERAGE(I6:I8)	=AVERAGE(J6:J8)
	Mean C	=AVERAGE(E9:E10)	=AVERAGE(F9:F10)	=AVERAGE(G9:G10)	=AVERAGE(H9:H10)	=AVERAGE(I9:I10)	=AVERAGE(J9:J10)
	SD	=STDEV(E5:E10)	=STDEV(F6:F10)	=STDEV(G6:G10)	=STDEV(H6:H10)	=STDEV(I6:I10)	=STDEV(J6:J10)
	Effect S	=(E13-E14)/E16	=(F13-F14)/F16	=(G13-G14)/G16	=(H13-H14)/H16	=(I13-I14)/I16	=(J13-J14)/J16
	T-Test	=T.TEST(E6:E8,E9:E10,2,2	=T.TEST(F6:F8,F9:F	=T.TEST(G6:G8,G9:G10,	=T.TEST(H6:H8,H9:H10,	=T.TEST(I6:I8,I9:I10,2,2)	=T.TEST(J6:J8,J9:J10,2,2)

Figure 4.2   Copy of pilot group's data collected and analysed for writing activity 1 (pre-test) with formulas used for analysis displayed.

In order to summarise the outcome differences for both intervention group and control group for each of the writing activities, a table was created which allowed for the succinct recording of the intended outcome differences. The results of all five students were summated and the mean was calculated. These scores are shown in Table 4.2 on the next page.

Activity 1 (Pre-test)	Intervention	Control	Effect Size	Probability
Sentence Count (mean)	13.57	8.00	0.95	0.37
Connectives' Count (mean)	13.00	8.50	0.80	0.46
Connectives' Value (mean)	41.67	21.00	1.03	0.32
Average Connective's Value (mean)	3.13	2.57	0.91	0.39
Subject Attainment grade %	69.44	58.33	0.81	0.45
Activity 2 (Intervention)	Intervention	Control	Effect Size	Probability
Sentence Count (mean)	14.33	10.00	0.86	0.42
Connectives' Count (mean)	20.33	4.00	1.34	0.16
Connectives' Value (mean)	64.00	9.00	1.20	0.23
Average Connective's Value (mean)	3.00	1.13	1.26	0.20
Subject Attainment grade %	53.33	37.50	0.96	0.36
Activity 3 (Post-test)	Intervention	Control	Effect Size	Probability
Sentence Count (mean)	10.67	10.00	0.14	0.90
Connectives' Count (mean)	11.00	1.00	0.00	1.00
Connectives' Value (mean)	35.33	29.50	0.32	0.78
Average Connective's Value (mean)	3.19	3.24	-0.05	0.96
Subject Attainment grade %	75.00	45.83	1.30	0.18

Table 4.2   Outcome differences for the pilot study group for each of the three writing

activities.

These trial results indicated that the instructions provided to teachers would work and that students understood what the writing activities required of them and understood both the case study text and the questions that they needed to answer. The trial also demonstrated that it was possible to operate both control and intervention groups in the same classroom through the use of individual separate activity worksheets to differentiate between the treatment group and the control group, and also by enforcing controlled examination style conditions.

The trial also confirmed that the procedures for assessing and for the collection and recording of data was practicable and could then be easily transferred onto the marking and data collection grid without error. It also allowed for the checking of the usefulness of the data collection grid and was able to then demonstrate that once the data was recorded onto a spreadsheet, that it could then be tested for both effect size and statistical significance.

4.6 Actual implementation of the RCT

This section is concerned with the research study as implemented. The first section will look at the characteristics of the sample population who undertook the writing activities and how access was obtained, how the responses were received, and how their actual participation was determined.

4.6.1 Sample and Sample Size

In order to ensure that the results of the research study would be useful and of significance it was necessary to calculate the size of sample that would be necessary in order to be adequately sure that we can detect an effect that might be large enough to be of educational significance and where it could be ensured that any observed difference between outcomes did not occur by chance. In an intervention using computer software to determine whether or not it was effective to enhance learning in literacy (Brooks et. al., 2006) reported that 155 pupils were randomly allocated and of these 77 were allocated to the intervention group and 78 to the control group. From this sample, analysis was made of 63 in the intervention group, and 67 in the control group. 4 pupils left the school before post-testing and for 25 pupils there was no pre or post test data. This suggested that for academic purpose a sample size of 130 students with a full data set (all three writing activities) would be sufficient.

Information from the NFER guide (Hutchinson and Styles, 2010, p16) explains that in order to predict the sample size required, we need to estimate what size of effect we would need to measure to be convinced that an intervention has worked. 'This should ideally be built on prior knowledge of the outcome measure and how large a difference would be educationally relevant. In practice, rules of thumb are used and it is often the case in educational research trials that trials are designed to detect effect sizes as small as 0.2 (that is, total sample size of 800; 400 in each group). However, if we had a great deal of confidence in the effect of the intervention, it would often still be justified in designing a trial to guide to running randomised controlled trials for

educational researchers to detect an effect size of 0.5 (that is, total sample size of 128; 64 in each group)'. (2010, p16)

Torgerson and Torgerson (2008, p128) comment that ' …determination of the correct sample size is less related to statistical considerations than to whether or nor any difference is of educational, clinical, policy, or economic significance, which may depend upon the context, cost and nature of the intervention. It is often difficult to specify in advance of the trial the estimate of effect that is of clinical or educational significance.' They relate two instances of reviews of seven randomised controlled trials with sample sizes of 14-79 participants and 16-99 participants. It was felt that these trials were too small to observe important educational differences and it might be more useful to consider these trials as exploratory studies.

From these considerations it was proposed that I would work towards a sample size of 150 participants (5-6 classes) with 75 students allocated to each group. However, this would be difficult to secure without knowing which schools would be involved and the numbers of students in Year 10 who were studying for a GCSE Business course. Assuming that there would be possible attendance attrition as a result of other school activity, illness or unauthorised absence, I decided that I would need at least six schools to participate.

4.6.2 Choice of schools included in the sample

As previous attempts at pilot studies had indicated reluctance on the part of schools to participate in larger scale research studies, the initial decision had been to invite local schools with whom there was an existing collaborative working relationship.

However, this provided a mixed response, as some teachers had classes who were undertaking other projects during the proposed time period, and others were reluctant to take on the workload of administration and the responsibility of ensuring that the responses were safely delivered. Following a discussion with a local 14-19 subject improvement advisor, it was decided to send out an invitation by e mail to all the named Subject Leaders of Business Studies in local secondary schools (Staffordshire and Shropshire.) Within the content of the invitation was an offer for the opportunity for the writing of each student to be analysed and a report to be written for the school which looked at aspects of the writing and the class subject performance. Attached to the e-mail were all the designated administrative procedures and a letter for the head teacher which outlined the ethical considerations. This initiated a number of communications between myself and several schools. One school was very interested, but offered a Level 2 BTEC Business course rather than a GCSE course. Another school was willing to offer the writing activities, but the students were on field trips at that time.

From the date of the invitation, it took six weeks to decide on six participating schools. The following table 4.3 outlines the descriptive statistics of the main sample.

		School					Total
	1	**2**	**3**	**4**	**5**	**6**	
School type	VC Mixed	VA (Sel) Boys	Community Mixed	Community Mixed	Community Mixed	Community Mixed	
Total pupils in school	791	799	1350	990	895	1298	
OFSTED Inspection grade	3 (2009)	4 (2011)	2 (2009)	2 (2009)	3 (2010)	3 (2010)	
% FSM in school	21.4	1.3	7.4	6.9	1.6	2.5	
No of students in Year 10	162	102	232	192	137	182	
% 5 or more A* - C grades	37	98	50	69	52	70	
No. of Business Studies classes in year group	1	2	1	1	1	3	
No. of classes included in study	1	1	1	1	1	2	
No. of students in control group	15	14	13	13	10	19	84
No. of students in Intervention group	10	12	9	10	12	15	68

Table 4.3   School sample descriptive statistics as at December 2011

The sample schools contain representative school characteristics of the West Midlands (e.g. type of school, OFSTED classification). In comparison with national averages for the state sector, the average of the sample schools indicates higher performance levels, but this may be skewed with the addition of a high performing selective school participating within the sample cohort. When this school is removed from the calculations, the performance characteristics of the remaining schools are similar to the national average figures.

4.6.3 Data collection and recording

The participating schools posted the completed written work (comprising the pre-test, intervention and control, and the post-test activities) of the students in one batch to

my school address. This ensured that all of the three activities had been completed within the time allocated. Within each batch the written work was organised by activity. On receipt of the writing, each piece of writing for each student and for each activity was given a unique identity number. Using a computerised random generator program, these numbers were then inputted, which allowed for a random sample to be created. This sample was then sent to another teacher who would 'second mark' to provide a standardisation check on my assessment of the student's subject performance. The data from the writing activities were then recorded according to the schedule laid out in the pilot study. For each centre the first writing activity (pre-test) was assessed first, followed by the intervention / control activity, and then the post-test. The order of the assessment of the writing of each student was organised according to the way in which it had been collected by the participating class teacher. Each piece of writing data was recorded manually both on the script and also on the marking grid. When the assessment of all the writing activities for a centre was completed, the scores information from the writing data for all the variables (sentences, number of connectives, value of connectives, and subject attainment) was inputted into a spreadsheet. This was then second checked to ensure accurate transfer of information. A third check on the accuracy of the inputted data was provided by a statistics lecturer at a local university college. Thus, the data collection was manually collected and recorded, but inputting the results of the data into an appropriate software format, ensured that it could be analysed easily using standard spreadsheet tools.

4.6.4 Data processing and analysis

Once the raw data had been collated and inputted, the use of the spreadsheet functions allowed for the calculation of means, standard deviations, and totals. This provided sufficient information to calculate an effect size for each variable. Measuring the significance of the differences between the mean scores of the intervention and the control groups was performed by using the t-test function of the spreadsheet, and also by undertaking a 2 by 2 ANOVA as a means of checking the data analysis.

4.7   Assumptions and Justifications

This section will outline the methods used and the justification for using these methods, and will also return to the methodology in order to state any methodological assumptions made about the data. The possible weaknesses of the method as well as the ways in which checks and balances were used to reduce any threats of any limiting factors will be described. The procedures used to ensure that the results are credible will be outlined. A consideration of the ethical issues will be provided. This section will conclude by returning to the main purpose of the study and the research question.

4.7.1   Methodological assumptions

The deductive process selected for this research study focuses on cause and effect based on a set of pre-selected variables which can be measured. Usually RCTs

operate in context free environments where variables can be clearly categorised and isolated. The paradigm that I have adopted assumes that this will be the case in the classroom research environment.

I have assumed that all teachers will follow the instructions provided for the organisation of the writing activities, and have also assumed that the students have also followed their task instructions. I have also assumed that students will want to do well in these writing activities and will, therefore, apply their greatest efforts. Given that the sample of students in both the intervention group and the control group were in the same school year and following the same GCSE Business programme of study, I have also assumed that they will have all covered the same quantity of subject knowledge.

4.7.2 Establishing the reliability and validity of procedures

Glesne & Peshkin (1992, p6) state that "quantitative research… supported by the positivist or scientific paradigm, leads us to regard the world as made up of observable, measureable facts". Reliability and validity are the tools that establish the credibility of the research process. Golafshani (2003) cites Joppe (2000) defining reliability as:

"…The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. (p598)

Intrinsic within this definition is the assumption that credible and valid procedures employed will produce measurements and results that can be replicated.

Traditionally, the criteria used to establish the credibility of the quantitative research process focus on internal and external validity; reliability; and objectivity. Validity considers whether the research process is actually measuring what it intends to measure. Is the research targeting the key point of the study? Establishing internal validity will require questions to be asked about whether it is the intervention that is causing the result, or whether there may be extraneous variables responsible for any effect. External validity can be established through generalising any effect of a causal relationship to other subjects and contexts. Reliability refers to whether or not the result can be replicated if it were to be repeated and objectivity considers the extent of involvement of the researcher in determining how the variables respond to treatment.

For this RCT it was necessary to design an intervention, which, whilst recognising the limitations of the research process and its potential threats, could also ensure the validity and reliability of the research procedures.

Whilst the methodological assumptions can operate in practice, research in a "live" education setting is unlikely to be able to control all the aspects of the method employed. The adage "never work with children or animals" springs easily to mind when designing a classroom learning activity. Designing a research activity which aims to test an intervention within a quantitative paradigm and also has to work in a live timetabled lesson with the full class register in attendance is likely to present difficulties. One of the main weaknesses of the research design is that the intervention group and the control group would be present in the same room and

completing their respective writing activities at the same time. The potential for cross contamination was a concern as it could impact on the accuracy and reliability of the results. As a full time teacher and part time researcher I was unable to attend at the participating centres and either lead the organisation and administration of the writing activities or observe the procedures used. Therefore, despite the possibility of subversion bias, I have had to trust the participating teachers to carry out the instructions as they said they would. The trialling of these written instructions to staff was important as a means of reducing potential threats to the results. The key instructions were to ensure that the writing activities were completed in 'controlled assessment conditions'. Students are familiar with these practices and this was seen as a reliable method of isolating students as they responded to the writing activities. Teachers were also asked to assign students to either the intervention group or the control group in a random way. It was stipulated that they should not assign based on surname alphabetical order or similarly according to the class register. As the writing instructions were on a similar worksheet using a similar design layout, each student could be given their own instructions and not see any obvious differences between those assigned to the intervention group and those assigned to the control group.

The accuracy and reliability when measuring the specific writing variables through the counting of numbers of sentences and connectives can be quantitatively validated, but measuring subject performance requires a level of qualitative interpretation which may impact on the reliability of the results. In order to reduce this threat, a second marker was also asked to assess a sample, using the same marking scheme, in order to provide a method of standardisation.

4.7.3 Ethical considerations

When setting up the research study, the purpose of the study and the invitation to participate was addressed to the head teacher as well as the subject leader for business education. Consent for the school to be involved as a participating centre was given by the head teacher. The teachers explained to their classes that the class had been invited to participate in a research activity that would be focused on writing activities and ensured that there was informed consent. Students would be given anonymity in any published findings. Attention was also given to the needs of the students to remain focused on their GCSE specification and its attendant assessment objectives, as GCSE Business subjects are not part of the National Curriculum and therefore, there are less learning hours available to cover all the subject content issues. It was important that any interventions did not detract from their subject focus.

One of the ethical considerations that needed to be addressed was that of effect. If the effect of the intervention treatment was seen as beneficial, then the subject leaders needed to know immediately to ensure that those in the control group had the opportunity to also benefit from the treatment following the post-test activity. This was addressed through writing a report of findings for the subject leader.

4.8   Conclusion

In this chapter I have presented an account of the research philosophy and the research method used to conduct the study. The research is grounded in the field of positivism using an experimental approach. The use of the RCT as a research tool

has been expounded and the attendant advantages and disadvantages are outlined. The practical side of the implementation of the research study is detailed and the measures taken to ensure reliability and validity are addressed. As an ecological real test there is bound to be some variation of implementation, however, this can only make the test more useful, if significant differences emerge from within a clinical environment with confounding circumstances.

The nature of the intervention activity and the pre-test and post-test activities are explained, as well as the way in which the effect of the variables would be measured. The nature of the sample selection of students, classes, and schools is considered as well as the methods of data collection and analysis.

The limitations of the method are identified, and the steps taken to address any possible weaknesses are discussed. Ethical considerations which focus on the rights and the protection of participants have also been taken into account.

The purpose of this study is to test whether a specific writing strategy for students can improve their written performance and in so doing can also lead to a raised attainment in subject performance. The method outlined in this chapter will allow the opportunity for this hypothesis to be tested.

The following chapter will report the results and the findings of this research study.

CHAPTER 5

RESULTS

5.1 Introduction

The aim of this research is to develop the strategic writing skills of students in order to improve the detail, completeness and quality of composition. The research undertaken tests the hypothesis that narrative intervention strategy based on story grammar techniques will lead students to write more extensively and improve their subject performance in business and economics.

The function of this chapter is to present the results of the three writing activities for both the control and intervention groups, and to consider the results from a whole sample perspective. The chapter uses examples of students' work to show how their writing was assessed, presents the quantitative results to compare the intervention and control groups, and considers how the implementation of the research may have affected the results.

Following this introduction, Section 5.2 reports the results of the implementation of the writing activities. This looks at the number of participants in the sample, and also reports the results of the students who completed Activity 2 (the intervention activity), but did not complete one or both of the other activities. This section also includes qualitative comments from subject teachers and students, and includes evidence from feedback reports sent to some of the participating schools.

Section 5.3 reports the collection of data of the outcome differences for the three writing activities for a sample of four students. Using this commentary, this section exemplifies and explains the assessment and scoring procedures used to measure

the variable outcomes. The results of this data collection are presented in a sequential format following the order of the writing activities (Pre-test (1); Intervention (2); Post-test (3)). This makes it possible to compare the writing of the four different students at each stage of the succession of writing activities. This section also demonstrates how the data have been collected through the recording of the variable outcomes, and also provides an explanation for the rationale used to measure the outcome of the subject performance assessment. The aim of this section is to demonstrate the way in which the marking scheme was used to arrive at a subject performance grade, and to highlight any links between student subject performance and the use of connectives. It provides a review of the relationship between the use of connectives and the subject grades.

Section 5.4 considers the descriptive data for the whole sample. Firstly, a correlation matrix is used to identify and report the relationships of the measured variables for the whole sample. Secondly, any variation within the writing activities is explored through looking at any differences in the knowledge and understanding levels required for the three writing activities. The third part of this section reports on the assessment standardisation used to ensure the reliability of assessment.

Section 5.5 explains how the data have been statistically analysed and using that analysis summarises the results of the outcome differences for the three writing activities for both the intervention group and the control group. This leads on to Section 5.6, which provides an account of the descriptive statistics, used to report on the variables used to measure the impact of the writing activities. This section uses line graphs to illustrate the quantitative effect of the impact. From here, Section 5.7 outlines the inferential statistics used to report the results of further data analysis.

The chapter concludes with a summary of the results (Section 5.8), which will prepare the discussion for the next chapter. These results will interpret the associations between improving writing performance and the use of the interventions, as well as considering the opportunity for further use of Randomised Controlled Trials in educational research.

5.2   How the research was implemented.

The purpose of this section is to describe the conduct of the study and the rates of participation from the schools involved in the sample, and to present the feedback from the teachers involved. This section also reviews the commentary on the subject performance of the participating students provided for two of the schools.

Six state schools in the West Midlands participated in the study with three 30 – 45 minute lessons over three consecutive weeks during June – July 2011. A total of 142 Year 10 GCSE Business students completed all three writing activities (pre-test, intervention, and post-test). Of these, 65 belonged to the control group and 77 received the intervention. Another 29 students completed either one or two of the writing activities, but these results were not included, as the students had not participated in all three writing activities. Sixteen of these students had completed either the pre-test or the post-test, but did not complete the intervention activity, and were therefore not allocated to either the control or the intervention group. Of these, six students had been allocated to the control group, and seven students had been allocated to the intervention group, and had, therefore, completed the intervention activity. The level of missing data across the three writing activities was 3%, with only 1.4% missing for the second intervention activity. Table 5.1 records the

outcomes for these 13 students had they been a discrete sample. We conducted a

multiple imputation using SPSS to address the missing data.

		Intervention	Control	Effect size	Prob (p)
Activity 2	Sentence Count	10.57	6.50	1.07	0.048
(experiment)	Number of Connectives used	17.14	6.67	1.23	0.019
	Value of Connectives used	54.14	21.00	1.05	0.053
	Average Connectives' Value	3.04	2.62	0.44	0.455
	Subject attainment (%)	47.14	23.53	1.33	0.009

Table 5.1   Outcome differences for students who completed the experiment writing activity, but who did not complete the set of three writing activities.

One school had agreed to run the writing activities with two classes, but decided

after the first writing activity to exclude one of the classes from the study as they had

fallen behind with their scheme of work because of teacher absence prior to the

writing activities taking place.

The link business teachers from the six schools were issued with prescribed

instructions for operating all three writing activities. One school asked for a further

clarification of the instructions regarding how much support could be available for the

subject content (Business plans and Franchising) during the course of the writing

activities. It was agreed that the class would have some recap time prior to the

writing activities, and that all of the class would undergo the same 'treatment'. I then

communicated this opportunity to the other schools, that if they wished to, they could

also have some revision time prior to the writing activities taking place. This also

provided an opportunity to reinforce the instruction that the three writing activities

were not to be pre-released to the students.

All the teachers reported that they had used the instructions as prescribed and had been present in the classroom during all three writing activities, except in one instance, where due to medical circumstances the usual teacher was replaced with a cover teacher. It was reported that the cover teacher had used the instructions as provided.

The schools reported that, as per the instructions, they had operated 'controlled conditions' where the students did not communicate with each other during the course of each of the three writing activities. This was an important result as there was a potential possibility of some 'contamination' between the intervention and the control group during the course of the second writing activity.

The teachers reported that the students settled well to the tasks and were able to undertake the activities independently.

All six schools collected each of the writing activities at the end of the twenty minute session, and when the third piece of writing was complete, sent the three sets of writing to the assessor.

Some follow up questions were sent to each centre and responses were received from three of the six centres. The questions asked were as follows:

1. What type of explanation was given to introduce the activities to the students? I asked this question, as I wanted to understand what motivations were behind the writing performance of the students.

2. Did you administer the activities or was it a Teaching Assistant, or a Cover Assistant or a trainee teacher? This question would also identify who issued the

instructions, and who randomised the class students into control and intervention groups.

3. What kind of 'randomising' process did you use to allocate the different activities for the second piece of writing? This was a very important question to ask for internal validity purposes.

4. Did the students work in silence for the three activities? This was a re-phrased question from the initial collection of the writing data. The original question asked if the students had worked under 'controlled examination-style conditions', but I wanted to check that there had indeed been no opportunity for interaction between students.

5. What was the 'mood' of the students as they worked through all the activities? I asked this question, as I wanted to gauge the level of engagement and to understand if this may have had some impact upon the writing performance.

Teachers from the three centres who responded to these further questions reported that they had each explained that the three writing activities were part of a research exercise. One school told the students it was a 'very important piece of research'! One centre explained that the school was interested in receiving information about the writing of the students. Another school also told the students that it was part of a transition into year 11 and practising extended writing. Subject class teachers at these three schools administered the writing activities themselves. Randomisation for the second writing activity took place differently in each of the three schools. One school made sure there were equal girls and boys, and within these two categories tried to ensure there was a mix of abilities. Another school allocated different numbers to each student and then all even numbers were one group and all odd

numbers were the other group. The third school allocated the groups as the students arrived in the lesson, the first student through the door was allocated to the control group, and the second to the intervention group, and so on. All three schools reported that the students worked silently. One school reported that the students were engaged with the writing activities and by the end of the second activity were trying to guess what might happen with the storyline for the third writing activity. Another school said that the students enjoyed being able to work independently in a quiet classroom. The third school said that some students moaned at first, but were more enthusiastic by the third writing activity.

I was able to conduct a 'focus group' style follow up discussion with four students from one centre (2 students allocated to the control group and 2 students allocated to the intervention group). I asked whether they had enjoyed the writing activities and received the following comments:

'I enjoyed having to do a series of writing. It was like working with a storyboard.' (Control)

'It was good to make business decisions based on choices.' (Control)

'I enjoyed having to work on my own for a focused period of time.' (Intervention)

'I liked thinking about what a small business has to do to keep going'. (Intervention)

When asked about using connectives to help them write more, the two intervention group students said that they used the grid to help them use higher value connectives. They agreed that the connectives grid reminded them to include a greater variety of connecting words. The two students who had been part of the control group in their school said that they had not really thought directly about using

connectives when writing their responses. When asked how they use connectives in their writing for their current subjects, one student mentioned that when he got to the end of a sentence, if he remembered he would try to use a connective to link to the next point. In probing further, he thought he did this in English, but was not sure whether he actively did this in his other GCSE subjects. As the discussion progressed further, one of the intervention group students mentioned that having a connectives grid to refer to reminded her of the Connectives Learning Mats that they used in English lessons in years 8 and 9.

As an incentive for school participation, each school was offered the opportunity of receiving a written report, as well as a spreadsheet of the results of each writing activity, the marking schemes, and copies of the annotated work. Two schools requested this.

The following issues were reported to one of the schools (School 1):

1. In the second activity, which was the Intervention activity, those students in the Intervention group used more connectives and performed better. This suggests that encouraging students to use connectives can improve performance. This impact was replicated in other schools.

2. Your students did not always read the instructions and questions carefully. This made it difficult to award attainment marks.

3. Some students did not always attempt to answer all the questions and so were unable to access all the marks. This may have been because of lack of understanding or weak engagement levels with the activities.

4. General understanding of interest rates and their impact on decision making was weak.

5. Some responses were very repetitive and indicated a preference for listing factors. Planning answers may help.   Using an answer frame, which encourages students to develop and then link points, may help.

6. Students appeared unused to the need for enterprises to make choices and decide upon actions.

7. Students appear to have a limited range of connecting words in their immediate vocabulary.   The major connectives used were 'and', 'so', 'because'.

8. Very little use of Level 4 evaluative connectives such as 'therefore', 'nevertheless', 'on the other hand'.

The second report to another school (School 3) covered some similar issues:

9. In the second activity, which was the Intervention activity, those students in the Intervention group used more connectives and performed better. This suggests that encouraging students to use connectives can improve performance. This impact was replicated in other schools.

10. The difference between Activity 2 and the first activity showed that the intervention group were using more sentences and significantly more connectives.

11. In the third activity, the intervention group did not use as many sentences, but used more connectives.

12. The comparison of results between the pre-test (Activity 1) and the post-test (Activity 3) showed a significant increase in the performance of the intervention group although the students in this group used slightly fewer

sentences and connectives.   However, there were more higher scoring connectives, e.g. connecting words such as however, although, therefore.

13. Students did not always follow through their initial decision for a question. E.g. Activity 2 question 1.   Students would give advantages and disadvantages but would not give a preferred choice of action with a reason.

14. There was a high use of 'like' for 'such as' and sometimes students would confuse 'but' for 'yet'.

15. Some responses were very repetitive and indicated a preference for listing factors. Planning answers may help.   Using an answer frame, which encourages students to develop and then link points, may help.

16. Students appeared unused to the need for enterprises to make choices and decide upon actions.

17. Students appear to have a limited range of connecting words in their immediate vocabulary.   The major connectives used were 'and', 'so', 'also' and 'because'.

18. Very little use of Level 4 evaluative connectives such as 'therefore', 'nevertheless', 'on the other hand'.

For these two schools I suggested some practical actions that might help students to improve their writing and subject performance.

- Understanding what the questions are asking. Clearly identifying command words in the question.

- Extending general as well as technical vocabulary.

- Modelling and practising the development of answers using connectives lists. E.g., This will happen because… However… Consequently… Therefore… This could be demonstrated using a flow chart of ideas. Writing out an answer to a question and then cutting it up and getting students to put it back in the right order is a useful way to show them how to write more and develop their responses. Interactive White Boards could be useful here.

- Awarding Bodies provide sample student answers that can be dissected. Written answers could be improved by reordering the sentences used and including appropriate connecting words.

- Edexcel stated in their June 2013 examiner's report for the Year 11 module for GCSE Business that the use of encouraging candidates to develop answers through the use of connectives can allow candidates to access higher marks (Edexcel, 2013, p3)

5.3   How students' work was graded

This section reports on the process of data collection using the three writing activities. The writing of four students for each of the writing activities has been preseouy7nted through scanned images of students' texts. These figures show how the occurrence of the variables has been recorded, and they demonstrate relevant annotation by the assessor to demonstrate the development of subject performance.

All four students are from four different schools and were allocated to the intervention groups within their classes. To gather data from a range of students, all the students in the intervention groups were ranked in terms of subject performance. These students were then placed in four groups according to this subject rank. One

student from each group was randomly selected (using a random number generator) from each group.

The data analysis is presented sequentially through the three writing activities. The data collected were the number of sentences used, the number of connectives appropriately used, a value assigned to the connectives used, and a totalled assessment score for the piece of writing based on subject quality. In order to qualify this score a mark scheme was used, based on standard GCSE examination assessment criteria. In assessing subject quality students were expected to conform to standard examination rubric, e.g. answering the question asked.

5.3.1 Collection of data from Activity 1 (Pre-test)

Table 5.2 shows an overview of the figures illustrating the writing of the four intervention group students for the pre-test (writing activity 1).

Figure	Purpose of figure	Student identification	Participating school
5.1	Student writing for Activity 1 (pre-test)	DB	2
5.2	Evidence of use of data collection grid	DB	2
5.3	Student writing for Activity 1 (pre-test)	AW	1
5.4	Student writing for Activity 1 (pre-test)	CS	6
5.5	Student writing for Activity 1 (pre-test)	SF	3

Table 5.2   Overview of figures illustrating student writing for Writing Activity 1 (pre-test)

In order to analyse the data, each writing activity was assessed for the use of sentences and connectives through a count for each outcome and for subject performance, which, was assessed against a levelled marking scheme using

standard GCSE assessment criteria (see Appendix A and B for copies of writing tasks and marking scheme).

Activity 1 (Pre-test) – Student DB – School 2

The following figure 5.1 is a scanned image of the writing produced by Student DB (Ref 140) for Activity 1.
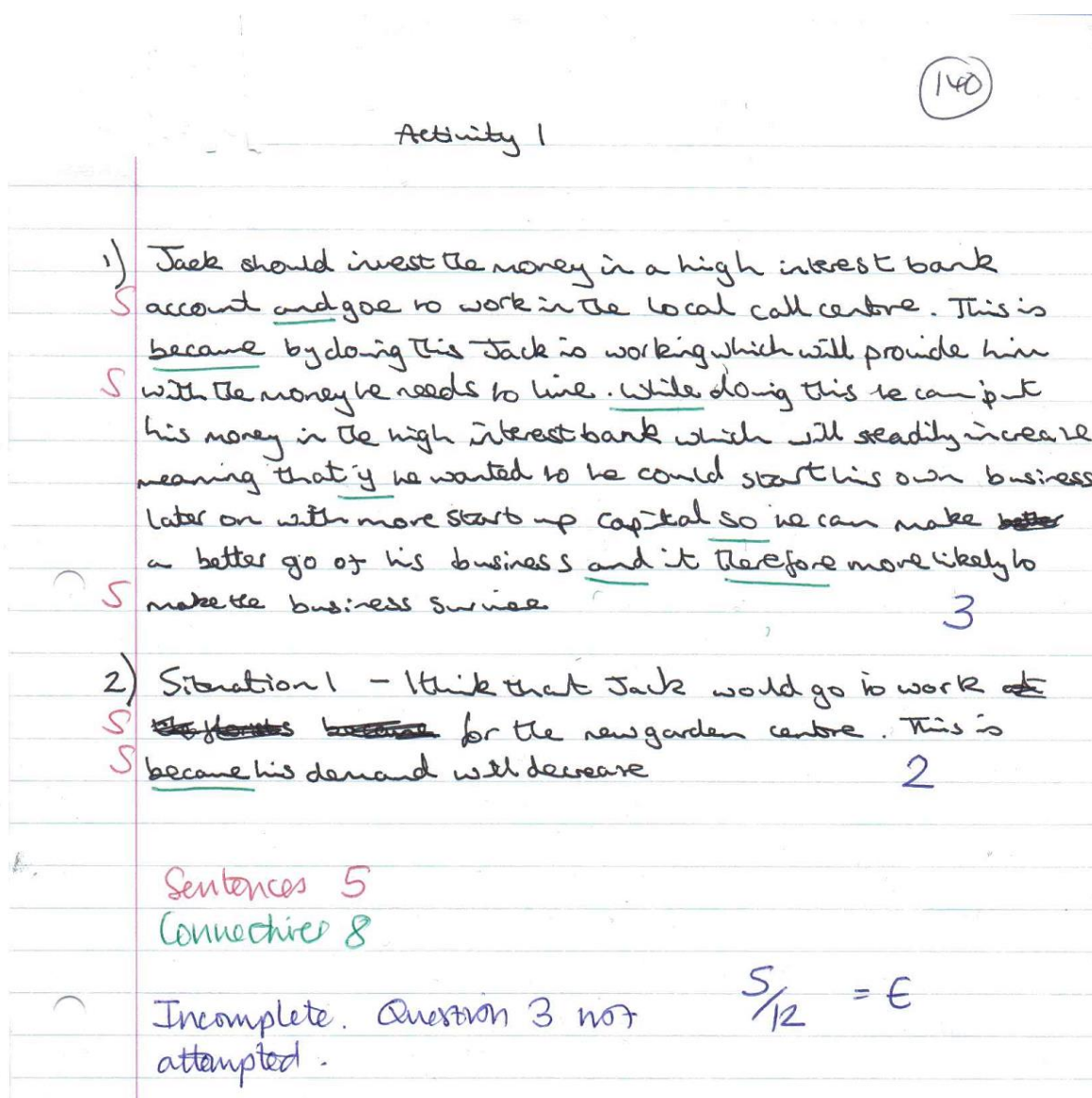
Figure 5.1   Scanned image of writing produced by Student DB (Ref 140) for Activity 1

This figure illustrates the method of annotation used to analyse the data for the entire cohort of students involved in the research. A complete sentence was recorded by the use of a red 'S' in the left hand margin, and the connectives used were underlined in green. The number score in blue is the record of the marks awarded for the question. The summative marks for the writing activity are out of 12 and an indicative grade is recorded, although subject performance was assessed on the score rather than the grade.

The response for question 1 (see Appendix A for activity sheet) required the student to choose a direction from three options provided for a would-be entrepreneur with an enterprising idea. Three marks out of four are awarded for DB as the option is chosen with a developed reason '…Should invest the money…and go to work in the local call centre…because by doing this…provide him with money…and put into high interest bank…to start own business.' which is linked to a future strategy. This choice of future strategy also demonstrates the ability to make further links as a subject threshold concept of opportunity cost is used as an underpinning idea ('…so he could start his business with more start-up capital…and therefore more likely for the business to survive.'). To have progressed to the fourth available mark for subject quality, the student could have explained why they had not chosen either of the two other options available.

The relationship between connectives and subject quality is illustrated through the use of 'if', 'so', 'therefore' to move the argument on. This demonstrates how the use of connectives can be influential in allowing students to demonstrate their skills of analysis and evaluation.

Student DB did not complete all of the questions, and whilst Question 2 was answered, it is brief and undeveloped. The student stated the situation that could occur ('… that Jack would go to work for the new garden centre'), and has provided a reason ('…because his demand will decrease') for this situation. This reasoning develops from the use of the 'because' connective. Without the use of this connective, it would have been more difficult to find a rationale for the response. However, 'because' is underused as the argument is not moved on and is left standing, as the student finishes their writing in an undeveloped manner ('…because his demand will decrease').

No reason has been provided by the class teacher for DB's incomplete work. Across the full sample where students arrived late to the lesson, the teachers were asked to indicate this. There was only one report of this occurrence.

It is interesting in this case, that the student has rejected the enterprise opportunity, and recommends that the inheritance of £10,000 is invested and that 'Jack', the character in the data response scenario should go and get a full time job. This was an interesting response, as Year 10 students for all the GCSE awarding bodies focus on Enterprise in Unit 1 as an aspirational life opportunity. Perhaps Student DB and some other students are risk averse. A number of students chose strategies that suggested that they understood that life, as an entrepreneur was not always a viable option. This ability to consider other perspectives away from the focus of the first unit in the GCSE specification suggests that DB has the ability to think at a higher level and it may be possible that DB did not complete all the questions as s/he was taking time to think through all the options available.

Figure 5.2 below illustrates how the data collection grid was used to record and collect the data for this activity.

Sentence count	Connectives Count	Connectives value	Attainment Score	Grade
5	8	24	5/12	6

Connectives used:

When*	While*	If*	However*
And*	During*	Because*	Despite *
After*	Whilst*	So*	Nevertheless*
Before*		But	Although*
		While*	Alternatively*

Figure 5.2   Scanned image of data collection grid for Student DB (Ref 140) for Activity 1.

The grid was used to record the data for the sentence and connectives count as well as the subject performance score. It was also used to record and categorise the connectives used. The grid is a copy of the one provided to the students in the intervention group for the second writing activity. This was the only instance when intervention group students were able to access this stimulus. Any additional connectives, such as 'therefore' are noted. The scores of the connectives values were then calculated. The first column of connectives was valued at two points, and then the next column of connectives was scored at three points, and so on. The final column of connectives scored at five points.

Activity 1 (Pre-test) – Student AW – School 1

The following figure 5.3   is a scanned image of writing produced by Student AW for Activity 1.

Activity 1.

1) Personally, I think Jack should pick option 1 because it's a unique selling point and it could be a gap in the market. Also, if he is successful in making a selling hanging baskets he could try and sell them to one of the many big garden centre, to increase his profit.

2) In my opinion, I think situation 2 is most likely to occur. Due to the fact, 'hanging baskets' is not very popular. Especically during winter hanging baskets would not sell as well. However, he could still go and work for the garden centre.

3) Due to my state answer before, I think Jack will work for the garden centre and possibly work quite har up in the at the garden centre since he has had experience ; handling a business. Also, he could begin to make and sell his hanging baskets but through the garden centre. This is because the garden centre would increase their profits as well as Jack doing something he is good at and likes.

$$\frac{8}{12} = \mathbf{C}$$

Figure 5.3   Scanned image of writing produced by Student AW for Activity 1

173

Student AW from school 1 chose the GCSE Business enterprise route for Jack. S/he reasons that this business opportunity holds a Unique Selling Point because there may be a gap in the market. This reasoning is understandable, but the conflation of concepts prevents AW from clearly identifying the point. AW's writing is poorly phrased, confusing a strategy with a marketing technique, ('…Jack should pick option 1 because it's a unique selling point…'), but it was sufficient to achieve two marks. This student attempts to develop the reasoning by explaining that Jack could sell the hanging baskets to the bigger garden centres. This reasoning was further developed through the use of 'also' and 'if' to allow a third mark to be awarded for considering further the opportunities available. This suggests that the student has the ability to analyse.

In the response to Question 2, student AW recognised that the local council allowing planning permission for a new garden centre would provide competition for Jack and his hanging basket business, and that this would impact negatively on demand and may force the closure of Jack's business. This was sufficient to award two marks. The last sentence for this response is of note as it uses 'however' to develop a point using another of the scenarios, which is useful, but not required for this question. This demonstrates how the writing skill can be employed well, but in moving away from the question focus it becomes a missed opportunity and that subject quality is also measured against question instruction and associated examination style assessment rubric.

For question 3, AW re-iterated the point from question 2 that following the closure of the business, Jack could become an employee of the garden centre. AW uses the connective 'since' to develop the point that his experience could enhance his progression as an employee. S/he finished this response by using 'also' and, then,

uses 'because' to explain the benefits for the garden centre of Jack's experience with hanging baskets. This additional reasoning prompted by connectives allows for another mark.

From a subject teacher's perspective, I found AW's writing for this activity interesting, as they were very emphatic in the introduction to questions 1 and 2 that these are subjective responses. AW recognises the seasonality of hanging baskets as a potential problem for a small business. They also focused on the entrepreneurial motive of finding a gap in the market and on the need for larger businesses to increase profits. From a writing response technique, AW chose to use one stimulus strategy and develop the reasoning around this one particular choice, rather than using the other scenario prompts as a means of comparison, which would have provided greater opportunity for analysis and evaluation.

Activity 1 (Pre-test) – Student CS – School 6

The following figure 5.4 is a scanned image of writing produced by Student CS for Activity 1.
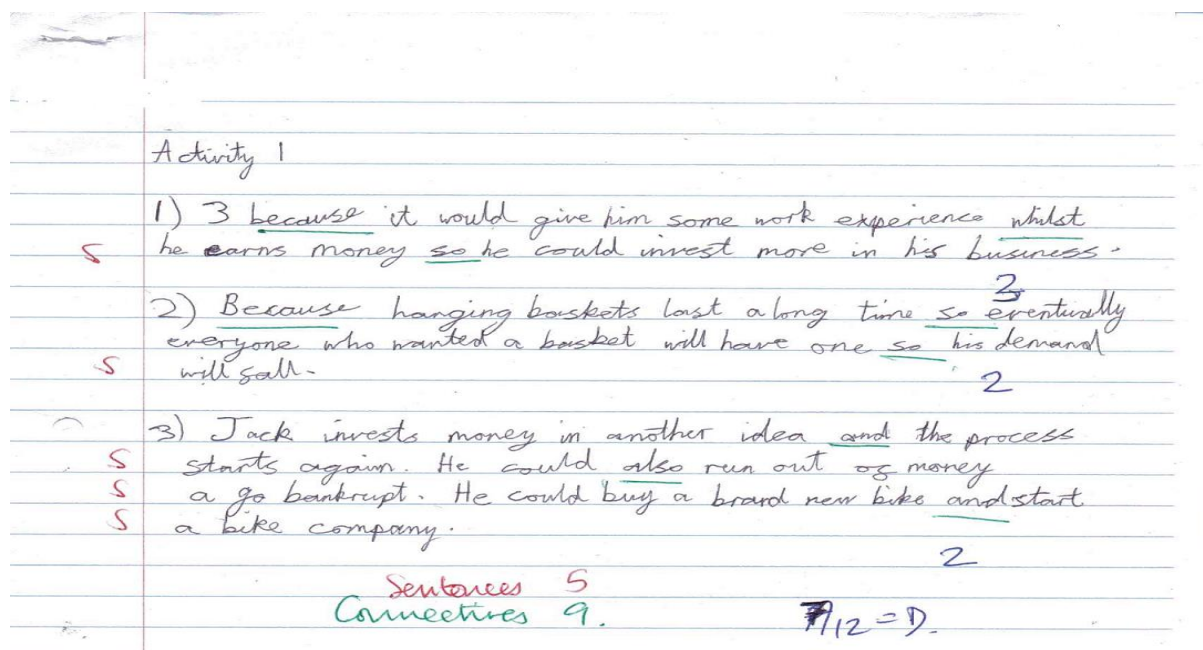
Figure 5.4   Scanned image of writing produced by Student CS for Activity 1

Student CS from School 6 completed Activity 1 at a similar level to AW. CS was more concise in their use of words and the first two sentences lack structure and expression. Sentence 1 starts with '3 because…' rather than creating a full sentence

starter such as 'Jack may choose to…'. However, a clear structure of three connectives (because, whilst, so) enabled this student to achieve 3 marks for this response as the option chosen is supported by a reason and a further developed point. It is interesting to see that this student suggests that Jack should have a secure financial basis before setting up his own business and this signposts that CS is thinking in terms of the evaluation of alternatives (in line with the development of the threshold concept of opportunity cost).

CS gets straight to the point again and starts the response to Question 2 with the connective 'because'. The choice of an option and then the use of 'because' made it likely that at least two marks would be secured as it prompts the student to provide a reason. CS does try to expand on the reasoning behind the choice of option and uses 'so' twice. However, the expanded reasoning was not sufficient to secure a third mark. To achieve the additional marks available CS needed to link the point to the focus of the question. The use of 'however' rather than 'so' may have allowed the student to comment on alternative opportunities and this too would have enabled the student to achieve more marks.

The third response is interesting in that CS saw Jack becoming somewhat of a serial entrepreneur and moving on to new ideas. However, CS appears less focused at this point. This is suggested by the use of connectives 'and' (x2) and 'also' (x1) which lead to additions to the text that lack any sense of contingency or alternative strategy. This piece of writing is indicative of a top end GCSE 'D' grade. This would suggest a student who is capable of understanding the key issues but does not communicate this through their written work. As such, they are an example of a 'borderline' C grade student and in the current education climate would become part of a focused intervention cohort.

Activity 1 (Pre-test) – Student SF – School 3

The following figure 5.5 is a scanned image of writing produced by Student SF for

Activity 1.

Setting up your own business - activity 1.

1.) I think that Jack should choose option 1 because it is something that he should enjoy doing because he is following his hobby. He is more likely to be successful, motivated and determined if he is doing something he enjoys.

3

2) Situation 1, 2 and 3 is most likely to occur, because they can all happen at different stages within Jack's business. Insufficient to answer?
Needs to answer question

0 or 2
1

3.) I think that Jack will go and work for the garden centre and put his profit? into the bank.

2 1
Wages/Earnings

Sentences 4
Connectives 5

5/12 = E

Figure 5.5   Scanned image of writing produced by Student SF for Activity 1

At the lower end of the range of marks, Student SF began the first writing activity by making a clear decision that Jack should convert his hobby into a full time job and

set up his own small business. The use of 'because' twice and 'if' once provided the opportunity to achieve three marks as a reason and a possible inference('following his hobby' and '…more likely to be successful …if he… ') have been used to support this option. SF also used 'and' as part of a list of enterprise qualities. This use of 'and' as part of a list, rather than as a connective, prevented it from being included in the connectives count.

SF's response to question 2 is of note because instead of choosing one option as the question asks, SF decided that the answer should be all three options, as all are possible. A reason is given, prompted by the use of 'because', but in discussion with the second and the third markers, it was felt that whilst we could see the thinking behind the response, there was a rubric error, as the student had not answered the question as requested, and as such only one mark could be awarded.

The third response to the open question 'What do you think might happen next?' is brief. SF uses 'and' twice, and one of these '…go and…' is used incorrectly as a substitute for 'go to'. It is interesting to note that where no options are provided, the student does not use the stock connective 'because' to provide reasoning. The student has also confused earnings and profit in this response.

For this student this is a complete piece of writing which achieves five marks out of 12 and at a 40%, level would be indicative of an E grade.

5.3.2 Collection of data from Activity 2 (Intervention)

As mentioned in the previous section, all four students were assigned to the intervention group, and so will have all received the same connectives stimulus treatment and the instructions to use as many connecting words as possible.

Table 5.3 shows an overview of the figures illustrating the writing of the four intervention group students for the intervention (Writing Activity 2).

Figure	Purpose of figure	Student identification	Participating school
5.6	Student writing for Activity 2 (Intervention)	DB	2
5.7	Evidence of use of data collection grid	DB	2
5.8	Student writing for Activity 2 (Intervention)	AW	1
5.9	Student writing for Activity 2 (Intervention)	CS	6
5.10	Student writing for Activity 2 (Intervention)	SF	3

Table 5.3   Overview of figures of student writing for intervention writing activity.

Activity 2 (Intervention) – Student DB – School 2

In the first writing activity, student DB did not complete all the questions, however, in this second piece of writing s/he demonstrated the capacity to engage fully in the twenty minute writing activity and responded to all four questions for Activity 2. The following figure 5.6 is a scanned image of writing produced by Student DB (Ref 212) for Activity 2.

2)a) 1) A bank loan would allow Jack and Flora much of the money they need to expand the business, however they will have to pay the money back with interest so the money they pay back would be more than what they loaned. Alternatively they could find more investors which would mean they would only get a certain amount of money and it may not be what they wanted if they can only find a few investors. However they would not have to pay the money back to the investors but give them a certain share off their business. I would recommend a bank loan because once they have payed it back they would not need to keep giving some of their profits to investors.

5

2) A business plan is a plan that will show them where they need to go with their business in the future. Therefore it should include a cashflow forecast for the next year so they can have an estimate of the money they will have available to them. They should also prepare for decreases in their sales and increases in their sales so that they know there revenue and cost and therefore demand. They should decide where the money from the bank loan and from the investor is going to be spent and have a very good idea of how much the will need to pay back to the bank each month and when the loan will be payed off by.

3

3) Jack and Flora have decided to write a business plan so that they can assure the banks and decide with them when the money will be payed back by. This also means that they will know when it will be payed back by and after that point they will then have more retained profit because they no longer have to pay off the bank loan and can therefore decide
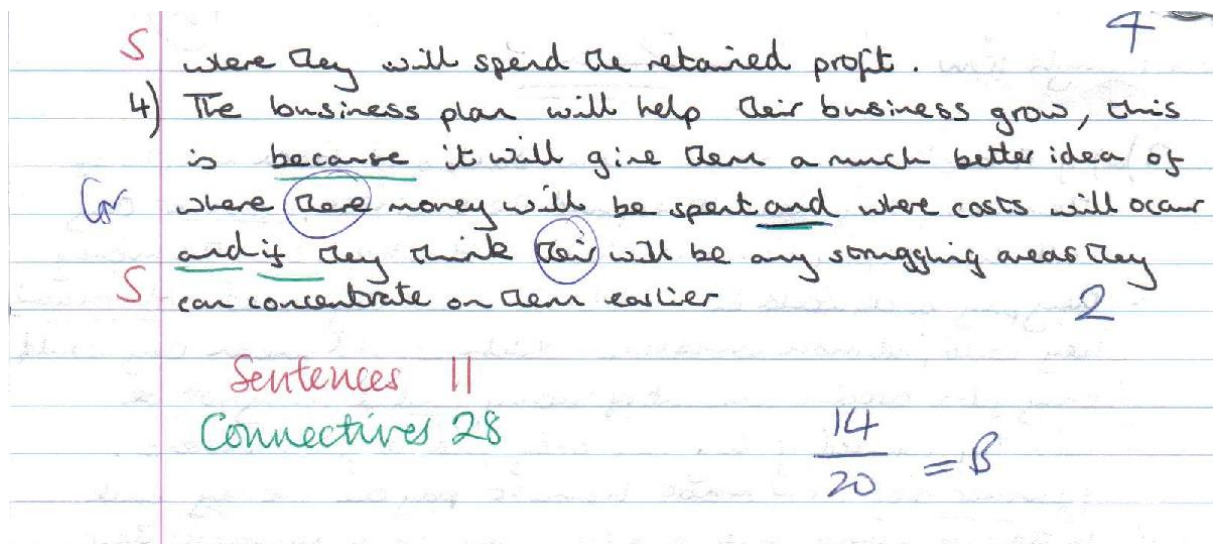
Figure 5.6   Scanned image of writing produced by Student DB (Ref 212) for Activity 2

Figure 5.7 below shows a scanned image of the data collection grid for student DB for their writing for Activity 2.

Figure 5.7   Scanned image of data collection grid for Student DB (Ref 212) for Activity 2

DB's response for Question 1 in this activity required an analysis of funding options for a new business, and then a preferred choice of action needed to be explained. This involved the student in a very basic level of evaluation. DB used a higher level of connectives including 'alternatively', which was one of the suggested stimulus options. Using this connective allowed DB to develop a sense of contingency in the

183

response, and this provided the opportunity for DB to begin to make evaluative judgements. The response to Question 2 also received the full marks available as the student demonstrates that they understood business plans, and were able to explain what information might be included in a business plan. Question 3 is an open question asking why the two would-be entrepreneurs have decided to write a business plan. The student was awarded four out of a possible 6 marks. To achieve the remaining two marks the student needed to develop their rationale to include another reason why a business plan might be written, or a consideration of the significance of the business plan. The final question of this activity asked the student to suggest how a business plan might help the business to grow. This response appears to be slightly hurried as if the student is running out of time. Simpler connectives were used ('and' (x2), 'because'(x1),' if'(x1)) which gave an impression of trying to get a basic answer written within a time constraint, rather than in previous questions where connectives such as 'therefore'(x2), 'however'(x2),'so'(x4) were used. In comparison to the pre-test, there was an increase of six sentences, twenty more connecting words, and the average connectives value has increased from 3 to 3.32. The overall grade has improved from an E to a B, and the student has this time completed this second writing exercise. Therefore, the increase in the subject grade may be attributable to factors other than the intervention. However, the improvement is consistent with the hypothesis that the intervention prompt has encouraged the student to write more and to introduce more contingencies into their account.

Activity 2 (Intervention) – Student AW – School 1

The following figure 5.8 is a scanned image of the writing for Activity 2 for student AW.

Activity 2(a).

1) The advantages ∧of option 1 is Jack
   and disadvantages.
   S could become successful. However he
   S could become unsuccessful. Therefore,
   S it might be a risky choice. Nevertheless,
   has ~~business~~ ∧ hanging baskets could
   be sold to a large company because
   this would increase profit, if so then ✱
   S his business would be successful.
   Not   Alternatively, in option 2 Jack has
   addressed all of the equipment needed to
   the S start his new business with is partner.
   qu.   Although the eqiupment is there he will
           have to share the profits, whilst attempt-
   S ing to make a decent profit in whole.
           Despite putting the money into a bank
           which is a good idea
           loan, his job will be boring and time
   S wasting.   ✱1

2) When Jack and Flora make a business
   plan, it will be document based and
   consist of aims, objectives, locating,
   S promotion and the 4P's. Also, it will
   S include what they want in the future.
   It me   2

3) Jack and Flora have decided to write
   a business plan so before they start
   their business they know what they
   S want out of it and what their aiming for
                                      2

185

Figure 5.8 Scanned image of writing produced by Student AW for Activity 2

Student AW from School 1 appeared very keen to use the suggested connectives in responding to the first question. However, they misunderstood the question. Rather than explaining the advantages and disadvantages of either taking out a bank loan or finding new investors, the student focused on the possible business strategies for going forward. Whilst AW has made a valiant attempt to use all the connectives listed, this has not provided the focus that the question required. An examination style 'benefit of the doubt' was applied to the marking of this question, and the student has been awarded two marks for arguing one advantage and one disadvantage of two possible business strategies. It is possible that AW's use of every one of the higher level connecting words on the intervention activity connectives prompt provided a structure to achieve this first level of attainment.

In answering Question 2, AW demonstrated understanding of some of the information recommended for a business plan. However, the omission of the key financial information required by a business plan (and as outlined in a GCSE Business specification) exhibited a lack of complete understanding. There is sufficient evidence to award two marks, but another mark could have been rescued by providing more detailed marketing or operations information, or by explaining the key financial information e.g. cash flow forecast. Having exhausted the list of

186

connectives in the response to the first question, AW now reverts to more simple connectives such as 'when' (x1),'and'(x2) and 'also'(x1).

Question 3 is an open question, which could have provided AW with an opportunity to use higher level connectives in an extended piece of writing. However, AW provided a very basic answer that can only indicate a shallow understanding of why Jack and Flora might have decided to write a business plan. Somewhat disappointingly, the student has not made the connection between Question 1, where Jack and Flora's expansion hopes depend on outside investment, either through a bank loan, or through additional investors, and a need to write a business plan that would provide all the key information to persuade an external injection of capital. As with Question 2, AW has limited the use of connectives to 'so' (x1), 'before'(x1), and 'and' (x1) and this gave the writing an air of weariness, as if the student just wants to get all the questions answered. It could also be the case, that the misunderstood response to question 1 took up the majority of the twenty minutes writing time, and this limited the time available to develop the answer for this question. For this response, AW was awarded two marks for providing one reason for writing the business plan with one explanation. Whilst AW used the connectives prompt, the mechanistic way in which it has been employed has not fostered a higher level of subject reasoning.

Question 4 was also an open question with a possible six marks available. AW's response indicated that s/he is aware of how a business plan can help a business focus '**so** they have a better understand (sic) of what they want'. The final sentence starts with a 'therefore', but the use of this connective can only link a 'better understanding' to the more general idea of success. Whilst this point has been developed, it was only able to achieve two marks. In order to score more, the

student needed to use 'therefore', either to link to aims and objectives or perhaps to customers' needs and wants.

AW's Activity 1 grade achieved a C grade, whilst this piece of writing has an indicative E grade. In this second intervention activity, more has been written. There are four more sentences and nine more connectives used. The average value of the connectives has increased from 3.07 to 3.54. This might suggest that whilst AW is writing more and the intervention is encouraging higher order connectives, the underlying subject understanding is weak. There is a possibility that if the student had followed the rubric for the first question in Activity 2, a higher standard could have been achieved, and the subject attainment level might have possibly matched the level of the first writing activity.

Activity 2 (Intervention) – Student CS – School 6

The following figure 5.9 is a scanned image of writing produced by Student CS for Activity 2.

Activity (2a)

		Advantages	Disadvantages
1)	Bank loan	S Quick money	Secure usually
		Large amounts	again your house. S
		of money can	Pay interest on S
		S be loaned.	top of loan

Investors   ~~NN~~ Less risk   Shared profit S
          on each person S Different opinions S

S I would get a bank loan as you can potentially secure
money without shared profit.   4

2) A business plan is a document that outlines what you want
S. to do with the business and how your intend on making it work.
                                            2

3) Because ~~they~~ the bank and the investors want to make
S sure that the business owners know what they are doing.
However, although they have a plan the business
can still fail despite all of their effort, therefore
S they could lose all their money.
                                            3

4) If they follow the plan, they will be able to make money
in small steps during the year and when they follow
Point. the plan there should be less risk involved in each step.
therefore reducing the risk of losing money so they
S have a better chance ~~of~~ on success. Alternatively
if they don't follow the plan after they made it,
others S they could lose all of their investment and go bankrupt.
                                            4

Sentences 13   Connectives 15   13/20 = C

Figure 5.9   Scanned image of writing produced by Student CS for Activity 2

189

Student CS (Figure 5.9) began the second writing activity by sketching out the advantages and disadvantages of the two finance possibilities. These are in a tabular form without any use of connectives. However, this immediately moved the student's score to 3 marks out of a possible 5. The fourth mark was obtained by making a reasoned choice. Despite being provided with the connectives grid, CS has not used a connective.

The second response was very concise and was sufficient for 2 marks, but the only connective used is 'and', which did not allow the response to be further developed.

For the third and the fourth questions, it appeared that CS has now realised that there may be possible connectives that could be used, and s/he now begins to overuse them. The response to Question 3 started well and the use of connectives helping to develop the points. The second part of the response used higher scoring connectives ('however', 'although', 'despite') and puts forward the point that merely writing a business plan is not a guarantee of success. This could be a well-made point, and the final use of 'therefore' could have reinforced this, however, the student suggested only that 'they could lose all their money'. The response to Question 4 is more encouraging and there was a clear understanding of how a business plan can help a business to grow. The use of the connectives 'if' and 'therefore' helped formulate this response and allowed four marks to be awarded. However, whilst as with Question 3, CS used a higher scoring connective 'alternatively' for the final sentence, s/he then suggested 'Alternatively…they could lose all of their investment and go bankrupt'. Whilst this may be the case, it is a weak argument and thus difficult to reward any further.

This piece of writing suggested that CS may be a student who did not know how to use connectives to develop a balanced argument and needed to learn how to use them as a device to improve their writing. Whilst the previous student, AW, was quick to use the intervention prompt in a mechanistic way, and allowed it to help structure ideas, CS appears to have responded more slowly, and then used it to provide some possibilities to direct their reasoning. Unfortunately, the reasoning used has led to flaws in the arguments, and this has affected the subject performance.

This piece of writing achieved an indicative grade of a C, which is higher than that of the first writing activity. This suggested that the student may have responded to the stimulus connectives grid, and whilst not always as effective as it could be, it has helped push the subject score over the C/D boundary. The number of sentences used has increased from 5 to 13 and the average value of connectives used has increased from 3.3 to 3.7. This would suggest that for a student such as CS, intervention activities would support improved subject performance.

Activity 2 (Intervention) – Student SF – School 3

The following figure 5.10 is a scanned image of writing produced by Student SF for Activity 2.

Sentences 7
Connectives 12

Setting up a business - activity 2a

1.) The advantage is if their business is successfull and expands then they will be making more profit and will probably recieve more publicity, they are working with trustworthy investors. The disadvantage is the bigger the loan gets the harder it will be to pay off. Incomplete understanding of qu. ①

2.) A business plan is a document which shows what your idea is for the business and where you would like it to go. In a business plan you would have to include information about what type of business you want, a cash flow forecast, a list of assetts, and how much money (profit) you would like to make in a specific amount of time. 3

3.) Jack and Flora decided to write a business plan So they could show the new investor. If they have a good business plan, then the new investor would show a good, strong interest in their business 2

4.) Their business plan will make the business grow because they can show it to more new investors each time and then they can buy into the business. expression? wrd.? 2

Figure 5.10   Scanned image of writing produced by Student SF for Activity 2

Figure 5.10 demonstrates that SF wrote more in this second writing activity than in the first activity. S/he wrote an additional three sentences and increased the number of connectives from six to eleven. However, the average connective score reduced from 3 to 2.6, and the indicative subject performance grade remained the same (E).

The first response from SF demonstrated a weak understanding of the requirements of the question. SF appeared to grasp that there are alternatives – either expansion financed by investors, or through a loan. However, the advantage of equity investment is not entirely clear. There was some understanding that the more you borrow, the more difficult it might be to make repayments. SF has not fully answered the question, but one mark was awarded for recognising one drawback of the debt option. In this response, the student used 'and'(2), 'if' (1), and 'then' (1). SF was an intervention group student, but does not appear to have used the connectives prompt to help develop the written response.

In contrast, in the second question SF demonstrated that s/he clearly understood the question, and had a secure knowledge of a business plans, and what information could go into the business plan. Despite using a minimum of connecting words (and x2), with such confident subject knowledge this student was able to achieve the full three marks available.

The response to Question 3, which is an open question, was limited to one reason for needing to write a business plan. SF used 'so' to provide this reasoning, and then followed this up with 'if' to support the reasoning. The marks awarded for this response are limited to two out of a possible six, as there was only one reason and an explanation. The connectives used by SF have helped the student to think

through and structure a reasoned response, but it would have been possible to achieve the same number of marks without the use of connectives.

SF's response to Question 4 was briefer than the previous answer, however, the early use of 'because' immediately generates a reason, and this allowed SF to achieve two marks. However, in this instance, an examination style 'benefit of the doubt' was given for two marks, as the reasoning, whilst feasible, was unlikely. It is of note that no further reasoning was produced, and the student did not make use of the connectives grid to develop the written response any further.

In total, SF scored eight out of twenty marks, which is indicative of an E grade. As mentioned earlier, this was the same as the first piece of writing, and whilst more has been written in this second activity, little (if any) notice appears to have been taken of the connectives grid. In addition, SF did not get to grips with the more complex nature of the first question. It is interesting that SF was more confident with the shorter questions of one line, and, it is possible, that SF may have found it more difficult to read and sift the information from the connectives grid and its accompanying instructions. This lack of accessibility may be a possible factor in explaining the lack of use of higher scoring connectives. In addition, of note, is that SF used 'because' three times in Activity 1, prompted by option questions, compared with once in Activity 2, where there is only one option question. The increase in the number of connectives from six to eleven is diluted through lower scoring connecting words and phrases.

5.3.3 Collection of data from Activity 3 (Post-test)

Table 5.4 shows an overview of the figures illustrating the writing of the four intervention group students for the post-test (Writing Activity 3).

Figure	Purpose of figure	Student identification	Participating school
5.11	Student writing for Activity 3 (post-test)	DB	2
5.12	Evidence of use of data collection grid	DB	2
5.13	Student writing for Activity 3 (post-test)	AW	1
5.14	Student writing for Activity 3 (post-test)	CS	6
5.15	Student writing for Activity 3 (post-test)	SF	3

Table 5.4   Overview of figures of student writing for post-test writing activity.

Activity 3 (Post-test) – Student DB – School 2

In the post-test Writing Activity 3 Student DB produced another structured response achieving an indicative A grade (see Figure 5.11 below). In this activity there was no stimulus to use connectives for either the control group or the intervention group student. For DB, there was an increase of five sentences between pre-test and post-test, nineteen more connectives and the average connectives count has increased from 3 to 3.1. As with the second writing activity, all questions were answered in this third writing activity. Figure 5.12 shows a scanned image of the data collection grid used to collect the scores for the assessed variables for Student DB (Ref 180) for Activity 3.

1) Growth Stratergy 2 - Jack and flora should develop [Option]
a nursery and seed centre. This is because once it
is created it will cost little every year for them to grow [Reason]
their flowers and they will therefore make more proft, also [Dvpmt of reason]
opening a garden centre would create a huge amount of [Would it?]
revenue and work demand and therefore revenue meaning
that profits will increase. Moreover it will increase [Dvpt]
their market share as more people would be able to
see their flowers meaning that their business will grow
and the strategy has worked. However there will be [Comparison with]
a huge cost from the building of the [other option]
nursery and seed centre, As well as this as they are
only a small business that is not known by a huge
amount of people they should not sell (their) business [GN]
as a franchise one very few people if any would want
to open a franchise with a business like Jack and Flora's
and pay £10,000 to do so,
to which has only survived and hasn't become
established and additionally has bank loan debt to pay
off. Also if they sold their business to a local garden centre
they would not get a huge amount for it because they
didnot have a huge market share and once that
money was gone they would have to find an entirely
new job or work for the garden centre. 4

2) Situation 2 - The garden centre A national [Option]
garden centre may create their own hanging
basket business because if it is working well for
small business they may see this and have then found
a new area in the garden centre business to make a [Reason]
revenue and therefore profit from, also by doing this they
may be able to put smaller businesses like Jack and
Flora's out of work and increase their market share [Reason]

3

3) I think that Jack and Flora will lose some of their
market share and therefore may either have to downsize
their business or close it. They will then have little
or no income meaning that they would have to find
new jobs. As they are experienced in the florist business
they may go and to work for another garden centre.

3

Sentences 10
Connectives 27
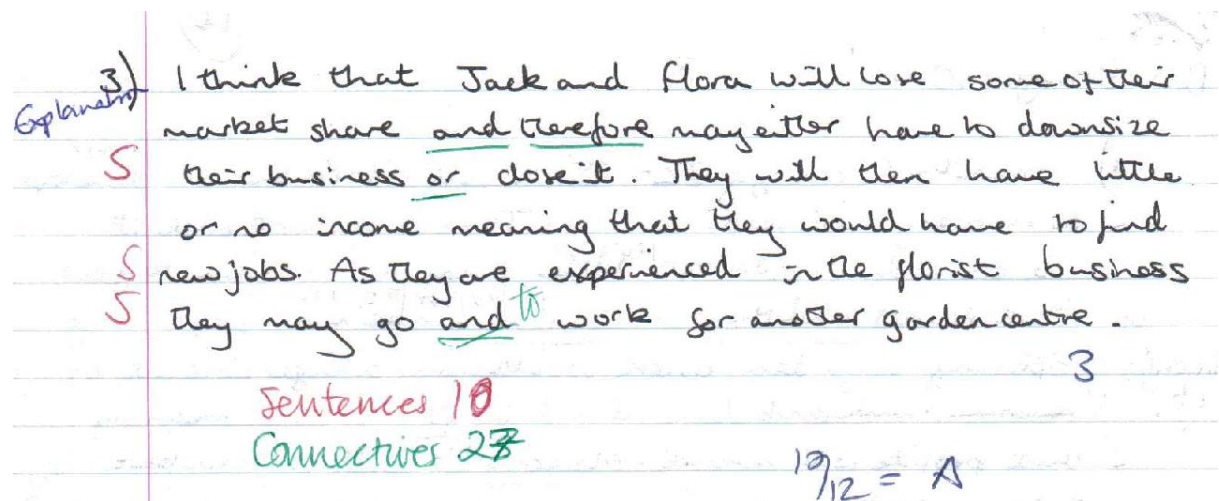
$^{10}/_{12} = A$

Figure 5.11   Scanned image of writing produced by Student DB (Ref 180) for Activity 3

Figure 5.12   Scanned image of data collection grid for Student DB (Ref 180) for Activity 3

This third piece of writing contained additional annotation as it was used as a standardisation exercise with the second assessor (see section 5.3.3). Student DB answered Question 1 with a developed reasoning and also compared the chosen option with the other options available. This enabled DB to achieve full marks for this response. Higher scoring connectives were used and all points are linked to the actual scenario of a small business. This indicated thoughtful insight and suggests that the use of connectives can allow reflection and deeper thinking. Question 2 achieved three out of four marks, and the additional mark could have been achieved

by explaining why the other two options might not be as realistic. The third response achieved three marks, but could have scored the additional mark through either developing one of the points further, or by comparing one situation with a the possibility of another scenario. The average connectives score for student DB's post-test piece of writing was lower than the score for the intervention activity, and the data suggested that the increased use of 'and' in this writing activity has diluted this score.

It is of note that in this post-test the student used additional connectives, which had not been on the intervention list. This third piece of writing also exhibited some grammatical points that were noted across the centres. In the final sentence student DB writes '…they may _go and_ work for another garden centre' instead of '…they may _go to_ work for…' In discussion with a retired English teacher who is now chief examiner for one of the GCSE English awarding bodies, he explained that it is not uncommon to find students confusing prepositions (to) and connectives (and) with a verb (go). I also asked him about the use of two successive connectives (e.g. 'because if', ' also if', 'and therefore') as this was prevalent across centres. He explained that this is possible as there are connectives which link clauses and sentences together, and there are also connectives ('and', 'so', 'but') which can be used to organise the sentences and the clauses.

Activity 3 (Post-test) – Student AW – School 1

Figure 5.13 below shows a scanned image of writing produced by Student AW for Activity 3.
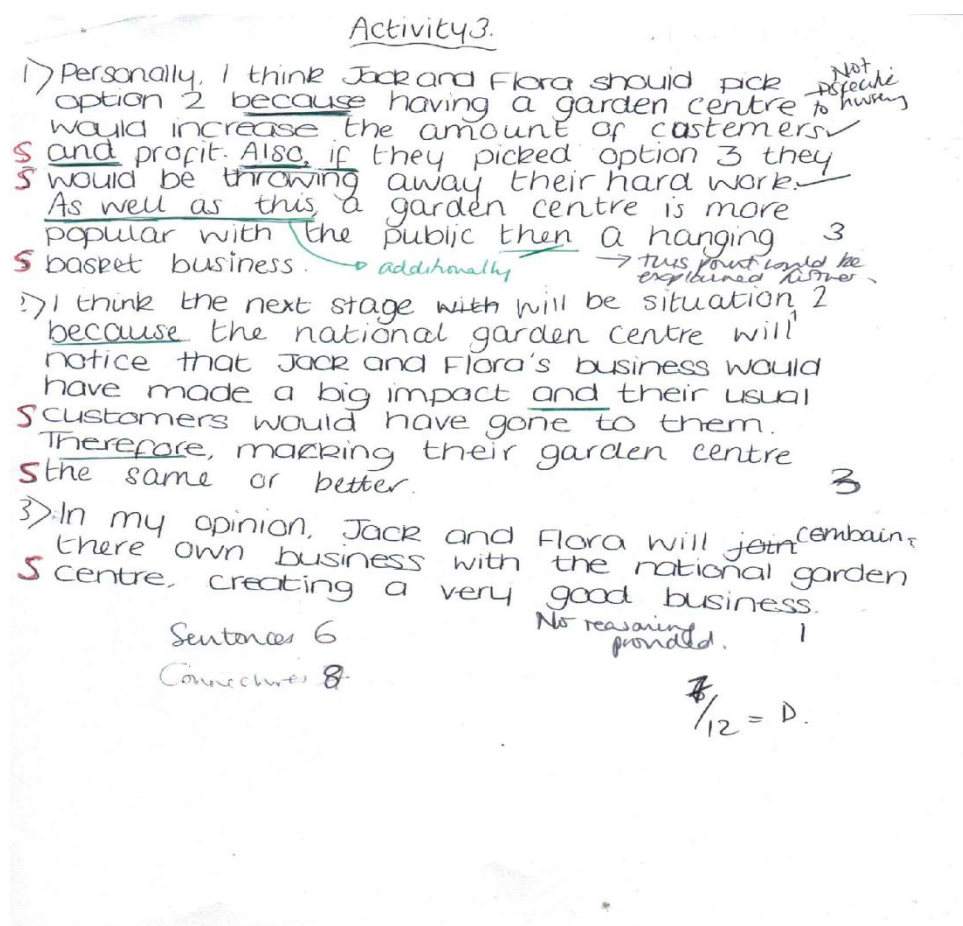
Figure 5.13   Scanned image of writing produced by Student AW for Activity 3

Student AW's third piece of writing began promisingly (Figure 5.13). This student was emphatic that Jack and Flora should expand through opening their own nursery and seed centre, which could sell to garden centres and operate as their own garden

centre. This response achieved three marks out of a possible four as an option is chosen with a reason, and this option has been compared with another option. The student did make an additional point, but it was insufficiently explained, so this did not merit an additional mark. This is a structured response and the use of 'because' and 'if' have helped to secure the three marks. Using 'also' and 'as well as this' created the opportunity to develop the reasoning. It is interesting to see how AW used connectives when provided with a story grammar approach, which allowed a choice of options.

The response to Question 2 demonstrated that AW understood the impact of competition. Two marks were awarded for providing a reason for the chosen option. Once again, the use of 'because' allowed the student to ensure that a reason is given. The final sentence started with a 'therefore', which begins to analyse the point made, and this leads to another mark.

By Question 3, the length of the written response was reduced, and this was also evident in the second intervention writing activity. This is an open question, and the student could have provided a more detailed response. One mark is awarded for explaining what might happen in the future. AW made the obvious business suggestion that Jack and Flora's business could merge with the garden centre. However, this response remained unexplored. AW did not use any connectives in responding to this question.

This third piece of writing had a lower subject attainment score by one mark than the first piece of writing. Fewer sentences and less connectives were used, however, the average value of the connectives used was 3.37 compared with 3.07 in the first piece of writing. As the average value of connectives had increased to 3.54 in the

second intervention activity, it might be said that this may have influenced the higher average value score in the third piece of writing. If AW had written more for the third question and had replicated the use of connectives to structure the response, as s/he had in the first two questions, s/he may have been able to enhance the subject attainment score.

AW's writing technique appeared to be one that benefits from the contextual use of story grammar, as the quality of writing is enhanced when choices are offered in a scenario. The student used connectives to provide reasons and to develop the points made. However, when there was a more open question, AW limited the written response to one choice with a weak reason, which was insufficient to generate any additional marks.

<u>Activity 3 (Post-test) – Student CS – School 6</u>

Below is a scanned image (Figure 5.14) of the writing produced by Student CS for Activity 3.
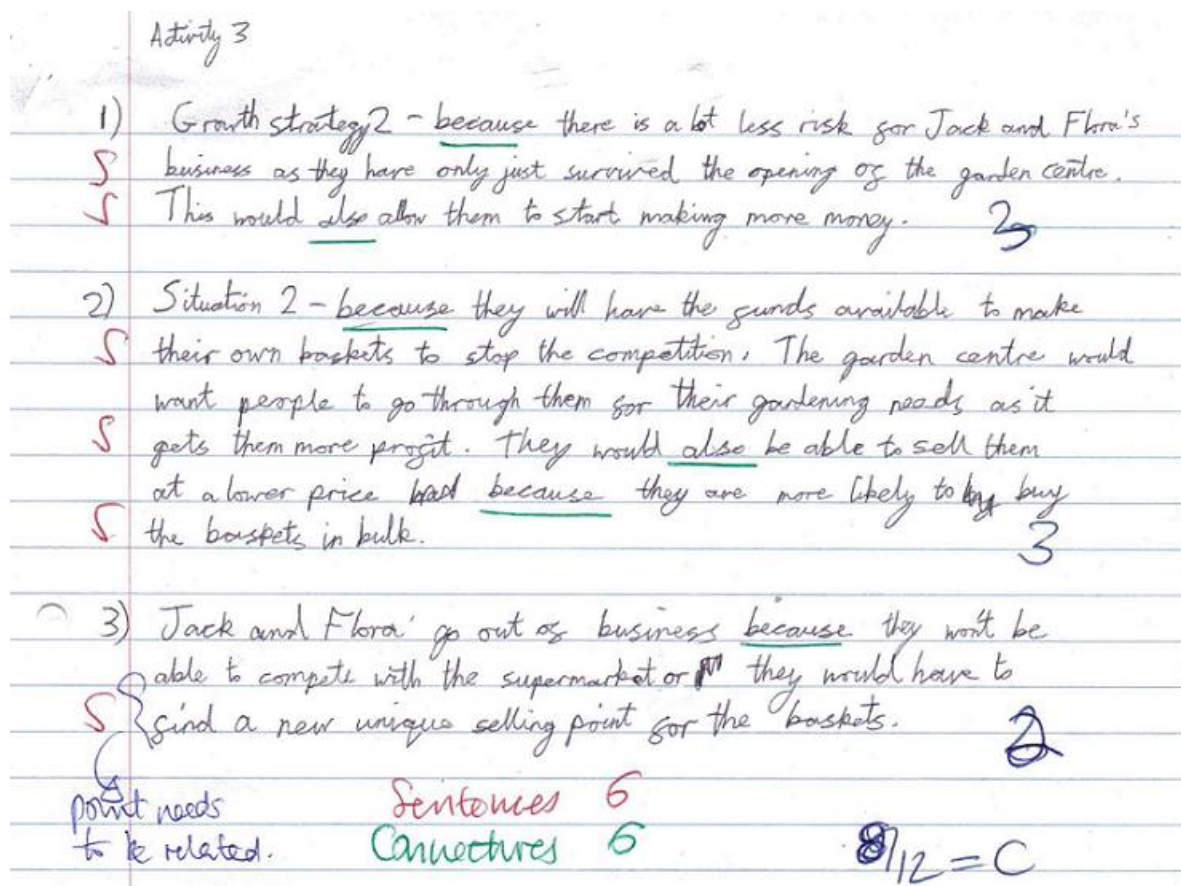
Figure 5.14   Scanned image of writing produced by Student CS for Activity 3

Student CS appeared reluctant to use full sentences in the first two writing activities. In this third writing activity (Figure 5.14) it is noticeable that full sentences were being used.   The average connectives score remained at 3.7 following the intervention activity and the subject performance grade remained at a C, which was a break through the C/D borderline from the first writing activity.

The response to the first question about growth strategies immediately secured two marks and there was a developed point, which increased the score to three marks. The response to the second question used 'because' twice and an 'also'.   These connectives allowed a structured answer, which secured three marks. The fourth mark required a comparative point with the other outlined option scenarios.   The third question included one 'because' and achieved two marks for an explanation of

what will happen next with a valid reason, but the final sentence had insufficient development to award another mark.

This piece of writing for CS appeared to be more confident in approach. The answers were more focused and the first two responses contained more subject content. Whilst the response to the third question was less focused, however, like Student AW, CS appeared now to be more confident with a story grammar approach.

<u>Activity 3 (Post-test) – Student SF – School 3</u>

The following Figure 5.15 is a scanned image of writing produced by Student SF for Activity 3.

Setting up your own business. - Activity 3

1.) I think that Jack should choose growth strategy 2, I think this because they can get new investors to look into their business and possibly buy into it. They will have the public's support and could expand their garden Centre over 3 time.

2.) All of these Situations could happen, the Situation I think is most likely to happen is Situation 1, because the bank find it easy to change interest rates. ①②

3.) I think that Jack and Flora will not be able to Start a franchise because of the interest rates and will go back to being a Sole trader.

Sentences 4
Connectives 6
6/12 = D.

Figure 5.15   Scanned image of writing produced by Student SF for Activity 3

Student SF did not write as much in this third writing activity as in the previous pieces (see figure 5.15). The number of sentences reduced to four (as with the first writing activity), and as with the first writing activity, the number of connectives used is six, 'and'(3x) and 'because' (3x). However, the subject performance indicative grade rose from an E to a D.

The first response used 'because' to suggest a sound reason for the proposed growth strategy. The use of 'and' allowed the development of this reason, and so SF was awarded three out of a possible four marks.

In the second response SF deliberated over which situation might occur. The response began with 'All of these situations could happen'. However, in this third writing activity, SF made a decision and chose a situation, and whilst s/he used 'because' to lead into a reason for this choice, the reasoning is insufficient and only one mark could be awarded.

The third response was typical of SF's approach to dealing with open questions. SF suggests that Jack and Flora would not be able to start a franchise and provided a reason through the use of 'because' and 'and'. There was sufficient to award two marks, but as with other answers to open questions, SF limited the response to one issue and an explanation, and showed no willingness to take the story further.

This third piece of writing showed a slight improvement in SF's subject performance. This may be as a result of the routine of using 'because' as a means of ensuring that an explanation is provided. This ensured that at least two marks could be secured for each question. Of note is that SF appeared to be happy to give just one response and one explanation. Even with the connectives grid as a prompt in the second intervention writing activity, there appeared to be little intent to develop the writing any further. SF's lack of the grasp of some of the subject concepts, in this case – interest rates, also hindered further progress.

5.3.4 Review of findings from data analysis of the relationship between subject attainment quality and students' use of connectives.

Following this review of the suite of writing activities from four students in the intervention group, a number of key points can be identified.

Firstly, students' choice of connectives is related to the quality of the reasoning in Business Studies. Student CS (p172) gained marks in the first writing activity by using linked connectives in a sentence to develop a reasoned response to the questions. In Activity 2 (p185), there is evidence of the stimulus of the connectives grid and a higher subject attainment mark achieved through using connectives to direct the reasoning. CS continued to use connectives confidently in Activity 3 (p198), and by consistently using a string of connectives to develop reasoning in all three questions, was able to demonstrate an improvement in attainment through the three writing activities. Student DB demonstrated effective use of connectives in the pre-test writing activity 1 (p165) where 'if, so, therefore' were used to analyse and evaluate. In Writing Activity 2 (p178-179) the connectives grid appears to have prompted the use of 'alternatively' to evaluate potential funding options, and the emergence of an understanding of contingency has led to an improvement in the quality of reasoning. In the post-test Writing Activity 3 (p192-193) DB used higher scoring connectives and additional connectives that had not been on Activity 2's stimulus grid, and there is a clear line of reflective reasoning directly related to the business scenario. This suggests that a careful choice of connectives can allow students to develop their reasoning, and thereby improve the quality of their subject understanding and their attainment.

Second, students' use of connectives is linked to story grammar and the task of choosing between alternative strategies. In Writing Activity 1 (p172), CS chose a strategy and then used 'because' to justify the reasons for that choice. SF developed reasoning where alternatives are offered as part of the question, but where there is an open question and options are not offered, this student did not employ any connectives. This is also exemplified in Writing Activity 3 (pages 195, 200) where, in responding to an open question, AW and SF did not develop or explore further their response, and made little use of connectives. In Writing Activity 3 (p192-193) DB used higher scoring connectives with well-developed reasoning to link all the points made to the scenario content. In Writing Activity 3 for CS (p198), we can see how the quality of their writing improved when options are available. This suggests that using story grammar to design instructional tasks provides an effective stimulus for connectives.

Third, the connectives' grid was able to prompt a change in the way that connectives were chosen and used in students' writing in Activity 2, although there was a variation in outcome. This ranged from SF (p188) who did use more connectives, but does not appear to have used the stimulus grid to prompt any further use, to AW (p181-182), who uses most of the suggested connecting words in the first question in a mechanistic manner. CS (p185) used the connectives' grid for the first response, did not use it for the second response, but then overused it for question 3. This suggests that CS does not know how to use connectives to create a balanced argument. However, of note is the way in which DB (p178-179) was able to develop an analytical response through the use of higher scoring connectives, which demonstrated an understanding of contingency, and the opportunity for alternative strategies.

Fourth, the quality of students' writing is also affected by whether they bring appropriate ideas to bear on this problem and how well they understand the task instructions. In Writing Activity 1 AW (p169) used Unique Selling Point as a strategy rather than a characteristic or feature. This prevented the student from clearly identifying the point, and not fully answering the question. Also, in Writing Activity 1 SF (p174) confused Earnings and Profit. By suggesting that 'profit' rather than 'earnings' from employment could be invested, stopped the student from being able to demonstrate understanding about the nature of entrepreneurship and employment. Some students appeared to misunderstand written instructions. In Writing Activity 2 SF (p188) appeared happier to respond to the shorter guided questions, and limited the response to an open question to one reason. In Writing Activity 1 AW (p169) and CS (p172) moved away from the question focus, and in Writing Activity 2, AW (p181-182) did not take note of the command word of the question, and so misunderstood what was required. SF in Writing Activity 2 (p188) did not fully follow the question instruction and this prevented them from achieving more than a basic knowledge mark (see Appendix B marking scheme). These problems weakened the relationship between the design of the task and the quality of the students' writing. There may be instances where the student does not complete all the written responses (Writing Activity 1 – DB – p165), or where the student is hurrying to finish a response, and so may use simpler, less value connectives (Writing Activity 2 – DB – p178-179). Some students are happy to provide a sufficient response, and see no need to develop their argument further. In their thinking, they have provided a response, and they see no reason to develop it further (Writing Activity 3 – SF – p200).

Finally, there is evidence that repetition of the task helped students to improve their writing (as indicated by the data in Table 5.4). For example, by the third writing activity CS (p198) was using full sentences in a confident manner, and DB (p192-193) was using additional connectives to develop explanations and judgements.

Table 5.5 presents the variable outcomes for these four students.

		DB School 2	AW School 1	CS School 6	SF School 3
Activity 1 **(pre-test)**	Sentence Count	5	9	5	4
	Number of Connectives used	8	13	9	6
	Average Connectives' Value	3.0	3.07	3.3	3
	Subject attainment (%)	42	58	58	42
Activity 2 **(experiment)**	Sentence Count	11	13	13	7
	Number of Connectives used	28	22	16	11
	Average Connectives' Value	3.32	3.54	3.7	2.6
	Subject attainment (%)	70	40	65	40
Activity 3 **(post-test)**	Sentence Count	10	6	6	4
	Number of Connectives used	27	8	6	6
	Average Connectives' Value	3.1	3.37	3.7	2.0
	Subject attainment (%)	83	50	67	50

Table 5.5   Variable outcomes for the three writing activities for students DB, AW, CS, and SF.

An improvement in subject performance over the three writing activities can be seen in three students out of the four in Table 5.5. Whilst AW achieved the biggest gain in average connectives' score from the pre-test to the intervention, this did not translate into an increase in subject attainment, suggesting that the more mechanistic approach, where the student has worked their way through the list, has not enhanced the quality of the analysis and evaluation required. SF provides a counter-example. The average connectives' value in this student's writing decreased with each writing activity, although there was an 8% improvement in subject performance

from pre-test to post-test. Perhaps, the improvement could be attributed to the benefits of repeated writing practice, and this will be discussed further in the following chapter.

This analysis highlights that there may be several reasons for variation in students' achievement, and the following chapter will consider these in more detail.

5.4 Descriptive data for the whole sample

The purpose of this section is to describe and summarise the data and its features from the whole sample.

5.4.1 Relationship between measures of the whole sample

In order to ascertain whether there is a relationship between the variables, and in particular to find out the strength of any association between the process variables (number of sentences; number of connectives; average connectives' count) and the outcome variable (subject attainment), a correlation analysis was conducted and the results are presented in the following Table 5.6.

			No of sentences	No of Connectives	Value of Connectives	Ave Value Connectives	Subject attainment
Activity 1	Pre-test	No of sentences	1				
		No of Connectives	0.45	1			
		Value of Connectives	0.49	0.98	1		
		Ave Value Connectives	0.25	0.07	0.25	1	
		Subject attainment	0.63	0.55	0.55	0.16	1
Activity 2	Intervention	No of sentences	1				
		No of Connectives	0.4	1			
		Value of Connectives	0.43	0.96	1		
		Ave Value Connectives	0.22	0.09	0.31	1	
		Subject attainment	0.62	0.59	0.59	0.19	1
Activity 3	Post-test	No of sentences	1				
		No of Connectives	0.42	1			
		Value of Connectives	0.46	0.96	1		
		Ave Value Connectives	0.22	0.04	0.29	1	
		Subject attainment	0.56	0.54	0.55	0.16	1

Table 5.6   Correlation analysis for the measures of the whole sample.

This analysis of the whole cohort indicates a positive relationship between the

sentence and connectives variables with the subject attainment variable, but

suggests a stronger relationship between the number of sentences and number of

connectives written and the subject attainment, and a weaker relationship between the average value of connectives used and subject attainment.

5.4.2 Variation within the writing activities

In order to ensure that students could access the writing activities, they were subjected to two measurements of readability. An online Flesch / Flesch Kincaid test and an online SMOG calculator indicated that there was little variance in ease of reading between the three activities. The pre-test and post-test activities were identical in design, and Writing Activity 2 was designed to assess how the intervention stimulus of the connectives grid could be used to best effect.

In order to report on the difficulty of the questions, it was decided to take the average score (%) for subject attainment for each the three writing activities of the whole sample, and then separately, the average scores of the control and intervention groups. These scores are recorded below in Table 5.7.

	Whole sample (%)	Control group (%)	Intervention group (%)
Activity 1 (Pre-test)	51	51	53
Activity 2 (Intervention)	42	37	49
Activity 3 (Post-test)	53	50	57

Table 5.7   Average scores of sample for subject attainment for the three writing activities.

This suggests that there was little variation in the average scores and the level of difficulty between the Pre-test and Post-test activities, and that there was a differentiated outcome for the intervention treatment activity. The intervention activity was designed to be different from the pre-test and the post-test activities so that there could be more of a focus on using connectives. This explains why there is a

212

lower average score for the whole sample. The control group shows no real difference between the pre-test and the post-test activities which suggests that the key comparison between pre-test and post-test is reliable.

5.4.3 Findings from assessment standardisation

Another business teacher was approached to be a second assessor and undertake an assessment of the subject performance of a sample of the writing. The mark scheme (as outlined in the previous chapter) was provided, and the second assessor judged the piece of writing based on its academic attainment.

The following table (Table 5.8) records the variation prior to a meeting to discuss and standardise the subject performance attainment.

Writing activity reference	Standards check	My original mark	Diff in awarded marks	Diff as %of marks
Activity 1				
1a	7	4	-3.00	-25.00
1b	7	6	-1.00	-8.33
1c	7	5	-2.00	-16.67
1d	7	7	0.00	0.00
1e	6	9	3.00	25.00
1f	4	4	0.00	0.00
1g	7	7	0.00	0.00
1h	9	8	-1.00	-8.33
1i	9	8	-1.00	-8.33
1j	8	8	0.00	0.00
Activity 2				
2a	6	8	2.00	10.00
2b	9	5	-4.00	-20.00
2c	8	9	1.00	5.00
2d	4	5	1.00	5.00
2e	5	4	-1.00	-5.00
2f	0	0	0.00	0.00
2g	8	6	-2.00	-10.00
2h	9	10	1.00	5.00
2i	17	14	-3.00	-15.00
2j	14	13	-1.00	-5.00
2k	1	1	0.00	0.00
2l	10	9	-1.00	-5.00
Activity 3				
3a	6	3	-3.00	-25.00
3b	6	6	0.00	0.00
3c	7	4	-3.00	-25.00
3d	4	6	2.00	16.67
3e	4	4	0.00	0.00
3f	6	5	-1.00	-8.33
3g	7	5	-2.00	-16.67
3h	6	7	1.00	8.33
3i	6	10	4.00	33.33
3j	8	9	1.00	8.33
3k	8	8	0.00	0.00
3l	7	7	0.00	0.00
3m	7	7	0.00	0.00
3n	10	7	-3.00	-25.00
3o	5	3	-2.00	-16.67
Total of marks	259	241	-18.00	-126.67
Average			-0.49	-3.42

Table 5.8   Results of subject standards check

Following a meeting with the standards checker and another Business Studies teacher present, it was decided that there was sufficient consistency in the assessment of the writing activities. However, four of the writing activities were reviewed. Out of these four examples, it was felt that two of the students had misunderstood the nature of the context and the second standards marker had offered a 'benefit of the doubt' allowance. A third piece of writing was analysed, and the marks revisited to meet a middle point.

5.5 Summary of results of outcome differences for the three successive writing activities.

Following the collection and collation of the results of the sample (n =142) of Year 10 GCSE Business Studies students who undertook the three writing activities, the data has been aggregated and analysed and is presented in the following table 5.9 which compares the outcomes for students in the intervention groups. The mean is used as the measure to describe the results for the five measured outcomes for the intervention and control groups.

		Intervention	Control	Effect size	Prob (p)
Activity 1 (pre-test)	Sentence Count	7.12	6.19	0.25	0.26
	Number of Connectives used	12.24	8.63	0.62	0.00
	Average Connectives' Value	3.14	3.15	-0.01	0.90
	Subject attainment (%)	52.27	50.75	0.07	0.65
Activity 2 (experiment)	Sentence Count	10.38	8.88	0.42	0.02
	Number of Connectives used	16.10	9.68	0.82	1.11E-0.6
	Average Connectives' Value	3.31	2.97	0.49	0.00
	Subject attainment (%)	49.10	36.92	0.71	6.33E-0.6
Activity 3 (post-test)	Sentence Count	6.75	5.89	0.27	0.14
	Number of Connectives used	11.37	9.12	0.36	0.03
	Average Connectives' Value	4.34	3.12	0.20	0.24
	Subject attainment (%)	56.94	50.43	0.29	0.07

Table 5.9   Outcome differences for the three successive writing activities.

5.6 Descriptive statistics: The variables used to measure the impact of the writing activities.

The purpose of this section is to report the results in a descriptive way, which will identify any meaningful and emerging trends.

The following quantitative analysis will provide a summary of the findings of the data from the sample (n = 142) and the relationships between the variables used to measure the impact and effect of the writing intervention. It is based on a univariate analysis of the distribution of the single variables. The mean is the chosen method of describing the central tendency for each variable.

5.6.1 The results from the calculations of the mean for the Sentence Count (Number of Sentences)

Figure 5.16 below summarises the changes in the mean for the number of sentences used in all three writing activities. Activity 1 (the Pre-test) records that there is a difference of 0.93 of a sentence between the two groups. This increases to 1.5 sentences for Activity 2, but returns to 0.86 of a sentence for Activity 3.
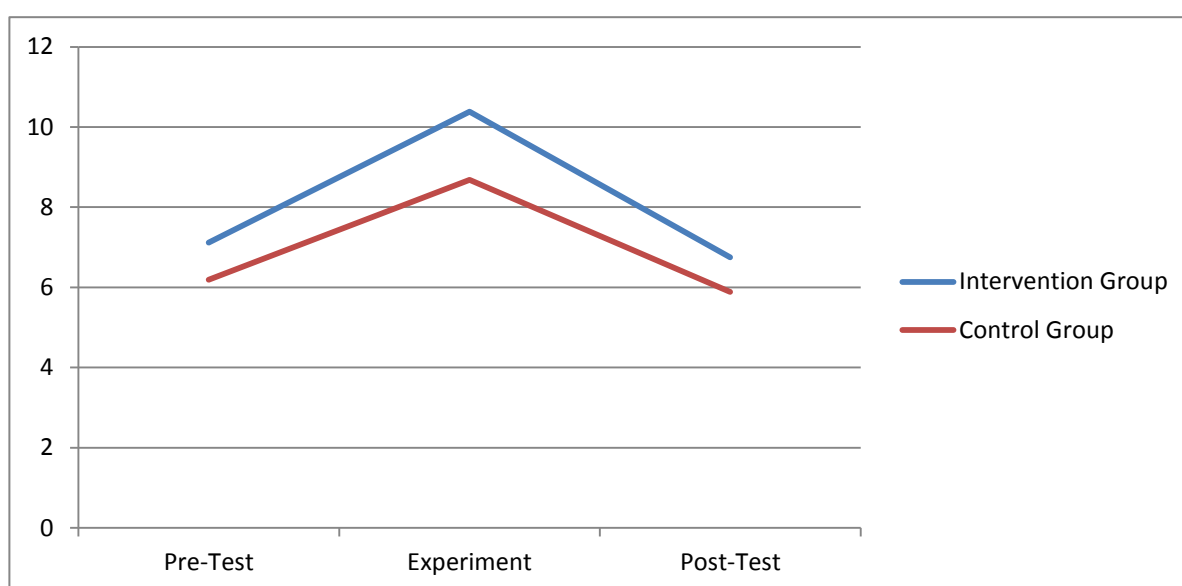
Figure 5.16   Results from calculations of the mean for the Sentence Count (Number of Sentences)

5.6.2 The results from the calculations of the mean for the number of connectives.

Figure 5.17 illustrates the number of connectives used in the writing activities. There is an increase of 32% in the use of connectives in the second writing activity for the intervention group, in comparison with an increase of 12% for the control group. However, the Post-test result for the control group is slightly higher than the Pre-test

score, whilst the intervention group has a Post-test score, which is slightly below that of the Pre-test.
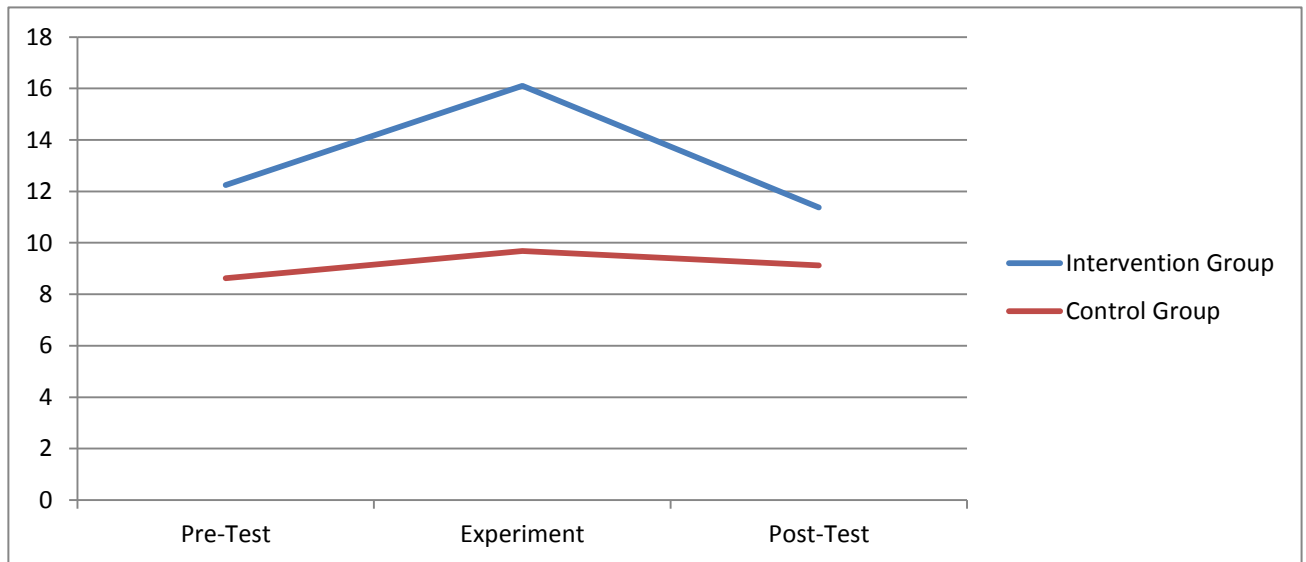
Figure 5.17   Results from the calculation of the mean for the Number of Connectives used.

5.6.3 The results from the calculations of the mean for the value of connectives.

Although the Intervention group began the series of writing activities with a higher Connectives' value score for the Pre-test, the gains made from Activity 1 to Activity 2 were 28% more than for the control group (Increase for Intervention group = 36%, Increase for Control Group = 8%). The Post-test activity found both groups reverting to similar scores recorded in their Pre-test activities. This is illustrated below in Figure 5.18.
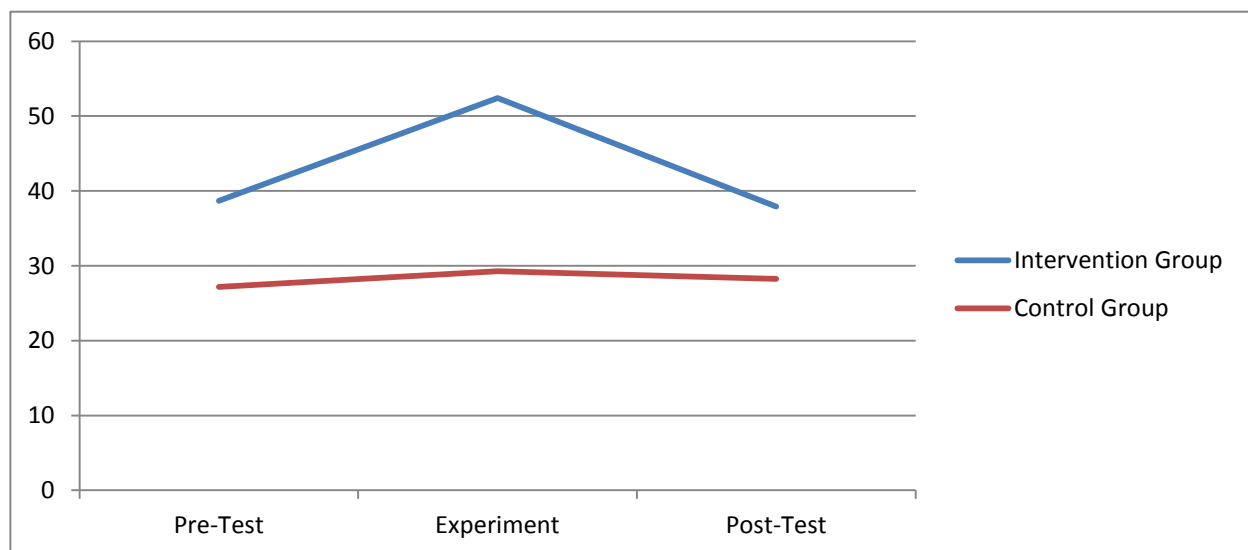
Figure 5.18   Results from the calculation of the mean for the Value of Connectives.

5.6.4 The results from the calculations of the mean for the average value of connectives.

Figure 5.19 presents the changes to the average value of connectives used in the writing activities. Both groups gained similar scores in the pre-test , but the intervention group record an upward trend through Activity 2 and then into the post-test. The control group scored lower than the pre-test score for Activity 2, and then returned an increase to pre-test levels for the post-test activity.
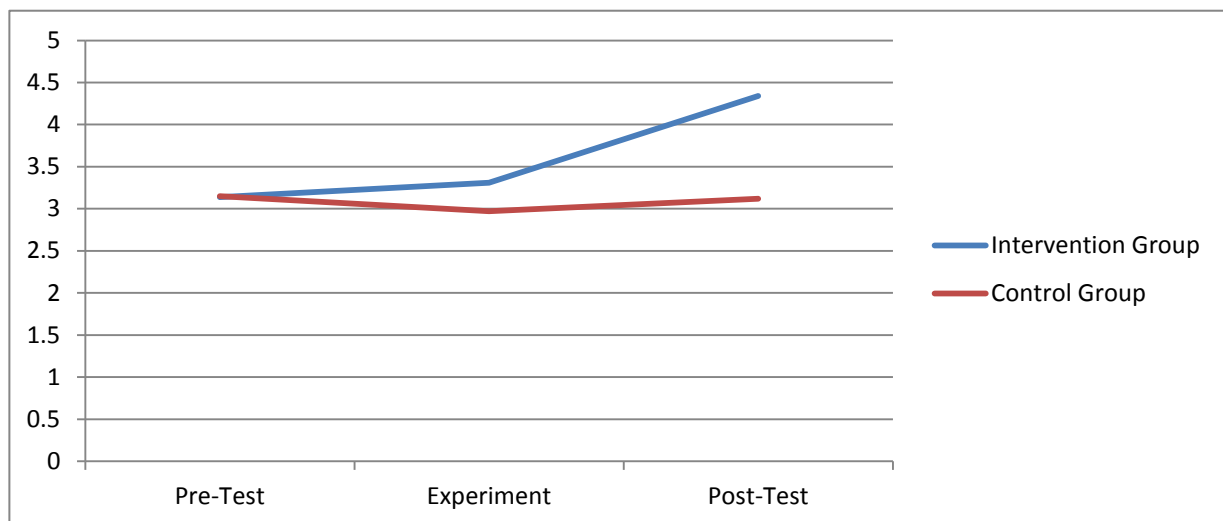
Figure 5.19   Results from calculations of the mean for the Average Value of Connectives.

5.6.5 Results from the calculations of the mean for subject attainment

As illustrated in figure 5.20 below, the intervention group began the first writing activity with a 1.52% higher score. For the second writing activity, which involved the writing intervention, this group had a 12% higher score. This decreased for the post-test activity but was still 6.5% higher than the control group, thereby demonstrating a gain from pre-test to post-test.
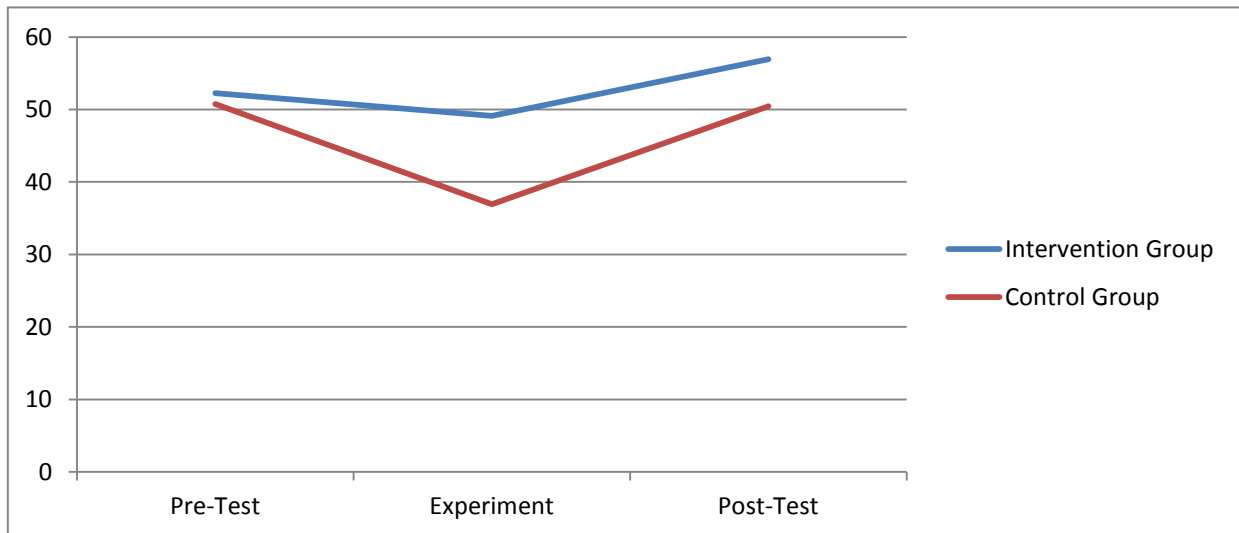
Figure 5.20   Results from calculations of the mean for Subject Attainment

5.7   Inferential statistics

A quantitative analysis based on inferential statistics allows the probability to be considered that the hypothesis of the experiment might be true. This likelihood is based on a probability (p) value based on being 5% sure that the null hypothesis is true and therefore at least 95% sure that there is statistical significance and there is a relationship between the treatment of the intervention activity and an improved subject performance by the student.

5.7.1 The results of effect size for the variables for the whole sample for each writing activity.

Measuring the effect size, as outlined in the preceding chapter, provides an opportunity to interpret the significance of the research results. Figure 5.21 below presents the size of the relationship for the two groups for each variable. The higher effect sizes are found in an increase in the number of connectives used and an increase in the sophistication of the connectives by the intervention group. The intervention also resulted in a greater effect size for the attainment and subject performance scores.
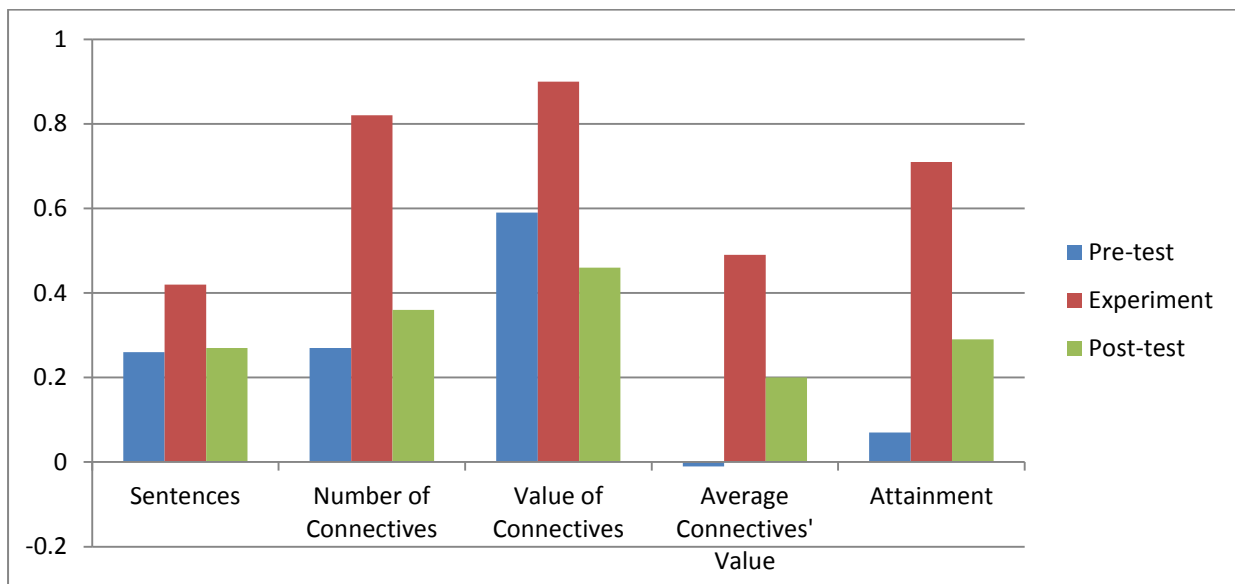
Figure 5.21   Results of the Effect Size for the variables used for the whole sample for each writing activity.

5.7.2 Results of the t-test for the whole sample for each writing activity.

As outlined in the method chapter, a paired samples t-test was used to check the effectiveness of the intervention stimulus in improving the quantity and quality of writing.

In Activity 1, which was used as the pre-test, the t-test outcomes for the Number of Connectives and the Connectives Value demonstrated significance with $p = <0.05$. The Sentence Count, Average Connectives Value, and Subject Attainment variables were not statistically significant.

In Activity 2, the experimental writing activity where students were randomised to either an intervention or control group, all variables demonstrated $p = <0.05$ and thus, statistical significance.

In Activity 3, the post-test writing activity, the t-test outcomes for the Sentence Count and the Average Connectives Count could not be seen as statistically significant, but the Number of Connectives and the Connectives Value had a *p* value of <0.05, and the Attainment variable had a value which was close to significance.

Despite the randomisation of students into control and intervention groups for Activity 2, the Control group had significantly lower achievement levels in all the variables. This statistical significance of some variables might imply a lack of relationship and may suggest the likelihood that any results may not be seen as reliable. Given this scenario I felt it necessary to try to find another approach for comparing the differences between the two groups. One way of doing this was to look at a comparison of 'gain scores' on the resulting differences between the activities.

An analysis of the differences between Activity 2 (the intervention activity) and Activity 1 (the pre-test activity) demonstrated that the Sentence Count was close to significance, and that all other variables were statistically significant with p=<0.05.

The differences between Activity 3 (the post-test activity) and Activity 2 (the intervention activity), found that only the Attainment variable had a statistically significant outcome, the remaining variables demonstrated non-significant values.

The differences between Activity 3 and Activity 1 (from pre-test to post-test) presented statistically significant results apart from the Average Connectives' Value where p=>0.05.

5.7.3 Results of the t-test for each school for each writing activity.

In order to 'decipher' where there were more unusual results of significance, a summary of significance for each writing activity and for each school was drawn up. This is presented in the following table 5.10.

.

	Activity 1				
	Sentence Count	No of Connectives	Connectives' Value	Ave Connectives' Value	Attainment
School 1	NS	S	NS	NS	NS
School 2	NS	S	S	NS	NS
School 3	NS	NS	NS	NS	NS
School 4	NS	NS	NS	NS	NS
School 5	NS	S	S	NS	S
School 6	S	NS	NS	NS	NS
Total sample	NS	S	S	NS	NS
	Activity 2				
	Sentence Count	No of Connectives	Connectives' Value	Ave Connectives' Value	Attainment
School 1	NS	S	S	NS	S
School 2	NS	S	S	NS	S
School 3	NS	CS	CS	NS	NS
School 4	NS	NS	NS	NS	NS
School 5	NS	S	S	NS	CS
School 6	S	NS	S	S	S
Total sample	S	S	S	S	S
	Activity 3				
	Sentence Count	No of Connectives	Connectives' Value	Ave Connectives' Value	Attainment
School 1	NS	N	NS	NS	S
School 2	S	NS	CS	NS	NS
School 3	NS	NS	NS	NS	NS
School 4	NS	NS	NS	NS	NS
School 5	NS	CS	CS	NS	S
School 6	NS	NS	NS	NS	NS
Total sample	NS	S	S	NS	CS

Table 5.10   Summary of t-test significance for individual schools for each writing

activity (where S = statistically significant, CS = close to statistically

significant, and NS = statistically not significant

A summary of the significance analysis based on the differences is presented below in Table 5.11.

	Difference between Activity 2 and 1				
	Sentence Count	No of Connectives	Connectives' Value	Ave Connectives' Value	Attainment
School 1	NS	S	S	S	S
School 2	NS	NS	NS	NS	NS
School 3	NS	NS	S	NS	S
School 4	NS	NS	NS	CS	S
School 5	NS	NS	NS	NS	NS
School 6	NS	NS	S	S	NS
Total sample	CS	S	S	S	S
	Difference between Activity 3 and 2				
	Sentence Count	No of Connectives	Connectives' Value	Ave Connectives' Value	Attainment
School 1	NS	NS	NS	NS	NS
School 2	NS	S	S	NS	S
School 3	NS	NS	NS	NS	NS
School 4	NS	NS	NS	NS	NS
School 5	NS	NS	NS	NS	NS
School 6	CS	S	S	S	S
Total sample	NS	NS	NS	NS	S
	Difference between Activity 3 and 1				
	Sentence Count	No of Connectives	Connectives' Value	Ave Connectives' Value	Attainment
School 1	NS	NS	NS	NS	NS
School 2	NS	NS	NS	NS	NS
School 3	NS	NS	NS	NS	NS
School 4	NS	NS	NS	NS	NS
School 5	NS	NS	NS	NS	NS
School 6	CS	CS	NS	NS	NS
Total sample	S	S	S	NS	S

Table 5.11   Summary of t-test significance for individual schools for differences between writing activities (where S = statistically significant, CS = close to statistically significant, and NS = statistically not significant)

5.8   Summary of results from statistical analysis

The descriptive statistics show that the Intervention group were scoring at a higher level than the Control group in the first pre-test writing activity. The second writing activity with the differential of the intervention activity paints a picture of the intervention increasing not only the number of sentences used, but also the number of connectives and the average value of the connectives used. Subject attainment of the students involved in the intervention group was also much higher than that of their control group peers. The third post-test writing activity shows a dip in the number of sentences and the number and value of connectives used for the intervention group, but an increase in the average connectives' value and an improvement in the subject attainment.

The inferential statistics identify that the effect of the second intervention writing activity demonstrated what could be seen as a significant impact on the number of connectives, the value of the connectives used, the average value of the connectives used, and the subject performance (attainment). The effect sizes calculated for the third post-test writing activity indicate that, although the effect sizes were lower than in the second intervention activity, there was a higher effect size, compared with the first pre-test writing activity, in the impact of the intervention group's work on the number of connectives used, the average value of the connectives used, and the subject attainment.

The purpose of the t-test analysis is to check that there is statistical significance and that there is a relationship between the treatment of the intervention activity and an improved subject performance by the student. The t-test analysis conducted here indicates that the intervention activity as a discrete activity is successful in improving

all performance measures, but that there is no indication that this improvement has transferred into the post-test performance.

The lack of significance for the t-test results in the first pre-test writing activity suggest that there may have been errors in the process of allocating the students to the intervention and control groups by some schools.

As I was concerned about the possibility of Type 1 sampling errors undermining the validity of the randomisation of a class into the control and intervention groups, I decided to undertake an ANOVA in order to ascertain whether there was any difference between the groups on attainment at the outset of the writing activities. The two part ANOVA carried out was based on the f ratio which measures the variation of the relationship between group (variation): within group (variation). The results are recorded below in table 5.12.

	Activity 1 Attainment (f)	Activity 2 Attainment (f)	Activity 3 Attainment (f)
School ignoring C or I	<0.001	<0.001	<0.001
School eliminating C or I	<0.001	<0.001	<0.001

Table 5.12   Results of two part ANOVA to measure the in group variation.

The following chapter will consider a more detailed discussion of these results.

229

CHAPTER 6

DISCUSSION

6.1   Introduction

The purpose of this chapter is to discuss the results of my research in the light of previous research on writing to learn in the context of educational policy. The results for improving business understanding in schools have implications for improving literacy in a cross-curricular setting, and using small scale RCTs in classroom research. I will begin this chapter by revisiting my research questions and the purpose of the research. This section will recount the steps of the research journey and will act as a reminder of what questions the research findings will address. Section 3 reports on the findings related to the evidence and literature on improving business understanding in schools. This is followed by section 4 which is a consideration of my findings in the light of the existing body of knowledge on writing theory. Section 5 reviews the progress of the Language across the Curriculum movement and the role of literacy in schools today. The next section discusses the knowledge that has been developed through the use of small-scale randomised controlled trials and the range of challenges from academic acceptance to actual implementation, Section 7 identifies the key findings from my study and looks further at the connections between writing and subject performance. Section 8 reports on the surprises and the unexpected results and findings. Section 9 looks at what went wrong and how the limitations of my study may have affected my results and findings. Section 10 concludes the chapter with a discussion on the implications for both research and practice of my findings, what they mean, how important they are, and how can they be used.

6.2   Revisiting my Aims and Objectives

My aim for this thesis was to look at a way in which the strategic writing skills of GCSE students could be developed in Business Studies. The short-term plan was to work at how improvements could be made in the detail, completeness and quality of the composition of the writing. I expected that in testing these improvements, the results would demonstrate better literacy skills and improved specific subject understanding. My hope was that this would enable students to get higher GCSE grades and improved progression opportunities. My longer term intention was that students would be more reflective writers which would enable more effective knowledge transfer and opportunities to be more successful in their lifetime of learning. My key research question was 'Can the use of connectives help GCSE Business students improve their subject attainment?'

My interest in this area had developed from prior investigations into how teacher interventions in Business Studies can improve the written language of Key Stage 4 students. (Davies et al., 2002; 2003). The reasoning behind these investigations was linked to concerns that the literacy levels of school pupils in the UK were insufficient, both on a national basis, and also from my own experiences as a subject leader for Business Education.

Surrounding these aims was an interest in the growing discussion regarding the growth of evidence based policy, and the development of evidence based practice in education. I was very keen to look further at how research evidence could inform professional decision-making, not only within educational policy making, but also from a classroom practice perspective. The idea of finding out what has worked for

other teachers, even in other settings, and seeing if it might work for my own students, seemed a very sensible strategy.

The research tests the hypothesis that a series of narrative writing activities based on story grammar techniques can lead to students writing more extensively and improving their understanding of business and economics issues through more effective demonstration and application of the knowledge and understanding required at GCSE level. The way in which this would be managed was through encouraging the use of connectives, and specifically the use of higher level connectives which would allow students to use their skills of analysis and evaluation. The stimulus treatment for the intervention was a grid of connectives contained within the writing activity. This purpose of the grid for the intervention group of students is to prompt them into using more connectives, and thereby write more. Therefore, the focus of the research activity was on the improvement of the execution of the writing task through concentrating on the quantity of writing, which could then improve the quality of the text produced. The intervention aims to prompt a deliberate and conscious shift in some aspect of the learning activity, which would produce a change in student performance.

This allowed me to identify what I expected the outcomes of my research study to be:

- Contribute to the theory of writing development by showing how writing literacy development can be related to specific subject attainment, and also to undertake an empirical test of the claims of the Language across the Curriculum movement.

- Clarify the meaning of the development of literacy within a subject which lies outside of the Key Stage 4 National Curriculum.

- Illustrate interventions that can be used by others to develop literacy in Business Studies.

- Evidence the effects and the effectiveness of strategies to develop literacy in Business Studies;

and, most importantly, to:

- To contribute to improving the quality of students' learning in Business Studies by disseminating the results of my study to a wider population.

6.3   Discussion of the findings related to improving business understanding in schools.

I began my research journey wanting to find out what teaching and learning strategies could improve the business understanding of 14-16 year olds. A systematic search (Google Scholar) using the phrase 'Improving business understanding in schools' drew eight searches; however, none of these were relevant to my context and research focus. Refining the search to the phrase 'Business understanding in schools' elicited a zero response. The literature on improving school students' understanding in business in the curriculum is very small. Existing research literature on business studies in schools has tended to focus on curriculum development. Jephcote and Abbott's (2005) text focuses on providing advice and guidance on planning courses and managing the curriculum. Davies and Brant (2006) explore issues to do with subject knowledge for those who are learning to teach or those who are guiding the trainees. The nature of learning and pedagogy

is explored but is addressed from the perspectives of learning through doing and learning through thinking. A search for evidence of any related previous RCTs, conducted within the UK or Europe, proved fruitless. Pang and Marton's (2003) 'Beyond 'Lesson Study' – Comparing two ways of facilitating the grasp of economic concepts' is robust, but is not an RCT and is not set in a Business Studies context. The Economics, Business and Enterprise Association (EBEA) is the professional subject association for the teaching and study of Economics, Business and Enterprise. A trawl of its archived magazine articles since 2000 found 92 articles related to GCSE Business Studies, 22 of which provided guidance for teachers with specific learning activities. One article presented an approach to using case studies which could be used to develop students' language skills. Davies et al (2002) explained a successful approach to improving student literacy and subject understanding which had been trialed across three schools. However, beyond this, there was very little existing literature of any relevance.

Reporting in 2003 on good assessment practice in Business Studies, Ofsted recommended extended writing as an assessment practice which would allow students to learn for depth of understanding and knowledge of economics and business concepts (Ofsted, 2003, p3). Subsequent reports related to Business, Economics, and Enterprise education focused on the need for more opportunities for students to be able to demonstrate the skills of analysis and evaluation (Ofsted, 2008, pp9; 23; 25) and '…questioning was too often restricted to the recall of information, so that opportunities were missed to gain a fuller indication of students' knowledge and understanding, and to develop the higher level skills of application, analysis and evaluation.' (Ofsted, 2011, p6). This report states that inspectors scrutinised written work, but makes no comment about the quality of writing, apart

234

from a concern that writing was too descriptive on vocational courses. An account of a lesson in an outstanding school reports: 'where the focus of a lesson was on written skills, for example on developing essay or extended writing skills to achieve higher grades, highly effective and carefully structured use was made of 'scaffolding' activities to guide students through a process that enabled them to recognise the features of good writing and to improve their own skills' (2011, p15).

The recommended proposals that have been made for how best to improve school students' understanding in business range from the application of what has been learned in the classroom to specific work-related activities and the use of problem based learning (Ofsted, 2003), livelier lessons using ICT and other resources and allowing students opportunities to demonstrate skills of analysis and evaluation (Ofsted, 2008) to improving the quality of questioning to develop student understanding (Ofsted, 2011).

One consequence of this lack of evidence base is that awarding body criteria become the default major source that we have to inform knowledge about what constitutes 'understanding business' at a school level. This is operationalised through the generic marking criteria of knowledge, application, analysis, and evaluation. Therefore, examination mark schemes and examiner reports provide the best available reference point for judging improvement in students' work. Extended writing in examinations has become an important part of the assessment process, so that candidates can demonstrate their ability to select and apply evidence which allows them to analyse a situation and then make an evaluative judgment. A survey of examiners' reports from Edexcel GCSE Business (Unit 5) from 2010-2014 highlighted the need for the students to write in a way that allows them to develop strands and make links to the question set. The June 2013 examiner's report is

more specific about the teaching of extended writing and identifies how one candidate has used effective connective words to develop analysis (p22) and states in its summary 'Use relevant connectives such as 'therefore…', 'this leads to…', 'as a result…', as this will help build explanation and analysis to show a clear understanding of issues, causes, and consequences.' (p35)

Teachers are being advised that they need to improve students' extended writing, and that using connectives will help the students to write more. However, there is currently no evidence base from which they can professionally make judgements on this advice.

Out of the proposals that have been made to improve the business understanding of school students, the ones that relate most clearly to developing narrative writing are Davies et al. (2002; 2003). The evidence from this work suggested that the use of story grammar in business studies was helpful in improving performance and from this we might expect a strong link between the ability to sustain a narrative and the grading of understanding for GCSE Business Studies. This has provided the rationale for the current study. However, there has been no cause and effect assessment of these methods. This would suggest that my own contribution through this research will create an evidence base for finding out what works in the development of effective business teaching and learning strategies. This study, therefore, represents an important first step in developing an evidence base that goes beyond the 'professional judgement' of Ofsted, business teachers, and awarding body examiners based upon what may considered to be discursively reported observations of non-randomly selected lessons and examination responses.

Given that business studies and economics has been a popular subject area in the 14-19 curriculum for the last fifty years, it may be seen as surprising that there has been very little in the way of robust evidence to suggest what works to improve business understanding and why it might work. One reason for this may be the way in which the subject area stands outside of the National Curriculum at Key Stage 3 and Key Stage 4. There is, therefore, no political will to create any evidence that can be tested. University ITE faculties may well be able to tinker at the edges as they encourage post-graduate students to engage with the research background of their subject discipline, although the current reduction of numbers assigned to Schools of Education in universities and the increase in number of school based routes is unlikely to generate much more of an evidence base. It therefore remains the preserve of a subject association which can promote the creation of a robust evidence base and individual schools and teachers who are willing and able to engage in the research process. The DfE report (2013) 'Building evidence into education' has been seen as a rally call to the profession, and the groundswell of encouragement and support for the ResearchEd organisation and the Teachmeet sessions that have emerged from the grass roots suggests that classroom teachers want to engage with research. However, a key issue that needs to be addressed is how the research questions for teaching and learning should be formed, and also how the research should be carried out.

My study has provided evidence to support the use of writing interventions which help to improve business understanding. My research adds to the broader writing evidence base that you can improve students' business studies attainment through a writing intervention that is based on using connectives. Given that I have been unable to find any other such literature or evidence in the subject discipline, my study

has provided a key foundation stone in creating a body of knowledge for writing and business education.

From my professional point of view, the value of this study has been in the findings from the data analysis which have looked at the relationship between subject attainment quality and the way in which students use connectives. Prior to this research I had only undertaken such a detailed examination at awarding body standardisation meetings. However, this study has enabled me to clearly understand that there is a clear link between the choice of connectives and the quality of the reasoning. Being able to consider how students are using connectives to explain their reasoning, or to bring in new ideas has shown me how I can provide more effective feedback to allow students to make further progress in developing their business understanding. Students who might be using connectives in a more mechanistic manner can be shown how the use of more complex sentence combining can allow them to consider the business issue or problem from more perspectives, and can also enable them to weigh up issues and arrive at more reasoned conclusions. The study has changed the way in which I interpret students' work, and my feedback to students now has more emphasis on the way in which their writing can progress their thinking. This has required one to one discussion with students on occasions and as this can be time consuming, it is easy to understand why it might not be usual practice.

The qualitative data analysis has also caused me to consider the way in which business studies is assessed through a level of response marking scheme. Having thought through possible alternatives, I felt that the nature of assessment criteria which enable a chain of strong reasoning to be generated does hold value, and the written data I analysed demonstrated clearly that even a mechanistic approach to

using connectives could lead to progress, and for some students, this can be very helpful. However, there are other students who are well able to use connectives appropriately and who, with a prompt to use more complex sentence combining words can produce reasoning of an of an extremely high standard. For extended writing, the mark schemes do allow for differentiation within the higher levels of response, but questions which only require short answers may prevent students from demonstrating deeper learning.

6.4 Discussion of the findings related to improving writing.

The results of my research can be related to previous research on product and process approaches to writing. The suite of writing activities were based on a mixed product and process approach where writing models can be replicated whilst ideas are being developed as writing takes place. The use of story grammar, where the students generate a series of episodes where an initiating event can trigger responses and reactions from characters in the story (Stein and Glenn, 1979; Merritt and Liles, 1989) allows the student to develop a way which encourages reflection of their understanding of business. The process approach to writing developed through the 1980s, moved away from a traditional product focus on the written outcome. Writing was viewed as a problem solving process where ideas are constructed to satisfy communicative goals and writing becomes a problem –solving activity (Hayes and Flowers, 1980), and where there is a distinction between knowledge-telling, and knowledge-transforming (Bereiter and Scardamalia, 1987,) and where the reality of the sense of purpose in the writing is communicated (Galbraith, 1999). With the

arrival of the National Literacy Strategy in 1997, the use of scaffolding activities, which enabled writers to complete a task, and therefore to improve their writing skills, provided a return to a product approach (Graves and Montague, 1991). Galbraith (1999) argued that for writing to improve both product and process approaches should be used in complementary ways. My results fit best within this fused approach. Whilst the specific intervention strategy to use more connectives, and specifically, more higher order connectives, to enhance the writing, lies with a product approach, the subsequent development of the writing and its focus on the process, where the student is now able to reflect further on the problem solving nature of the task complements the product approach of improving features of the writing.

By using a story grammar context (Stein and Glenn, 1979), my study supports the use of Galbraith's (1999) combined product and process approach as a way in which writing can be improved so that it can demonstrate enhanced subject understanding. The fusion of these approaches within writing to learn provides an original contribution to the body of evidence for writing theory.

Looking at existing research evidence, the evidence from my research would fit into the findings from Bangert-Drowns' (2004) meta-analysis of 48 school-based writing to learn interventions. These showed that writing can have a small, positive impact on conventional measures of academic achievement, and that using meta-cognitive prompts (such as connectives) can improve students' writing and can also be used as a predictor for enhanced performance. In Graham and Perin's (2007) investigation into the identification of effective instructional practices for teaching writing to adolescents, their meta-analysis identified an effect size of 0.50 for sentence-combining, which suggests that the use of connectives can make a

difference. This compares with my effect size of 0.82 for average connectives' value, and 0.71 for subject performance following the intervention activity. This would suggest that within my small-scale study, the writing intervention has been effective in making a difference. It would be interesting to consider further if these effect sizes would vary within different subject areas.

However, the studies of Bangert-Drowns and Graham and Perin were focused on English and EAL studies, and were not conducted using an 'across the curriculum' approach, as was my study. I was unable to find any business and economics education or other subject specific literature that considered writing to learn strategies, and therefore my research provides a starting point for creating an evidence base for subject-specific writing to learn interventions.

Whilst I was somewhat disappointed not to be able to find any relevant subject literature on writing to learn, it has meant that the research for my literature review has also impacted on my own teaching practice. Following this study I now recognise the need for literacy teaching across the disciplines and understand the contribution made by 'every teacher is a teacher of language'. I have adapted my own practice to include more scaffolded writing instruction activities and the use of self-regulated writing strategies. I want students to be more confident with their own writing literacy, and want to be able to demonstrate that their literacy learning can be transferred into and reinforced by and through other subjects. Discovering the elements of story grammar and transposing these into episodic features of real life and relevant business case studies has enabled me to provide my students with more scope for extended written investigation, rather than short sentence responses. This has made me consider further the way in which business studies as a GCSE subject is assessed, and has caused me to consider, not only the ways in which the

awarding bodies assess the written responses of students, but also the way in which questions are posed, and whether or not the questions have an accessible context. It is often difficult to match the nature of the written task with the associated mark scheme, and this may mean that students cannot access marks because their written response does not fit the conventions of the mark scheme.

The meta-analyses of Bangert-Drowns (2004) and Graham and Perin (2007) have provided me with the rationale required to showcase to other colleagues that writing not only promotes learning, but also generates learning, and that writing to learn interventions can boost academic performance. The discovery that writing more regularly can improve subject attainment has been instrumental in ensuring that more writing opportunities are included in schemes of work for my subject area. I have also incorporated this into post 16 BTEC and A Level programmes of study.

6.5   Discussion of the findings from improving literacy across the curriculum within the context of English in the UK curriculum.

The Bullock Report (1975) and the emergence of the Language across the Curriculum movement through the 1970s encouraged every teacher to be a teacher of language. Five years later, Robertson (1980) argued that they had manifestly failed because it had not been understood how difficult it would be to bring non-English specialist staff on board. Bearne (1999) suggested that the longer-term impact saw little progress as whole school literacy policies had not become embedded in the culture of the schools. Over the last forty years, there have been a number of attempts to champion all teachers at secondary level to provide for the literacy demands of their subject areas. Currently, government policy makers still

believe that all teachers have to be involved in preparing pupils for the reading and writing demands of the whole school curriculum. Ofsted inspection requirements focus on the capability of a school to achieve an effective approach to literacy across the curriculum.

There have been many reviews (Goodwyn and Fuller, 2011; Goddard, 2009) of the impact and effectiveness of the Language across the Curriculum movement, and it could be argued that the enduring legacy of the Bullock report lies within the perhaps unintended consequence of the way in which it heralded a new era where classroom research and pedagogical analysis became the principles underpinning government policy for English as a language.

Searching for literature which focuses on literacy across the curriculum in subject disciplines and how literacy can be improved in cross-curricular settings has yielded little. Wellington & Osbourne (2001) published 'Language and Literacy in Science Education' and in their introduction reinforce the underpinning tenet that 'Every science lesson is a language lesson' (p2). However, the text operates as a handbook which considers good practice and uses examples to illustrate their findings. Whilst the authors argue that more attention needs to be paid to the development of language in the classroom and that it is one of the most important strategies to improve the quality of science education, there is no evidence to support the efficacy of any particular literacy strategies.

Within the Australian initial teacher education framework, Love (2010) raises awareness of the opportunities for trainee teachers to support their students 'in the advanced literacy demands of their subject specialisation. Love introduced trainee teachers to the need to incorporate literacy pedagogical content knowledge in their

subject lessons, and in so doing, raised awareness of the literacy demands of different content areas, and how this could change pedagogy. However, beyond Love's contribution within the Australian educational context, there was very little relevant literature available which would support the evidence base for my research study.

In April 2013, Ofsted issued a report ('Improving Standards in Literacy: A shared responsibility) which recommended that secondary schools should 'urgently' review their teaching of Literacy across the Curriculum. (Ofsted, 2013, p6) The report said: 'The evidence gathered during this survey shows that teachers in a secondary school need to understand that literacy is a key issue regardless of the subject taught. It is an important element of their effectiveness as a subject teacher.' In a press release in advance of this Ofsted publication, Michael Cladingbowl, Ofsted's director of schools policy, said: 'This survey found there is no 'quick-fix' for raising standards in literacy. The best schools made literacy an integral element of the whole-school curriculum. In these secondary schools, there was no attempt to address literacy through one-off training days for staff. Literacy in the best schools was an integral part of longer term school improvement plans and informed the content of action plans for each subject.' (Cladingbowl, 2013). The report cited the case of one school where teachers of different subjects were speaking of the increased need for pupils to produce extended writing for GCSE assessment. This school had decided to focus its literacy work on extended writing across the curriculum. The report also highlighted the need for teachers to be helped with their own writing ability so that they could enable pupils. The suggestion that more extended writing does not in itself ensure that the quality of the writing is better. The report concluded with 10 principles of good practice which included making the case

244

for literacy in all subjects as well as the embedding of good practice in schemes of work and development planning.

The urgency of the challenge is not new and heading for a half century later the repetition of the rationale of the Bullock report and its 'Language for Life' philosophy suggest that there is a gap in the testing for what could have worked, what might have worked, and what has not worked.

One of the issues behind the forty years of struggle with 'every teacher a language teacher' is that teachers may not see literacy as part of their job. Teachers may not know how to practically make literacy across the curriculum work in their subject. Some teachers may also be insecure writers themselves. One of the schools surveyed by Ofsted reports that it actively supports teachers with their own writing abilities (2013, p25).

Another reason for the non-engagement of the non-English teacher may be related to the frequent changes in National Curriculum requirements. Prioritising the demands of new schemes of work and changing assessment practices and conditions may supersede any other initiatives, and well intentioned literacy across the curriculum opportunities remain as that, and do not become embedded into learning paths.

In an online article for the Times Educational Supplement, Geoff Barton, a head teacher in Suffolk, comments on the elicited staff response when a 'Literacy across the Curriculum' training day is announced. 'Yet if you want a sure way to provoke a collective groan in your staffroom, announce that you are intending to hold a training day devoted to whole-school literacy. 'We did that five years ago,' someone will

shout, harking back to the day the National Strategies juggernaut rolled into town with its panoply of methods'. (Barton, 2010)

It could be argued that the Literacy across the Curriculum movements both from the 1970s and the more recent Ofsted pronouncements have been unable to gather the support to engage teachers sufficiently with subject specific narrative styles, and therefore, any interaction between literacy and subject knowledge may have been at best overlooked, or at worst, ignored.

My findings show that GCSE Business Studies teachers can contribute to the teaching of writing, and can reinforce to students how important it is to be able to write well. Yet, the repetitive nature of the calls to arms to improve literacy across the curriculum suggests that there is no imperative from subject specialists.   It may be felt by some subject teachers that it is 'not our job' to teach English, however, my research shows that writing processes within the subject area can be modelled, and scaffolded, and that focussed stimulus prompts can develop writing performance. The response from teachers in the participating schools was very positive, especially when they had seen the feedback from the writing of their students. The one teacher who following the participation of his students in this research study, decided to use the connectives' grid in writing activities in the second year of the course, felt that he was able to contribute more specifically to his school's literacy focus. However, he was the only participant who responded to my writing analysis. This is disappointing, but may be indicative of the relationship that teachers have with researchers, or, is a spin off from 'working to rule', or possibly, just depended on the results of that intervention for the school.

Teachers will want to be convinced of the benefits of research informed practice in terms of students' subject specific attainment. The additional benefits of improved literacy is an externality and may either not be taken into consideration or may be viewed as an added bonus. My study has not been able to tell whether there were any additional benefits.

My results show that strategies and activities which enable business studies students to become better writers are possible and can be incorporated into local schemes of work. GCSE Business Studies students can be taught how to transfer their writing skills with confidence. For many schools now, the need to highlight opportunities for literacy is a standard requirement and responsibility. What business studies teachers want are good ideas for delivery, but specifically to find out what works. I hope that my research will contribute to this body of knowledge and at the same time will encourage other teachers to undertake other research activities and share what has worked for them.

From the classroom teacher perspective, there does appear to be sufficient evidence to suggest that written literacy can be improved using subject strategies and other cross-curricular learning resources. Where this might be shown to lead to consistent subject improvement and whole school attainment, non- English specialist teachers might be more willing to engage with the need to embed whole school literacy policies into the school curriculum. This study has provided me with the impetus to find out what is happening in other subject disciplines, and has also made me find out how English teachers instruct students to write. The lack of any concrete or replicable strategies was disheartening and may be a factor that has contributed to disappointing school results. From my own perspective I can see that the results of my GCSE Business and Economics students have improved over recent years

against a mixed picture of whole school results and that this may be as a result of the writing strategies that have been introduced. However, this suggests that the writing strategies employed in business studies lessons have not been transferred to other subject areas. Cladingbowl's (2013) insightful remark that literacy improvement is at the forefront of subject action plans in the best schools is a key way forward, and for me supports the idea that literacy gains in all subject areas can lead to faster and more robust improvements in student learning and attainment.

6.6 Developing knowledge about Teaching and Learning through small-scale trials.

This study is a small-scale randomised controlled trial operating across six participating schools in the West Midlands. RCTs are considered to be the first choice research design for measuring the effectiveness of educational interventions (Cooper et al., 2009), yet there has been, and still is, concern about the methodological rigour in smaller education trials. This section considers the problems that confront small scale trials and how these problems can be overcome.

The unexpected side to the research study arose from choosing RCTs as my experiment method to test the hypothesis. My focus on 'what works' was based on what I considered to be a pragmatic choice of finding a way to test a writing intervention with GCSE Business Studies students which would have no detriment on the existing programme of study and its scheme of work. I was aware of evidence based policy, but not informed, and this led me to find out more. This was where I discovered that my choice of method was in fact a randomised controlled trial, a method espoused in the medical field, but with very little evidence of it having

been used to inform educational policy or educational practice. This all changed in March 2013 when a Department for Education report 'Building Evidence into Education' (DfE, 2013) called for increased use of randomised controlled trials to inform educational policy-making and teaching practice. The provision and allocation of government funding for a series of RCTs was announced simultaneously. The author, Ben Goldacre, is a medic who is an advocate of evidence-based practice in medicine and argues that 'collecting better evidence about what works and establishing a culture where this evidence is used as a matter of routine' and will thus improve outcomes for children and increase professional independence. (DfE, 2013) In an article for the Guardian he explains how the use of RCTs in finding out what works in medicine has improved outcomes for patients, 'through thousands of tiny steps'. His argument recognises the differences between medicine and education, but suggests that the similarities; 'both involve craft and personal expertise, learned through experience, but both can be informed by the experience of others' and that as every child is different, so is every patient ; are sufficient to recommend that 'good-quality research can show which interventions work best '. (Goldacre, 2013b)

The immediate response from educational establishments was lukewarm with suggestions that his somewhat journalistic style over-simplified the process, but there was an acceptance that teachers should become involved with research.

Becky Allen from the Institute of Education (Allen, 2013) welcomed government funding for RCTs but questioned the need for Goldacre to comment on educational research. She highlighted the difficulties of getting schools involved with RCTs and the problems of ensuring rigorous research design and external validity. The Centre for Education Research and Policy (CERP) published a response from Geoff Whitty

where he gave a guarded 'thumbs-up' to the report and its recommendations, but thinks that '…more RCTs in education…may well prove better at telling us what doesn't work than what does.' (Whitty, 2013) A response from the president of the British Educational Research Association (BERA) described Goldacre's recommendations as 'flimsy' and 'naïve'.   Mary James used evidence from the 1960s based on trials from the 1930s to suggest that RCTs could not possibly work (James, 2013).

Whilst the response from the world of educational research appeared somewhat underwhelming, the response from teachers was overwhelming.   Using social networking media, over 1100 positive responses within three weeks of the report publication resulted in the formation of what is seen as a 'grass-roots' organisation and a conference was organised for September 2013 to discuss current teacher research practitioner issues.   In his report Goldacre referred to 'isolated islands' of research in practice, and much of this teacher response affirmed the need and the desire for more active teacher participation in generating the evidence for 'what works'.   This was a real encouragement as it allowed me to fully understand how my research study could have currency in the classroom.

However, carrying out a small-scale randomised controlled trial in a robust manner with discrete classroom contexts in separate schools, across a geographical region, within a set time period, and trusting the teachers of those classes to comply with the instructions given, was a huge ask.

Dr Ben Styles, in an abstract for the Eighth Annual Conference of Randomised Controlled Trials in the Social Sciences suggested that the lack of funded small scale trials has precluded such testing (Styles, 2013, p17). Growing government support

for evidence-based education and the publication of the Education Endowment Foundation (EEF) 'DIY Evaluation Guide' (Coe et al., 2013) has encouraged the use of small-scale trials, where robust educational intervention trials can be carried out by classroom teachers in classes, or across year groups.

In order for my own small-scale trial to be seen as having reliability and validity, it was important to make sure that I had sufficient participating schools, that the teachers remained committed to the three writing activities, and that the students remained in attendance for all three writing activities, so that I was able to have a pre-test, the intervention or control activity, as well as the post-test. At the time of my research design, there was very little guidance on what a reliable sample size would be, and if there would be sufficient statistical power to ensure that effect sizes could ensure that any effect was worthy of note.

Ensuring the participation of schools also proved difficult, as I had to be sure that the schools were committed to the purpose of the experiment, but at the same time, would be able to conduct the writing activities according to instructions, and would not compromise the randomisation process and the implementation of the intervention activity with both treatment and control group operating in the same space at the same time. Rather than talking to head teachers first, I decided to recruit from the chalkface and talk to the teachers, as they would be the first line contact. This may not be the standard model of recruiting centres to participate, but I did not have the time to work through the usual contact models. Having 'persuaded' the classroom teachers, I needed to wait for the head teachers to give approval. Whilst this was sometimes a long wait, it did mean that I was more certain of the commitment of the classroom teacher, if they had managed to convince the head teacher, that it would be useful for the schools to participate. Having e-mailed a list of

25 subject leaders for business in schools in the Staffordshire area, I had 8 initial responses, and then from these, 7 schools agreed to take part. One school withdrew later as it did not feel that it could accommodate the writing activities in the stipulated time period. I was disappointed that more centres did not respond, but a 30% response rate may be considered healthy. Recruiting schools to participate in funded research intervention studies must be challenging, and therefore, recruiting schools to participate in my research, where there would be an increase in work and administration for the classroom teachers, was even more of a challenge. There is limited data about effective recruitment strategies for research participation, and the difficulties of achieving adequate sample sizes in RCTs can weaken the evidence base on which to build intervention recommendations. This suggests that the use of tools such as the EEF's 'DIY Evaluation Guide' to encourage and support small scale research might be the way forward in creating high quality evidence from a local base.

It was important to me as a classroom teacher that the research investigation should be part of the naturally occurring classroom practice. I did not want the writing activities to disrupt the scheme of work for the participating schools and classroom teachers. I wanted the writing activities and any linked learning to support and consolidate prior learning. I did not want the students to be confronted with concepts that they had not yet studied. I needed the suite of writing activities to be part of the scheme of work, rather than an add-on activity as a favour to a researcher. From an ethical perspective, I also wanted to make sure that if there were any benefits from the connectives' grid prompt, that these could be immediately reported and acted upon, so that the control group of students could also benefit from the treatment. In addition, it was important to recognise the involvement of the school, the classroom

teacher, and the students, so I decided to offer some mutual benefit through providing specific feedback to the teachers on the writing performance of their students. It was gratifying to hear from one of the teachers on how useful this information had been, and had been used as supporting evidence in an internal subject review.

The t-test results for the pre-test suggest that there may have been issues with the randomisation process that the teachers were asked to carry out, and this would need to be looked at more closely.

The findings from the implementation suggest that there are schools, and teachers within such schools who are open to being involved in research in educational settings. It is possible to operate a randomised controlled trial with GCSE students in the same classroom, with both control and intervention groups operating at the same time. This is possible because students are accustomed to operating in controlled conditions for internal assessment purposes for examination bodies. The teachers involved did not identify any problems in running the writing activity, and therefore such activities are replicable.

6.7 Discussion of the findings from the research results - Improving the connections between writing and subject performance.

The analysis of the results, using descriptive statistics, of the three writing activities for the whole sample found that in the second writing activity, where the intervention group received the treatment of the connectives' grid, those students were writing more sentences, using more connectives and also using higher scoring connectives. In addition, their subject attainment was much higher than that of their peers in the control group. This suggests that the prompt to use connectives was used, and that using connectives has led to an improvement in the writing, which has led to an improvement in the subject performance. The analysis of the inferential statistics suggests that there are high effect sizes for the number of connectives used in this intervention activity as well as the average value of these connectives. In particular, the effect size of over 80% for the number of connectives would be defined as indicating an important difference between the two groups, whilst the effect size for the average connectives' value would suggest an average difference (Cohen, 1988). In addition, the effect size of the subject attainment by the group of intervention students was close to suggesting an important difference. The t-test analysis indicated that the treatment activity for the intervention group students of the second piece of writing is significant and is related to an improvement in subject performance. There is sufficient significance here to say with confidence that these results could be replicated, and that the difference between the variables is enough to say that there is a characteristic of the activity, which can be isolated, that has caused the difference.

The pre-test writing activity 1 was used to provide a baseline measurement of student performance, both in writing, as well as in subject attainment. The intervention group of students did record higher sentence counts and did use more connectives than the control group of students in this piece of writing. However, there was no real difference in the average connectives' value (Control group – 3.15, and Intervention group – 3.14), although subject attainment by the intervention group was higher by 2.9% (Control group – 50.75, and Intervention group – 52.27).

The post-test results of writing activity 3 show that both the intervention group and the control group are writing less sentences than in the pre-test, the intervention group is using less connectives, although the control group is using more, but the average connectives' value for the intervention group has increased, in contrast to the control group where this value has decreased very slightly. The post-test sees an improvement in the subject attainment score between writing activity 1 and writing activity 3 for the intervention group students, whereas there is no improvement for the control group, and the subject attainment gap between the two groups has widened. The effect sizes for all variables in this third piece of writing are higher than in the pre-test, and looking at the third writing activity as a discrete piece of writing, indicate that there are small differences. This would suggest that whilst the intervention group are perhaps not writing as much, they are writing with more craft and skill as they are using the higher order connectives to make the links between subject concepts and ideas. Being able to allow the transition of ideas, and generate more reflective comments will create more opportunities to score more highly on subject attainment.

Whilst the t-test results for the pre-test indicate a lack of significance for the sentence count, the average connectives' value, and the subject attainment score, the post-

test results do indicate that the result for subject attainment is close to significance. In calculating the t-test for the differences between the pre-test and the post-test results, there is statistical significance for all variables, apart from the average connectives' score. This does allow me some confidence to say that I cannot reject a null hypothesis, where the intervention would have no impact.

This leads me to suggest from the intervention writing activity as a discrete activity, that prompting students to use connectives, and also to look at using higher order connectives, will not only work, but will also lead to improvements in subject performance. I can also infer that the benefits of such treatment can be transferred into further writing activity and subsequent subject performance.

The detailed analysis of a small sample of writing supports these claims. The choice of connectives relates to the quality of the subject performance. Where higher scoring connectives are used, the students develop their responses in more analytical and evaluative ways, which enables them to achieve higher attainment levels. The opportunity to develop reflection through using higher scoring connectives can increase the quality of their work as they understand more. The use of a connectives' grid as a visual stimulus can provide a scaffold for remembering an order for connectives. This can help students as they work their way through a response to a question.

The use of story grammar to build an understanding of events and the choice of strategies that could be employed by a business engages students, and allows them the opportunity to understand alternatives, and the reasons for those alternatives. This is important as the students can then take ownership of making relevant choices. Justifying these choices can be better explained if connectives are used.

There is also evidence that repeated writing activity using the same task design can also contribute to increased use of connectives and improved subject performance. However, the use of connectives is not always effective, and an increase in the use of connectives does not always translate into improved subject performance.

6.8 Summary of the surprises and challenges

The challenges of this research study came from several different avenues. The first challenge was to find relevant received research. There was very little that fitted the route of my research intentions. It was not until I discovered the use of meta-analysis as a research method to combine and synthesize results, that I was able to find any literature that could directly inform my research activities.

I was unable to find any research on the development of writing for GCSE level at Key Stage 4 in the UK. The only paper available was one that I had contributed to as part of a BPRS scholarship, and this research activity was the spearhead for this thesis (Davies et al, 2002, 2003).

However, these two challenges convinced me further that my research could make an original contribution to the body of knowledge, as there appeared to be no existing body of knowledge.

Having discovered some literature which supported my focus, I had to choose a method. As a classroom teacher, I knew that I needed to design an intervention that could be easily written into a scheme of work. If I was undertaking a randomised controlled trial, I could not easily have one set of students in one room, and another group elsewhere. The classes did not have enough time in a two year GCSE

programme of study to undertake a lengthy activity, so I needed to find a way of allowing control and intervention group to function at the same time. This is possible with the use of controlled conditions, but did mean that I was very nervous about whether it would work. This would be harder for me to control as I could not be present when the students were engaged in their writing activities.

However, the main challenge arose from the implementation, and that of getting the participation of the schools, and retaining the participation through three writing activities. Schools receive many requests for participation in various types of research activities, and there are often several layers of organisation structure that you have to get through before you can talk to the relevant members of staff. The first challenge, therefore, was to find out the names of the GCSE Business Studies teachers and to find out their preferred method of communication. The next challenge was to persuade them to get involved, and then to enthuse them sufficiently that they could persuade their head teacher to allow their classes to participate. As a full time teacher undertaking a part-time PhD, it was not possible for me to visit each school, and put my case forward. This meant that I needed to be able to offer an incentive to the classroom teacher, which could provide benefit to their school. Providing written feedback and analysis, as well as the return of the annotated writing of the students, was well received. Once the head teacher had agreed that the school could participate, the challenge was to encourage the teacher to undertake all three writing activities in consecutive lessons in the stipulated time period. The actual implementation involving the randomisation of the students into control and intervention groups meant that I had to trust the teachers to follow the written instructions. The next challenge involved waiting to find out whether all students in the class participated in all three writing activities to ensure that my

sample was sufficient. The final challenge lay in the assessment of all of this writing and ensuring that each piece of writing was assessed for subject performance in a standardised manner.

'There will be surprises' said C.S.Lewis as he wrote his introduction to 'Mere Christianity'. My surprises came from a number of different sources. Firstly, the discovery of meta-analysis. As I carried out my literature review and wondered how on earth I could conduct any robust research as a full time teacher and mother, and a part time PhD student, I discovered that analysis could be analysed, and that this statistical technique could combine the findings from independent studies. This encouraged me to believe that any research that I could conduct on a small scale using a single study could be useful and could count in a bigger global picture. I had been told that there is often a eureka moment when conducting a literature review, and coming across 'The Effects of School-Based Writing-to-Learn Interventions on Academic Achievement: A Meta-Analysis' (Bangert-Drowns, R., et al., 2004) became the inspiration that provided purpose. Not only did the literature introduce me to an important research strategy, but it also highlighted that longer writing assignments are an important factor in writing to learn. This fitted with my area of research and became embedded in my research design.

The second surprise came from the results of the intervention itself. Whilst I had always taken it as a given that using connectives could encourage students to write more, and that this would help them become better students of the subject, and also because the National Strategies supported this notion, as well as the preceding work that I had carried out for the BPRS, I was still surprised that the evidence from my research experiment suggested that there was some validity in this argument. The intervention showed that using more connectives can create better subject

259

performance. The other surprise came from findings from the control group who demonstrated an improvement in their subject performance by the third writing activity which could be attributed to more frequent writing opportunities. I am now somewhat evangelical in my emphasis on writing more often and making sure that my GCSE students are using connectives appropriately. The surprise here is that I feel that I am now embedding literacy into the curriculum rather than offering opportunities which would allow boxes to be ticked as part of a whole school audit of Literacy across the Curriculum.

The third surprise was that I found myself to be part of the vanguard of the movement that arose from the 'Building evidence into education' report (DfE, 2013). This came at a time when I was struggling with my results analysis, and wondering what was the point of it all. The key point from this report was that my chosen method was relevant. Randomised controlled trials were headline news, and I understood what the fuss was about! The message to classroom teachers to get involved in such research to find out what works was a breath of fresh air and a clarion call to raise the research literacy of educators. This led to opportunities to present at local Teachmeet sessions where I was able to explain how Mr Gove had made me cool, and also, with the co-operation of my supervisor, allowed a paper 'Developing reasoning in business studies through a literacy intervention' to be submitted (Bentham et al., 2014).

6.9   Limitations to the study

The choice of a quantitative research paradigm immediately brings certain assumptions into play. It is an unstated but accepted claim that positivism can be defended, that whilst there can and will be a set of measured objective outcomes, there will also be decisions that are made subjectively by the researcher. For my study, these assumptions became unstated delimitations.

The key limitation which had the most significant impact on the quality of my findings and my ability to effectively answer my research question is the representativeness of my sample.   Rigorous quantitative research demands probability sampling. However, I was unable to do this as I did not have access to the information which would allow me to know which schools in the UK had Year 10 GCSE Business classes. I was also unable to find that information within my own county. Whilst the local authority may have some information on LA schools, the move to academy status has removed many schools from submitting curriculum information for authority use.   My non-probability sample, which could be said was one of convenience, is more akin to one that might be used in a qualitative paradigm. However, using an evidence-based philosophy of what works in these situations, allows me to be able to make statistical inferences from my sample of Year 10 GCSE Business classes to the whole population of GCSE students.

Another limitation is in the design of the intervention. Firstly, the reliability of the tasks set to elicit the information that can be measured. Awarding body assessment tasks undergo screening and review by committees of expert subject examiners. The assessment tasks that I set were checked by a fellow business and economics teacher, and were based on typical exam style questions, but I was concerned that

261

the nature of the tasks might prevent the participating students from being able to demonstrate their potential.

Another weakness in the research design is that of the time scale. The three writing activities had to be carried out sequentially over three weeks. One participating school, having agreed to the timescales, was then impacted by unforeseeable circumstances within the school and unable to do this. Such a reduction in sample cohort limits the power effect and will impact on the quality of my findings. The intervention took place in the summer term of Year 10, and as a classroom teacher, I am conscious that at times students are not always as focused as they might be in the autumn or spring term, as the school calendar often includes more entertaining learning possibilities. Whilst the students were aware that they were writing for research purposes, full concentration from the students cannot be guaranteed.

The main weakness of my research lies in the need for classroom teachers to administer the intervention activities under controlled assessment conditions. All students within the class completed the same pre-test and post-test activities, but the intervention activity required the students to be randomly allocated to an intervention and a control group. The classroom teachers were given instructions on how to do this, but this could be a possible source of contamination, where this is not carried out properly. The pre-test t-test suggests that this may have been the case, and this has impacted on the validity of some of my findings. I have to believe that the teachers did as I asked (writing in silence; no connective prompts on display; no explanations of subject issues), but while these are assumptions, they also reflect the limitations of the study.

6.10 Going forward – implications for practice and research

The findings from my research suggest that using such an intervention stimulus works and can improve subject grades by at least half a grade. Using the EEF Teaching and Learning Toolkit where average progress is measured in months' progress, the effect size of 0.8 for the second intervention activity suggests a possible increase of 10 months' progress, and the improvement in subject grade between the pre-test and the post-test with an effect size of 0.4 suggests an average impact of nearly six months progress. These findings mean that there are instructional activities that can contribute to improved subject performance. Such intervention activities have high impact for low cost, and at a time when budgets are constrained, such interventions should be being used in classrooms. It is also important to remember the opportunities for transferable skills. If writing interventions can improve performance in one subject, then there may be marginal gains in other subjects. From 2016 government will be using a new Progress 8 measure to report on school performance which will be based on students' progress measured across eight subjects, rather than the 5 x A*-C percentages currently in use. Therefore, any progress opportunities and value added will enhance not only opportunities for students, but also Ofsted ratings and positions in school performance tables.

My findings are also important because they are now fundamental to the creation of a rigorous and analytical evidence base. If these interventions are replicated, additional statistical analysis can be carried out, and several small studies would allow for meta-analysis.

This study has identified further research opportunities which would enhance the evidence base further. Increasing the number of interventions with stimulus prompts would look at the sustainability of the intervention. The frequency and regularity of carrying out extended writing activities is another possible area of focus which has emerged as a finding of note. Conducting the same style of writing intervention with a similar story grammar approach for other subjects would be useful both for the subject discipline as well as providing a comparative study for my research.

I have also demonstrated that RCTs within the classroom are possible, and by isolating as many variables as possible, and by reporting any significant results as soon as possible, in order that all students can then receive the intervention, any concerns regarding the ineffectiveness of RCTs can be alleviated.

Given the significance of the findings from my research I want the world to know that simple interventions can make a positive difference. Dissemination is an important stage in the research process. There is little worth in hiding a light under a clay pot. However, effective dissemination and communication of such findings needs to be carefully considered as the gap between research and action needs to be carefully bridged. Academic papers can also be published, but as most teachers do not have access to these, it may be more realistic in the short term to use the subject journal as a direct way of engaging both teachers and teacher educators. Social networking sites such as Twitter, Facebook, and Linked In also provide a means of alerting teachers to new research and opportunities for further research. With the current championing of schools to become a research informed community, such grass roots dissemination may be more effective for accessing an evidence base of what works well.

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CHAPTER 7

CONCLUSIONS

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7.1   Introduction

The purpose of this chapter is to reflect on what has been achieved by my research, and to draw some conclusions from my findings which can provide responses to my research questions. In addition, I would like to focus on the contribution of my research to professional practice and thinking.

This chapter begins with a look back at the nature of this thesis and the research questions which have directed this journey. It will then present a summary of the findings in relation to each of the research questions. Following this, I will highlight the additions to knowledge made by this research. Next, there will be an explanation of the limitations of the study which follows on from the discussion in chapter 6. The chapter will next examine the implications of this new knowledge for curriculum and pedagogical practice and offers some recommendations for future research. The chapter also provides an opportunity to reflect on implications of my findings for my own classroom practice as well as considering the lessons I have learned from this research journey. The chapter will finish with a summary of the conclusions.

7.2   Returning to the research questions

In order to reiterate the research questions, it is necessary to revisit the aims of the study. These were:

- To contribute to the theory of writing development by showing how writing literacy development can be related to specific subject attainment, and also to

undertake an empirical test of the claims of the Language across the Curriculum movement.

- To clarify the meaning of the development of literacy within a subject that lies outside of the Key Stage 4 National Curriculum.

- To illustrate interventions that can be used by others to develop literacy in Business Studies.

- To evidence the effects and the effectiveness of strategies to develop literacy in Business Studies; and

- To contribute to improving the quality of students' learning in Business Studies by disseminating the results of my study to a wider population.

These objectives generated the following research questions:

a)   How can we get students to improve the quality of their writing?

b)   How can students develop their skills of analysis and evaluation and thus become more reflective writers?

c)   What writing approaches enable students to write in more detail?

d)   Can the use of connectives help to improve the subject attainment of GCSE Business students?

This list of questions began with the more general, and then moved to the more specific. The mandate behind this research study had grown out of a need to investigate how student attainment in GCSE Business Studies could be improved? I wanted to pay particular attention to whether improvements in writing could contribute to improvements in attainment. The overarching question that needed to

266

be answered was – how can we get students to improve the content and its detail, the completeness, and the quality in the composition of their writing? Linked to this was the question – how can students improve their reflexivity and become more reflective writers so that they are able to achieve more effective knowledge transfer and are able to access more opportunities to help them be more successful in their lifetime of learning? The next research question was more specific – what approach of writing would allow students to write more? The key question that would be the focus of my research study was – can the use of connectives help GCSE Business Studies students improve their subject attainment? In summary, my thesis posed four key questions.

7.3   What were my answers to the research questions?

My research study used a randomised controlled trial where a series of writing activities were undertaken by a control group and an intervention group. The writing was assessed and the results analysed in order to find out if a stimulus grid of connectives within the writing activity instructions would encourage students to use more sentence combining, and thus produce more analysis and evaluation.

7.3.1 Research question a: How can we get students to improve the quality of their writing?

There is a great deal of evidence underpinning writing to learn strategies through which students can improve their writing and use it as a vehicle for learning. First, there are the more directly instructional techniques of a product approach which can be modelled and repeated, e.g. note-taking, journals, and writing frames. Second,

there are activities which encourage development of the process of writing e.g. revising, and editing drafts, peer review. Third, there are combined product and process writing strategies based on the application of and reflection on the genre conventions, self-regulated strategy development, and procedural facilitation. Whilst the evidence suggests that all these techniques can work, what is not clear is which techniques are more effective for which type of writing activity and what type of writer e.g. the novice or the expert? The evidence base contains very little literature from the UK educational framework, and thus we are left with handbooks and 'top tip' strategy suggestions which are not rooted in evidence based practice relevant to our educational environment. Therefore, in a particular domain such as business studies, we have to identify what kind of writing-to-learn strategy is likely to be more effective. The writing intervention used in my study was developed using a story grammar structure based on Stein and Glenn's (1979) taxonomy. It enabled both product and process approaches to writing to be integrated (Galbraith, 1999), and it embodied the writing-to-learn principles of problem solving using a backward search hypothesis (Klein, 1999) based on Bereiter and Scardamalia's (1987) 'knowledge transforming' model. The embodiment of these principles made sense for a GCSE Business Studies writing intervention as case studies are the stories that provide contextual understanding, and business case studies allow for the story grammar features of settings, initiating events and episodes. This structure allows for a generation of a repeated procedure, and as the student becomes more familiar with the form of the writing, they move from 'novice' to 'expert'. The case study questions are the rhetorical goals, and within the knowledge content accessed from the structure, the 'backward search' model allows students to re-organise and re-group their knowledge to answer the questions and thus achieve their goals. My writing

intervention combines two writing techniques. The first technique was a choice between alternatives within the story grammar structure. This technique was available to all students, regardless of whether they were in the intervention group or in the control group. The second part of the intervention was an emphasis on connectives, and this technique was only administered to the intervention group of students. The choice of using sentence combining as the treatment instrument was based on the work of Graham and Perin (2007b), and also based on the advice and exhortations of GCSE awarding bodies (Pearson, 2013).

7.3.2 Research question b: How can students become more reflective writers?

The answer to this question was more difficult to ascertain, as it is of a qualitative nature and difficult to quantify. My intervention was not designed to answer this question as it did not include such reflective action opportunities. The reflective action that may have provided some evidence lay within the evaluative judgements offered by the written narrative. This lay outside of the scope of my study, but the use of more connectives and also more appropriate sentence combining allowed students to work towards a higher level of analytical and evaluative response, which might suggest that there is the opportunity to improve the quality of reflection as part of the writing function, not only from a personal development point of view, but also from within the written content.

7.3.3 Research question c: What writing approaches enable students to write in more detail?

This question addresses the problem of students who simply do not write enough. The importance of 'extended writing' has been frequently asserted in the context of secondary schooling (Ofsted, 2003; 2008; 2013). But how do we help students to extend their writing? The use of story grammar as a writing-to-learn narrative technique does encourage students to write in more detail. As all the students received this treatment, the use of a story grammar structure for all three writing activities may have contributed to a positive effect on the length of students' writing. Writing regularly and with a clear routine does appear to encourage students to become more confident, and this generates more content as students are happier to explain their points. Story grammar works well within the business case study genre as there is the opportunity for sentence construction skills to be practised, as students use connectives to write more complex and sophisticated sentences. The findings of my study demonstrate that this writing approach can help students to write more extensively.

7.3.4 Research question d: Can the use of connectives help to improve the subject attainment in GCSE Business Studies?

The quantitative findings could be seen to suggest that the use of more connectives has helped to improve the subject attainment of GCSE Business Studies students in this research study. However, the qualitative data analysis might suggest that the stimulus prompt to use connectives might just be a technique that students employ in a mechanistic manner, which may lead to an increased level of text production, but

may not engender greater learning and / or depth of understanding. There is some evidence, however, that students are able to be more creative and reflexive in their writing through the appropriate use of connectives.

The need for a marking scheme based on the GCSE assessment criteria used by awarding bodies may imply that the use of such writing to learn activities is only focused on examination requirements, and that students are being taught for success in an examination rather than being taught to learn. Creating a classroom culture of teaching to the test may involve the use of similar writing approaches and interventions. Such strategies allow students to demonstrate their mastery of the knowledge and skills required by subject disciplines, and it might be argued that the encouragement of the use of connectives is one such strategy. Awarding bodies will argue that their use of assessment criteria is the way in which the learning of the student can be detected, and from this, it could be inferred that for GCSE purposes, teaching for the examination is equivalent to teaching for learning. Successful student performance and attainment is measured through effective written communication of business understanding.

7.4   What do my findings have to say to the literatures?

My work contributes to the existing literature on writing approaches in three ways. First, my findings have supported the claims that story grammar (Stein and Glenn, 1979) provides a useful framework for improving students' literacy in general and writing in particular. Student subject understanding is also improved as the structure contributes to the ability of a student to extend a story through the generation of additional strategies and events within a problem solving case study scenario. My

study is able to augment this theory to suggest that with an added stimulus intervention, where students are encouraged to use connectives, the quality of their writing can improve sufficiently to enhance their comprehension. This overlaps with my contention that my findings correlate with the product and process combining approach (Galbraith, 1999) where a fusion of a more traditional and instructive product approach allows the student to develop their writing through a process of problem solving and reflection. The third way in which my findings are tied to the literature lies within the opportunity for inclusion in meta-analysis. From an effectiveness perspective, my findings can be compared favourably with the effect size yardstick that the meta-analysis of Graham and Perin's (2007b) study provides. However, my findings would also fit all the criteria to be included in the meta-analysis, adding to the existing body of knowledge, and could thus provide further power for those results.

My findings are also significant for the Language across the Curriculum movement. Separate subject disciplines can contribute to whole school improvements in literacy. If all subjects were reinforcing the nature and practice of such writing interventions, the benefits of these writing to learn activities have the capacity to compound over time to create even more successful learning.

My findings have addressed some critical gaps in the literature and also in the evidence base. There has been a paucity of research conducted on secondary school level writing for the UK educational system, there is very little on separate subject disciplines, and there has been no investigation into or reporting on the nature of writing in business and economics. From this stand point alone, my work is sufficiently contributing to knowledge as it has provided a foundation stone for further development.

However, where my findings have been most surprising has been in the area of the method. To find myself in the vanguard of an emerging educational research movement has been on the one hand exciting, and on the other hand, nerve ridden. What my research has shown is that it is possible to conduct small scale trials in the classroom environment without disrupting curriculum plans. Whilst the recent move of the use of RCTs in education has developed into large scale studies undertaken by large research organisations (e.g. EEF), small scale pilot studies such as mine are important in being able to provide the evidence needed to judge what size of expensive large trial would be needed to give a full scale RCT sufficient power. My research method was based on the goodwill of classroom teachers co-operating, but it also provided them with detailed feedback with an analysis of the writing of their students. The contribution that my work makes here is to suggest that classroom research is possible, that it can add to the evidence base, and that it can stimulate teacher engagement.

7.5   What are the limitations of the research?

As outlined in the previous chapter, there are some key limitations within my research. The intervention was limited in the tightness of its design as it was a small scale sample. Writing activities were carried out over a timescale of three successive lessons, and randomisation within the class. This tight design arose out of a need to cause least disruption to normal school and lesson routines, however,

this design and implementation does mean that any effect size found will look more robust than perhaps a larger scale trial will find.

However, the degree to which these possible deficiencies have reduced the quality and completeness of the results cannot be easily quantified, and these limiting circumstances arise as a result of the nature of the quantitative research. If we were to look at the results from a qualitative paradigm, these weaknesses may not appear as fragile.

Other limitations are as a result of my own personal circumstances. The most pressing was the need to have a research design devoid of the researcher presence in the research environment and being dependent on non-researchers facilitating the implementation. This arose as I am employed full time as a teacher, and thus unable to ask for absence from my own classroom to conduct research in other classrooms. On the other hand, this may be interpreted as strengthening the research design because the intervention could be considered to be more authentic, providing the kind of variation between schools that would exist. The other personal limitation was my inexperience in quantitative research methods as well as the academic process. With a nod to humility, what I know now is far greater than what I knew before, and it has indeed been a learning journey. The impact of these gaps in my understanding has ensured that such limitations have informed the analysis and the discussion of my results in a more detailed, and, thus more meaningful manner.

As a small scale study that could be viewed more as a pilot study itself, it might be argued that my thesis is a starting point, rather than a building block in an evidence base. Pilot studies can be viewed as feasibility studies which provide proof of the internal validity of the measurements and research design which can then lead to the

274

implementation of larger scale studies. The limitations of small scale research tend to focus on the problems of external validity and the constraints on generalisability. Given that my small scale study is able to report a positive effect of an intervention, does it mean that any related inferences and conclusions will also be true for a wider population? If the research activities were to be replicated under similar conditions in other schools, would there be consistency in the results? The scope and scale of my research might suggest that the interpretation of the results of the interventions could be over-stated, and that with robust internal validity, external validity focuses on the research establishing what might be seen as a reasonable effect, rather than a ground breaking impact.

Looking forward to section 7.6 and the further research that could be carried out, it is fair to say that the limitations of this pilot RCT can be addressed with future research. With more formal research, which may carry with it funding, or accountability, it may be possible to increase the participation and develop further interventions which could improve literacy, and the possibility of using more extensive probability sampling which is quantitatively acceptable, could remove these limitations. The nature of the research task and its design could also be adapted with further research and this could be set in comparison with the work that I have completed. My pilot study can provide the basis for a full RCT which might employ a longer intervention and might also have a three arm design. For example, a control where lessons are not used, as well as the control and intervention groups as used in this study. I am encouraged that any restraints that have arisen from the limitations of this study can be addressed through future research gateways.

7.6 What are the implications of this new knowledge?

These findings are important for several reasons. If it is proven that repeated regular writing and the use of connectives and sentence combining leads not only to students writing more extensively, but also to improved business understanding, then the business studies and economics classroom teacher needs to be made fully aware of this, and such classroom routines and practices need to be embedded in schemes of work and lesson schedules. This new knowledge is a key to developing literacy and subject performance. How can it not be of interest or use to the classroom teacher? Equally, this can apply not only to one subject discipline but also to others. These findings could be of benefit to all secondary school teachers, and of course the legacy of this new knowledge would remain with the student who receives the full benefit of informed learning opportunities. It re-ignites the urgency for Language across the Curriculum and a prompt for 'every teacher a teacher of literacy'.

This new knowledge is also important as it allows us to return to the need for writing to learn activities and their place in the lesson and the overall scheme of work for a subject. Short writing tasks can help students think through key concepts and enable teachers to assess their learning. Writing is an effective way of getting students to think and learn, and thereby, making that learning visible to themselves and to their classroom teacher.

Given that much of this literacy advice was embedded in the National Learning Strategies, and that recent literacy advice from Ofsted has encouraged written literacy including both product and process writing approaches, it would be churlish to ignore the recommendations from advisors. However, it does indicate that with an

evidence base to support advice and guidance, and an encouragement to try out 'what works', teachers may be more engaged with the whole improvement and searching for excellence agenda.

This leads on to the involvement of the classroom practitioner in educational research. Teachers who are engaged in research will adapt their practice in the light of new information, ideas, or feedback. A school which has a CPD culture that promotes a research informed community ethos is likely to profit from being involved in adding to the body of knowledge about teaching and learning. Local school networks may be important in dissemination, and the summary from the Education Panel for the Research Excellence Framework in 2014 referred specifically to the potential for collaboration and in particular the role of the Teaching Schools in developing expertise in classroom enquiry and practice-focused research (REF,2014, p109).

Dissemination is an important aspect for new knowledge, and I have been able to submit a paper to an educational journal (Bentham, 2012) and have also had a proposal accepted for inclusion in a symposium at the 16th Biennial EARLI conference in September 2015. Along with this I have generated a contact with the Centre for the Use of Research and Evidence in Education (CUREE) who are interested in the method used and the findings of my research study (Cordingley, 2014). I have also presented at a local Teachmeet (October, 2014) and am preparing an article for the association journal 'Teaching Business, Economics and Enterprise'.

7.7 Further research opportunities

As outlined in the previous discussion chapter and also in section 7.4 of this chapter, there are a number of routes forward for further research opportunities that have emerged from my findings. As a result of my work, a more extensive research study involving a greater number of participating schools where my research design could be replicated would be useful in reinforcing the opportunity for small scale trials in the classroom, and would be helpful in any possible underpinning of my results. Personally, having ascertained that connectives can have an impact on the writing development of Year 10 GCSE Business students, I would like to look at other writing techniques, and whether there may be similar effects following further writing interventions. This would enable a look at the whole writing diet offered to students within the subject area. However, the chance to investigate the use of connectives and sentence combining in writing to learn activities in other subjects would also be of value.

I would like to see my work opening up a new research agenda for writing and learning, with my findings being the foundation stone that either I or others could build upon.

7.8 Implications for my own practice.

This section will look at how this research study experience has impacted on my role as an educator and also as a researcher.

7.8.1 Classroom practice

Throughout this research study I have become a staunch supporter of writing to learn activities. As a business and economics teacher, the nature of the subject and its assessment format lends itself tidily to routines of regular writing practice, and I now ask students to write an extended piece of writing on a weekly basis. I encourage the students to become well-practised in using connectives to combine sentences as they think through the concepts that need exploring. Before submitting any work for assessment, I will ask the students to highlight the connectives they have used, and to consider how appropriate they are. Students then self-check against a grid whether their connectives are mostly useful for knowledge and application (level 2), or useful for analysis (level 3), or whether they help move the argument or story into evaluation (level 4). Such writing to learn activities will have contributed to the improved, sustained subject performance that I have seen over the last five years. This experience has not only made me aware of the need for 'every teacher a teacher of literacy', but has also reinforced the role that I can play in ensuring that every child is a writer. I have ensured that there are connectives' mats available in the classroom, and as a literacy lead teacher, I have been active in ensuring that this is a technique that is being used in other subjects and classrooms in my school. We now have literacy boxes placed in classrooms, where teachers can use literacy devices as stimulus to help students write more and also reflect on their writing.

7.8.2 Research practice

As I come to the end of my research journey, this is where I feel that the next journey should begin. The immediate implications lie within my own school community and a campaign to encourage us to be a research informed school community, where practice is informed by evidence, and not by myth or well promoted educational products.

Having gained so much from undertaking a sizeable piece of research, I am keen not to lose the lessons learned, from research design and implementation, to the analysis of the data, which is where we can find the treasure which provides answers to our research questions. I am also keen to maintain the impetus in finding out what else might work and why it might work.

7.9   Final thoughts

This research study began as a further research response to an investigation sponsored by the Best Practice Research Scholarship. The purpose was to undertake research to find out whether there was validity in the results of classroom based research for writing interventions in GCSE Business Studies. This was accompanied by a need to look at how I could get my students to improve the quality of their writing so that they could build on the grades they were achieving in answering examination questions.

This small scale study has revealed that a writing intervention within a story grammar setting, where students are exposed to a connectives' stimulus prompt, has the capacity to produce an improvement in subject attainment. There is also evidence

(albeit a smaller effect) that this improvement can continue into a subsequent piece of written work. A further finding suggests that even without an intervention, regular routines of extended writing may also improve subject performance.

In this chapter I have stated how my findings have added to the body of knowledge in writing to learn theory and also within the field of research methods and how that contribution has occurred. I have considered how my claim might be challenged and have offered my response to counter this claim.

It is hoped that this thesis will be able to advance the professional discussion surrounding writing literacy and demonstrate the real impact that writing to learn can have on student progress and performance.

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APPENDICES

Appendix A1 – Writing Activity 1 (pre-test)

SETTING UP YOUR OWN BUSINESS

Activity 1

You have 20 minutes to answer the 3 questions that follow.

As Jack finishes college he discovers that he has been left £10,000 by his great Aunt Mabel. He now needs to find a job and is mindful of the fact that she would not have wanted him to "fritter the money away". Jack sees this as a perfect opportunity for setting up his own business and realises that there are three options available to him.

OPTION 1

He decides to make his hobby into a full time job and sets up his own sole trader business making and selling hanging baskets.

OPTION 2

He goes into partnership with his friend Janet who has bought a white van with refrigeration facilities and they make and sell sandwiches and sell to employees at local firms.

OPTION 3

He invests the money in a high interest bank account and goes to work at the local call centre.

---

1.   Which of the three options should Jack choose? Give your reasons.

Jack has actually decided to pursue life as an entrepreneur who has turned his hobby into a living. Sales of hanging baskets have increased significantly and he has taken on some casual staff. However, the local council has just given planning permission for a new garden centre which is part of a national chain.

2.   Which of the following three situations is most likely to occur? Explain why you have chosen this response.

SITUATION 1

Jack goes to work for the garden centre.

SITUATION 2

Jack finds that demand for his hanging baskets decreases and eventually he has to close the business.

SITUATION 3

Jack's friend Flora has just completed a course in floristry and horticulture at the local agricultural college and she joins him in the business as a partner.

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3.   What do you think might happen next? Give your reasons.

Appendix A2 – Writing Activity 2a (control)

SETTING UP A BUSINESS
Activity 2

You have 20 minutes to answer the following 4 questions.

Jack's hanging basket business has been "blooming" and his friend Flora has now joined him as a partner. They have decided that they want to expand the business further and realise that they will need either a bank loan or some more investors.

1.	Explain the advantages and disadvantages of each option, and then recommend your preferred choice of action giving your reasons.

Jack and Flora have decided to request a loan from the bank and also find a new investor. They realise that for both opportunities they need to draw up a business plan.

2.	Explain what a business plan is and what Jack and Flora will need to put into the business plan.

3.	Why have Jack and Flora decided to write a business plan?

4.	How will the business plan help their business grow?

Appendix A2 – Writing Activity 2b (intervention)

SETTING UP A BUSINESS
Activity 2

You have 20 minutes to answer the following 4 questions.

Use the Connectives grid below to help you write your answers in more detail. Your work will be marked based upon the number and type of connectives used.

There may be other connecting words not on the list, which will help develop your answer.

Jack's hanging basket business has been "blooming" and his friend Flora has now joined him as a partner. They have decided that they want to expand the business further and realise that they will need either a bank loan or some more investors.

1.	Explain the advantages and disadvantages of each option, and then recommend your preferred choice of action giving your reasons.

Jack and Flora have decided to request a loan from the bank and also find a new investor. They realise that for both opportunities they need to draw up a business plan.

2.	Explain what a business plan is and what Jack and Flora will need to put into the business plan.

3.	Why have Jack and Flora decided to write a business plan?

4.	How will the business plan help their business grow?

CONNECTING WORDS TO HELP YOU WRITE UP YOUR ANSWERS.

2 points	3 points	4 points	5 points
When	While	If	However
And	During	Because	Despite
After	Whilst	So	Nevertheless
Before		But	Although
		While	Alternatively

Remember that there are other connectives that can be used.

Appendix A3 – Writing Activity 3 (post-test)

SETTING UP YOUR OWN BUSINESS
Activity 3

You have 20 minutes to answer the 3 questions that follow.

Jack and Flora's hanging basket business has survived the opening of the garden centre. In order to grow the business further Jack and Flora have identified 3 possible growth strategies.

1.   Which of the three options should Jack choose? Give your reasons.

GROWTH STRATEGY 1
Develop the business as a franchise and sell such opportunities for a franchise fee of £10,000 and then an annual 10% of revenue royalty fee.
GROWTH STRATEGY 2
Develop a nursery and seed centre which will provide them with more stock and will also operate as a garden centre open to the public and other businesses.
GROWTH STRATEGY 3
Sell the business to the local garden centre.

2.   Jack and Flora have decided to expand their business through the use of franchising. Which of the following three situations is most likely to occur? Explain why you have chosen this response.

SITUATION 1
Interest rates increase and would be franchisees are finding it hard to raise the start up franchise fee.
SITUATION 2
The national garden centre chain creates their own hanging basket business.
SITUATION 3
One franchisee purchases seeds and plants from a banned supplier overseas. The media gets hold of the story.

3.   What do you think might happen next? Give your reasons.

Appendix B1 – Marking Scheme for Writing Activity 1 and Writing Activity 3 (pre-test and post-test)

Mark Scheme – Activity 1 and 3 (pre-test and post-test)

4 marks available for each question. Total marks available = 12.

Question 1

1 mark	States an option
2 marks	States one option with one reason
3 marks	States one option with a reason and compares with another option.
4 marks	States one option with reason and compares with two other options.

Question 2

1 mark	States the situation which may occur.
2 marks	States the situation which may occur with one reason.
3 marks	States one situation with a reason and compares with another situation.
4 marks	States one situation with reason and compares with two other situations.

Question 3

1 mark	Explains what will happen next.
2 marks	Explains what will happen next with one reason.
3 marks	Explains what will happen next with one reason and compares with another situation.
4 marks	Explains what will happen next with one reason and compares with two other situations.

Appendix B1 – Marking Scheme for Writing Activity 2 (control and intervention)

Mark Scheme – Activity 2

Total marks available = 20.

Marking based on development of written points.

Question 1 = 5 marks available.

1 mark	1 advantage and 1 disadvantage of one option.
2 marks	1 advantage and 1 disadvantage of two options.
3 – 4 marks	More than one advantage and one disadvantage for 2 options.
5 marks	As above with a reason for a choice of action.

Question 2 = 3 marks available

1 mark	Understanding of what a business plan is.
2 – 3 marks	Explains what information might be put in the business plan - 1 mark per item.

Question 3 = 6 marks available

1 – 2 marks	One reason for writing a business plan and explanation e.g. for bank/investors
3 - 4 marks	Additional reason and explanation e.g. helping with cash flow planning
5 – 6 marks	Additional reason with consideration of the significance of the business plan.

Question 4 = 6 marks available

1 – 2 marks	One potential use of the business plan information and how it will help the business grow. E.g. uses market research to help identify target markets.
3 - 4 marks	Additional explanation of how information can be used and how it will help the business grow. e.g. pinpointing competition.
5 – 6 marks	Additional explanation but may also consider the other factors that might help the business grow.

Appendix C1 – Letter to head teacher

Dear Head teacher

Developing language and literacy in Business Education
As a part time PhD student at the University of Birmingham I am undertaking research into the development of language and literacy in business education.

The research is designed to look at how specific interventions linked to the writing process might lead to improvements in a student's written performance and thus contribute directly to an improvement in performance in their business education course. Two years' work of a Best Practice Research Fellowship within my own school showed a significant improvement in results using such intervention activity.

Having discussed such research activity with _____ at your school, I would like to request permission to involve your Year 10 Business Studies students in this research sample.

The interventions are designed to be structured learning activities that the teacher can easily work into a scheme of work and use in a variety of ways with a class. As a subject leader of Business and IT education I will be designing these interventions myself.

I will need to undertake these interventions with your current Year 10 students. Half of the cohort will receive a specific intervention activity and the other half will form a control group who will undertake the same subject activity but without the intervention stimulus. There will be a pre-test activity which will require the students to undertake a free piece of composition under timed conditions. Following the intervention activity there will be an equivalent post-test activity, which will determine if there is any difference between the intervention group and the control group. If it is felt that the intervention group have benefited from such activities then an action plan will be devised to ensure that <u>all</u> students within the cohort have had access to the learning activities.

In order to measure any improvement in student performance it will be useful to have access to any FFT, KS3 teacher assessment results, or other such baseline information. Data confidentiality will be maintained through identification of students by numbers or letters within groups rather than by name.

I hope that you will be able to offer your co-operation in this research project.

Yours Sincerely

J M Bentham (Mrs)

Appendix C2 – Introductory letter to subject leader /subject teacher

Dear Colleague

Developing language and literacy in Business Education
I am subject leader for Business and Enterprise at King Edward VI High School in Stafford, and as a part of my PhD I am looking to get some research evidence from Year 10 GCSE Business students. My research is about what gets students to write more, and as they write more, how this might improve their written performance.

What I need is for a class of students to take part in 3 x 20 minute writing activities which are then sent to me and I will then mark and provide some analysis of what I find. Ideally these writing activities need to take place over 3 consecutive lessons, and I wondered if you might be able to help at this time of year. The activities are designed to consolidate Unit 1 and may provide some stimulus for the Controlled Assessment. Also, the new specs demand more extended writing for subsequent units, and so hopefully this might help as well.

The returned analysis of student writing may provide you with some data that can be used in any quality assurance or subject review procedures that you have in your school. It will also be from an outsider's perspective and therefore possibly more objective.

There are 3 x 20 minute writing activities. All writing activities need to be conducted under controlled conditions.

Activity 1 is what is called a pre-test activity. All students will do the same activity.

Activity 2 is the intervention activity. Half the class will do Activity 2a. The other half will do Activity 2b. This needs to be allocated in the most random method you can find! Try not to do alphabetical by surname - it is not considered to be random. It is important that the students work under controlled conditions so that they are not aware that one group of them has an intervention activity.

Activity 3 is what is called a post-test activity. All students will do the same activity.

I will need the students to put their names on each piece of work. However, the students will not be identified by name in any research paper. They also need to put the number of the activity on the top of each piece of work.

When the work is complete let me know and if you are able please post it to me at King Edward VI School, West Way, Stafford ST17 9YJ or I will come and get it. When I have marked it I will analyse the results and get that information to you.

I have also included a letter for the head teacher to explain what is being done.

Thank you for taking the time to read and consider my request.

Jo Bentham (Mrs)

307