The Impact of a Visual Approach Used in the Teaching of Grammar When Embedded into Writing Instruction: A Study on the Writing Development of Chinese First Year University Students in a British University in China

Vinita Gaikwad

Submitted to the University of Exeter
as a Thesis for the Degree of
Doctor of Philosophy in Education
in June 2013

I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.

Signature: _____

Date: _June 2013_____

Abstract

Born into a visual culture, today's generation of learners generally prefer a visually-rich multimodal learning environment. Tapping into the potential of visuals in language pedagogy, this study was aimed at discovering the impact of a visual presentation of grammatical concepts related to sentence structure on student writing. The study used a mixed methods design to analyse the impact of the visual approach first by statistically measuring sentence variety and syntactic complexity of student pre and post intervention texts and then using interviews to explain the nature of the impact of visuals on student conceptual understanding and its effect on their writing development. Statistical findings reveal that the experimental groups of Chinese students who were taught grammatical concepts in the context of writing instruction using a visual approach outperformed the students in the control groups who were given similar lessons in the context of writing instruction but using traditional printed hand-outs. Qualitative findings suggest that the visuals seems to have increased these students' conceptual understanding of grammatical items that were taught, and this resulted in more sophisticated and syntactically complex texts after the intervention. The study supports the theory of contextualized teaching of grammar and proposes the use of external visuals that lead to internal visualization based on the cognitive theory of multimodal learning. In so doing, it extends the use of visual learning to grammar pedagogy. However, the findings also suggest that the visual approach would not work effectively in cultures that promote rote learning and decontextualized exercises in grammar with the sole aim of passing the exams. A shift in attitude towards grammar pedagogy in China is deemed necessary.

Acknowledgements

Table of Contents

List of Tables

List of Figures

List of Acronyms/Abbreviations

ANCOVA	Analysis of Covariance
BERA	British Educational Research Association
CAF	Complexity, Accuracy, Fluency
CALL	Computer Assisted Language Learning
CEE	College Entrance Examination
CELE	Centre for English Language Education (at UNNC)
CLT	Communicative Language Teaching
DCT	Dual Code Theory
EAP	English for Academic Purposes
EFL	English as a Foreign Language
ESAP	English for Specific Academic Purposes
ESL	English as a Second Language
L1	First or native language
L2	Second Language
NVivo	(qualitative data analysis software package)
qual.	Qualitative
QUAN	Quantitative
RQ	Research Question
SLA	Second Language Acquisition
SPSS	Statistical Package for Social Sciences
UNNC	University of Nottingham, Ningbo, China
VFA	Visual Formative Assessment
VIE	Visual Input Enhancement

1. CHAPTER ONE: Introduction

1.1 Introduction

In the last five years that I have been teaching English for Academic Purposes in China, I have noted with a sense of gratification the high rate of interest and motivation among the Chinese students to learn English. Whatever the reasons are for this – future business prospects with international clients, further studies abroad, employment in multi-national companies, and so on – the Chinese are enthusiastic about acquiring fluency and accuracy in their use of the English Language.

Despite this enthusiasm, most mainland Chinese students seem to have difficulty in achieving a mastery over grammatical accuracy in their use of the language. One of the theories of Second Language Acquisition (for example, Johnson & Newport, 1989) points out that there are certain difficulties that are inevitable among second language learners as per the theory that language can only be acquired during a particular period of life known by cognitive linguists as the 'critical period'. In light of Krashen's (1981) theory, there is a difference between acquisition and learning, and second language learners do not acquire a second language as they do their first language. This difference is noted especially when despite explicit learning of English grammar in their primary and high school, the Chinese preliminary year students are often unable to demonstrate a level of proficiency that might be expected of them after entering the first year of university. Although this might be a case of overgeneralisation, it is interesting to note that particularly in written texts, Chinese learners are unable to apply their theoretical knowledge of grammar to their writing. There is a considerable amount of gap between their input and output in terms of language use. For instance, a preliminary year university student will successfully answer questions such as define a noun, or identify the two main parts of a sentence, or define a

dependent clause; however, the same student is often unable to produce a sentence that demonstrates linguistic maturity and syntactic complexity that is desirable at their level. This phenomenon might well be true in other second language learning contexts too, but because I am currently working with Chinese students who are in their preliminary year of university studies, I shall focus on the Chinese students' writing skills. I envision that an investigation into the methods that teachers of English might use in order to close the gap between acquired or learned knowledge of grammar and production of written texts of high quality can be of interest to both the teachers and learners of English in the mainland Chinese context.

1.2 The Problem

In Mainland China, English is taught in primary schools and secondary schools as one of the required subjects. My students at university revealed to me that the medium of instruction of English is mainly Mandarin. Explanations of key grammatical concepts or of readings are generally made using Mandarin; thus, providing very little exposure to authentic English usage. This might be one of the reasons why students have theoretical knowledge of sentence construction, but are unable to construct well-formed sentences of their own. The students also mentioned to me that the main focus in high school is to pass the College Entrance Examination (CEE), also known as *Gaokao,* and that all lessons are geared toward gaining skills in answering the typical exam questions. As far as writing is concerned, students are provided with model paragraphs and are trained to use the same sentence patters, only substituting some words of their own. As a result, at university they are often taken by surprise when they are asked to construct sentences in English without being provided a model.

These issues are often echoed in English language teaching literature. Among several others, one study in Hong Kong on undergraduate students reveals that one of the problems in the texts produced by Chinese students is their inability to construct grammatically correct sentences to express their views (Yue, 2010). In my own and that of my colleagues' teaching experience, the essays produced by students in the preliminary year programme offered by the Centre for English Language Education (CELE) at the University of Nottingham, China Campus (UNNC), display a lack of grammatically sound sentences. Moreover, the quality of the sentences they produce, especially during their first year at university, is very poor and generally tutors spend much time in teaching the sentence basics and providing opportunities for authentic use of language. There is also little variety in the types of sentence structures or syntactic complexity that the Chinese learners use in their written texts. Most often I receive essays that are written entirely in a series of short, simple sentences that demonstrates their inability to construct complex sentences.

One of the reasons for this is that grammar is taught traditionally as an isolated subject using the traditional grammar-translation methods which require students to engage in direct-translation, rote learning, drills, and exercises. Although there has been a shift in recent years from traditional approaches to the communicative language teaching (CLT) approach, this has not always shown positive results and has, in fact, led to a new set of problems. For example, Li and Song (2007) complain that teachers focus on the communicative abilities of the students and pay little attention to the grammatical errors they make in the process. They reject the importance of teaching grammar completely and regard grammar teaching as conflicting with communicative activities. Kaisheng (2007, p. 87) presents several other reasons for the failure of the communicative approach such as 'unfavourable learning environment' and 'inconsistent testing systems' for the difficulties faced by CLT proponents. Several studies, (for example, Kaisheng, 2007;

Rao, 1996, and others) have proposed an eclectic approach that combines the traditional and communicative modes of language teaching. These problems of the current methods of teaching grammar indicate that grammar is important and that it is an integral part of teaching English. The centrality of grammar in language teaching, and the lack of emphasis on grammar teaching, has been emphasized by all the recent research in the Chinese context. Therefore, unlike the hot debates on whether or not grammar teaching is necessary after all, the question here is not *whether*, but *how* to teach grammar that has drawn my attention.

One of the major aims of the preliminary year programme at UNNC is to offer a course in English for Academic Purposes (EAP) during the first semester (10 weeks) and a course in English for Specific Academic Purposes (ESAP) during the second semester of the same year. The general objective of a course in English for Academic Purposes is to help overseas students overcome some of the linguistic difficulties involved in studying in English at college (Gillett, 1989). Among the several features of academic writing that a student is encouraged to develop during the first year EAP programme is the skilful use of complex sentences with 'more subordinate clauses and more passives' (Gillett, 2011). However, this is one of the areas that is not explicitly taught during the preliminary year at this university, perhaps because of the assumption that the newly admitted Chinese students already have acquired the level of proficiency that is necessary to produce sentences of various types and complexity. One of the admission requirements is for students to have achieved a minimum score of 115 on the English test as part of the CEE, commonly called G*aokao* ("Entry Requirements," n.d.). However, my own observations and research cited in the previous paragraphs has shown that even after passing the *Gaokao*, Chinese learners find it difficult to write in English without resorting to translation. They are unable to achieve the desired level of syntactic complexity in their texts that is often demonstrated by a skilful use of, among others,

subordinate clauses, verbals and post-positional prepositional phrases. It is not surprising, therefore, that several studies (for example, Fengjuan, 2010; Juan & Jing, 2010) have found that an explicit instruction in grammar to the Chinese learners is necessary, and that when presented in the context of their learning, there are greater chances of their achieving grammatical proficiency. With this regard, I wish to investigate a method that teachers of English can use to help the Chinese learners generate higher quality written texts that are nearly error-free and use a higher degree of syntactic complexity.

1.3 The Theory

It is generally accepted that it is good practice for all teaching to be based on the evidence provided by research in teaching and learning, particularly in the field of second language acquisition. There have been a several theories in the area of second language acquisition about how best to teach English as a second language. I have chosen to pin this investigation to the theory of contextualized teaching of grammar. Specifically, I aim to use the ideas proposed by the theory of teaching grammar in the context of teaching writing for the reason that I believe, along with many other researchers and teachers, that grammar teaching in isolation is not beneficial to English learners. Several scholars (For example, Myhill, Jones, Lines, & Watson, 2012; Myhill, 2010; Nunan, 1998; Weaver, 1996; Wright, 2006, and others) have discussed at great length the advantages of contextualized teaching of grammar. This will be discussed in more detail in the next chapter.

Clearly, the issues mentioned above are worth investigating. Several recent studies on the development of writing skills, in particular a systematic review published by the EPPI Centre in 2004 on whether the teaching of grammar is effective in improving 5-16 year olds' writing by Andrews et al (2005, p. 74), calls for empirical and experimental studies on the "efficacy of different grammar

and different teaching approaches complemented by contextual studies into the development of writing." Acknowledging this need, one recent nation-wide study by Myhill, et al (2012) provided evidence for the first time that the teaching of grammar when embedded into writing instruction does have a positive impact on writing development. However, the study calls for more empirical studies on the role of grammar teaching in writing instruction. I propose to investigate whether a visual instruction on sentence structure within the context of teaching academic writing would help the learners to produce a higher quality of sentence structures in their written texts and help gain syntactic maturity in their texts. Further to this, I propose using the idea of internal visualization to provide explicit instruction on grammar points relevant to their writing tasks, specifically regarding sentence structure.

1.4 Visual Approach

Several studies (Aylward, 2010; Lombardi, 2004, and others) have indicated that visual aids are useful in the teaching of abstract or technical concepts. Apart from the fact that the young generation in today's digital age is born into a visual culture and is constantly exposed to visual communication, it is a well-established fact that generally people retain visual information for a longer period of time in their memory and that visuals help in achieving deeper understanding of complex elements. As will be discussed later in the Literature Review and in the Discussion chapters, committing concepts into long-term memory and complementing this with deeper understanding of the new concepts results in better learning. Moreover, two factors that are particularly meaningful to native Chinese speakers play an important role in their acquisition of English. The first factor is that the most popular language in the mainland of China, Mandarin, is an ideographic language. This means that characters such as those in Chinese written language not only are based upon patterns of signs but also replace ideas (Hansen, 1993). A second factor is that the most

popular multiple intelligences among Chinese learners are the visual/spatial multiple intelligences (Liu, 2008) that influences their learning style. True, the theory of multiple intelligences is highly contested by psychologists, it may be considered a good indicator that at least in their own perception and that of the researchers, the majority of the Chinese students in the study by Liu (2008) were considered visual learners. In addition to that, the remarkable achievements in mathematics of the Chinese students as compared with students of other nationalities have been documented by many researchers (For example, Wang & Lin, 2005). These factors have one thing in common – all of them refer to the use of the visual in learning.

The use of the visual approach in education is not a new concept and has been used extensively in the teaching of the sciences, but it appears that it has not been fully used in the teaching of grammar or of academic writing. Therefore, I have chosen to explore the use of a visual approach to provide explicit grammar instruction to Chinese learners of academic English. Cognitive theory has demonstrated that visuals (such as sentence diagrams and charts) depict, show, and establish relationships and that all learning is the learning of relationships (Ashcraft, 2002). Taking this idea further, a visual approach in the teaching of grammar would mean using visuals to demonstrate relationships between words and sentence parts. In my opinion, understanding the relationship among different words, phrases, and clauses in different types of sentence structures may help students gain great comprehension of grammatical concepts, and help them develop linguistic maturity in sentence construction by embedding ideas meaningfully in different types of sentence structures, thus improving their writing skills. One of the best methods to demonstrate such relationships, in my opinion and experience, is to use a visual approach to present grammatical concepts that are helpful in constructing well-formed sentences.

A visual approach might include presentation of grammatical concepts using verbal and non-verbal language, multi-media such as pictures, diagrams, charts, film, animations, and other audio-visual resources, and most importantly, creating visual imagery that would lead to visualization of certain structures. Due to the fact that these visuals will need to be developed purposefully for the teaching of grammar as there are none available to the researcher's knowledge or access, the investigation will be limited to the use of pictures, charts, graphic organizers, sentence diagrams, and visual imagery. It is my hope that depending on the success rate of the use of visuals in teaching sentence structure, more sophisticated and authentic multimedia resources will be created and made available to those interested in further experimentation with this approach.

Therefore, taking note of the visual culture in which today's generation lives and the access to several types of visual media that they have, this study attempts to investigate whether a visual presentation of grammar concepts within the framework of writing instruction has any impact on the development of writing skills of Chinese students.

1.5 Grammar and the Teaching of Grammar

It is necessary here to clarify what exactly is meant by grammar and grammar teaching in this particular study. Grammar has been defined in various ways by linguists, teachers and educators; however, the definition that is best suitable to this study is that of Crystal (2005): Grammar can be described as "the business of taking language to pieces to see how it works" (cited in Matthews, Potter, & Williams, 2008). The term 'grammar' as used in this study refers to sentence-level grammar only and uses traditional grammar as is taught in mainland Chinese high schools. Other more influential linguistic schools of thought such as Transformational-generative grammar or Systemic Functional were considered but later abandoned because Chinese students

did not seem to be familiar with the concepts as proposed by these linguistic variations. The time and scope of this study did not permit the introduction of these unfamiliar ideas and therefore the safest approach was adopted – that of using traditional grammar and grammatical terminology that the students were already familiar with. This is not to say that the study does not value the distinctions between these schools of thought. In fact, as Matthews et al (2008) warn, eclectic mixes of grammatical theory and terminology are considered amateurish and uninformed and have been accused of de-professionalizing the field of Applied Linguistics. Some linguists have suggested that a common terminology, a meta-language, would help to open channels of communication between researchers and applied linguists (Matthews et al., 2008). The implication here is that the visual approach as proposed in this study may be used with any type of grammar that a teacher wishes to adopt in the teaching of writing – traditional, transformational, functional, or any other.

Having said that, it may be true that the concept of contextualized teaching of grammar is closely associated with the theory of Systemic Functional Grammar that aims to study language as it is in use and interprets language as interrelated sets of options for making meaning and seeks to provide a clear relationship between functions and grammatical systems (Halliday 1994, cited in Ning, 2008). However, using these principles of contextualised teaching of grammar, care will be taken to use minimum terminology and at the same time tailor grammatical content to previous knowledge, proficiency level, and the course syllabus. In this study, for the sake of consistency in the use of grammatical terminology and for my own understanding of grammatical concepts, I referred to *A University Grammar of English* (1973) by Quirk and Greenbaum. However, to design the intervention lessons, I used *The Prentice Hall Writing and Grammar: Communication in Action* by Wilson and Forlini (2001) mainly due to the terminology used in the book that is familiar to the students, and the easy-to-use textbook approach.

1.6 The Research Questions

Although the main concern of this investigation regards the development of writing skills among mainland Chinese students, the aim of this study is to answer the following research question: Does a visual approach used in the teaching of sentence-level grammar and embedded into writing instruction improve students' writing? Specifically, it aims to answer the following six questions:

1. Does a visual approach improve the grammatical correctness of sentence structure in writing?

2. Does a visual approach improve the variety of sentence structures, especially in the use of different subordinate clauses, produced by the students in their written texts?

3. Does a visual approach improve syntactic complexity of the sentences produced by students in their written texts?

4. Does a visual approach improve the quality of their writing?

5. Does a visual approach help students in gaining better understanding of sentence structures?

6. What are students' responses to the visual approach and do they think it helps them?

This study draws conclusions that will inform the prevalent praxis of grammar teaching in China and will influence the decisions and policies of educational organizations and relevant national governing bodies. The findings will particularly help the teachers of English in China to understand and adopt the best practices in second language pedagogy. The findings will also contribute to the research on contextualized grammar instruction and its impact on writing development.

1.7 The structure of the Thesis

I have structured this thesis in eight chapters: *Chapter One* introduces the problem that is addressed by this study by briefly highlighting the ideas that are of immediate relevance to the teaching of grammar and to the visual approach. *Chapter Two* presents a review of existing literature that is categorized in four main sections: Grammar Pedagogy in the L1 and L2 contexts in general and then focused on China; The role of grammar teaching in the development of writing skills; grammar contextualized to the teaching of writing skills; and the use of visuals and visualization. A review of existing research in these areas informs the development of the specific direction this research would subsequently take. *Chapter Three* describes the research methodology that was adopted in this study. Details of the research design, research sample, data collection, data analysis, the intervention, ethical considerations, and strengths and weaknesses of the study are presented in this chapter in order to assist the reader to understand why particular decisions were made as against the other available options. *Chapter Four* and *Chapter Five* present the quantitative and qualitative findings respectively. The quantitative findings are the results of statistical comparison of the pre and post intervention data while the qualitative findings are a record of an analysis based on interviews with a selected sample. Since the study employs mixed methods, specifically explanatory research design, a combined presentation of the findings in *Chapter Six* helps to achieve a deeper understanding of the results of this study. Therefore, *Chapter Six* presents an analysis of the two types of findings in the light of the theories that underpinned this research. *Chapter Seven* presents an in-depth discussion of issues arising from the research findings and discusses how these add to, or contradict in some cases, the present research that is referred to in the literature review. Chapter Eight is the conclusion of the study and presents the implications of the findings for future studies. At the end are appendices that provide additional

information that would benefit the reader. What follows next is Chapter Two, Theoretical

Framework and Literature Review.

2. CHAPTER TWO: Theoretical Framework and Literature Review

In Second Language Acquisition (SLA) research, grammar has always been considered an important aspect of language-learning. While reviewing the existing literature on the subject, I came across various theories that on one extreme claim its absolute importance to language learning, and on the other its utter uselessness. With views ranging from one extreme to the other, it is not an easy task to review the vast body of existing literature on this important and controversial area of language teaching. However, I began by conducting a general reading of articles that were mostly meta-analytic reviews of several studies in language teaching. This initial reading gave me an idea of what exactly were the controversies and what was the current mode of thinking particularly in the area of grammar teaching. Since I aimed to focus on the Chinese students of English, I specifically reviewed information regarding the teaching of English in China. After this stage of initial reading, I carried out an extensive review of literature by systematically organizing a search for research articles through electronic databases such as EBSCO E-Journals, Education Research Complete, JSTOR, ERIC, SAGE and others around the major themes that I thought were closely related to the initial research ideas that I had in mind. As my knowledge developed, I was then able to streamline my search to specific topics that would form the main sections of the review presented below.

2.1 Differences in L1 and L2 Language Learning

Whether or not grammar should be taught formally in class has been debated over the last several decades. The debate has been slightly different in the teaching of English to native speakers (L1) and to second language (L2) learners. This distinction is particularly noted by Finney (2005) who reports a study on the application of the theory of Universal Grammar (Chomsky, 1965) as being

different in L1 and L2 learners. The theory postulates that humans are born with an innate knowledge of universal principles of grammar common to all human languages. However, unlike L1 acquisition, adult L2 acquisition very rarely results in native-like proficiency (Finney, 2005). Gelderen (2010) also notes the difference between grammar teaching in L1 and L2 contexts. In his words, the approach to grammar teaching is different in L1 and L2 contexts. For L1 writing, he says, it is important to be fluent in using certain types of operations (such as adding and deleting information, for example, by using adjectives, subordinate clauses, adverbs) to produce interesting expository texts. For L2 contexts, however, he states, fluency in using linguistic operations is not the first objective. L2 grammar education must focus on the correct use of structures first. Other factors also play a role in the development of writing such as degree of L2 experience and learner characteristics. Because of differences such as these in the human language mechanism for L1 and L2 often L2 pedagogy calls for explicit instruction in grammar. This debatable issue is of particular concern to this study because the trends in language teaching to L1 learners usually influence the trends of teaching English to L2 learners. This furthers the debate on the usefulness of implicit or explicit, or a combination of both, teaching of grammar to second language learners. A more detailed analysis of the trends of grammar pedagogy in L1 situations is presented below closely followed by an analysis of the trends in L2 situation due to the fact that these are inter-related and form the basis for the necessity for, as well as the methods used, in the teaching of grammar that was employed in the intervention for this study.

2.2 Grammar Pedagogy in L1 Contexts

In the Middle Ages grammar was said to discipline the mind and the soul. It was considered "the foundation of all knowledge, the necessary prerequisite for understanding theology and philosophy as well as literature" (Weaver, 1996). However, in the United Kingdom, in the early

1960s grammar teaching was abandoned and removed from the school curriculum. Clark (2010) gives a detailed account of the factors that resulted in the demise of grammar teaching in schools in England and gives an impression that the issue has been more of a political one than an educational one. In 1926 the first government report on the teaching of grammar (*The Newbolt Report*, 1926) argued for the importance of English as a school subject, especially the teaching of Standard English as a written form. This involved the teaching of English grammar that was based on Latin grammar. The methods of teaching included the now severely criticized rote learning of grammar rules and practice through the repeated completion of de-contextualized exercises. This method had traditionally been used for years in England and other countries, and arguably, is still being used in some countries especially in second language learning. (In the present study, this type of grammar and the method of teaching grammar as an isolated subject will be referred to as traditional grammar). It is interesting to note that in England, while traditional grammar was being emphasized by the government, elsewhere research was saying quite the opposite. In America, a report by Braddock et al (1963, pp. 37–38) claimed that: "In view of the widespread agreement of research studies based upon many types of students and teachers, the conclusion can be stated in strong and unqualified terms: the teaching of formal grammar has a negligible or, because it usually displaces some instruction and practice in composition, even a harmful effect on improvement in writing." For many other researchers such as Hartwell (1985), the grammar issue was settled with the publication of this report.

The reasons for the decline of the teaching of grammar in the UK, US, and Australia in the early part of the twentieth century have been discussed in detail by Hudson and Walmsely (2005). Specifically in the case of the UK, they claim that the method of teaching grammar in those days, the type of grammar taught, the emphasis on English Literature by the universities, and the

different linguistic schools of thought about the study of grammar led to the decline of grammar teaching in the schools. "The expulsion of grammar-teaching ushered in a period in which an informed understanding of language and an appropriate meta-language to discuss it in were systematically eradicated from the state school system. Confessions of ignorance about their own language which in any other European culture would be a matter for shame became a matter of pride in the UK…" (Hudson & Walmsley, 2005). In 1975, the second of the four government reports – called 'A Language for Life' (*The Bullock Report*, 1975) -- was published which once again claimed that grammar teaching had no effect in the development of student writing. The report emphasized a shift from grammatical accuracy to 'creative expression' (Clark, 2010). As Hudson and Walmsley (2005) summarize, the general view in education was that grammar could safely be ignored, though a minority of educationists recognized that it would be helpful for teachers to understand it, even if it was not suitable for systematic teaching to children. This idea was supported by the new linguistic schools of thought. Around 1960 a number of alternative theories of grammatical structure emerged: in the USA in 1957 Noam Chomsky introduced transformational grammar (Chomsky, 1957) and in the UK in 1961 Michael Halliday introduced his concept of functional grammar (Halliday, 1994). This descriptive and theoretical work on English grammar marked the start of a new era in UK universities.

Clearly, while grammar teaching was abandoned, and while schools were placing more emphasis on creative expression and the appreciation of literature, linguists were introducing theoretical approaches to the study of grammar in the USA, UK, and Australia, and, importantly, teachers were discussing 'falling standards' of student language proficiency (Clark, 2010; Hudson & Walmsley, 2005; Myhill, 2005). Although the introduction of national literacy strategy was one of the government-led initiatives to raise the standards of literacy in the UK, falling standards in

national tests raised much concern (Myhill, 2005). This was noted in other countries too. According to Myhill (2005, p. 77), in Australia, the results of a National School English Literacy Survey in 1996 indicated that a high number of Australian school children "failed to meet the minimum acceptable literacy standards"; in the USA the National Commission on Writing in 2003 noted that most students produced "immature and unsophisticated texts and did not write with skills expected of them" and national tests revealed a lower achievement rate in writing than in reading. These observations called for a revolution in the teaching of writing. Since then, research on and teaching of English grammar have gone from strength to strength, and especially so in British universities. The UK government has commissioned committees to look into the teaching of English. These committee reports (*The Bullock Report*, 1975, *The Cox Report*, 1989, *The Kingman Report*, 1988, *The Newbolt Report*, 1926) have recommended over the years that knowledge of language is necessary in language learning. Several researchers have implied that if there is a need to include grammar instruction in the acquiring of the knowledge of language, it should be different from traditional grammar teaching that had been abandoned by 1960s (Hudson & Walmsley, 2005; Locke, 2010). The findings, therefore, may be considered as suggesting that it is not grammar teaching *per se* that has the harmful effect on the development of writing, rather it is the traditional methods of grammar teaching that have proved to have no effect on student writing. This important observation is of particular relevance to this study because as has been suggested, it is perhaps the type of grammar and methods of teaching grammar that were detrimental to the development of writing. The idea that this study relies upon is that grammar teaching is indeed necessary not only in the L1 contexts, but also particularly in L2 contexts as will be discussed in the next section (*Section 2.3*).

Another reason for emphasis on grammar teaching as noted by Clark (2010) was that in the 1980s UK experienced social unrest and racial tension which is closely related to the teaching of English as part of the curriculum in schools in the UK. One of the reasons for this social unrest, as Clark (2010) records, was that the government blamed the teachers and the curriculum for failing to teach Standard English resulting in lack of a sense of common national identity. As a result, the government introduced a prescribed national curriculum for English. "The aim of the national literacy strategies introduced in 1998 was to improve the standard of literacy. In 2000, the revised NLS entitled *The National Literacy Strategy: Grammar for Writing* assumed that 'teaching pupils grammar will of itself result in improved writing'" (Clark, 2010, p. 47). Single quoutes are used for the quote within a quote

Two controversial issues regarding the teaching of grammar have been noted in L1 language teaching contexts. At one end is the view that grammar teaching is useful, even necessary, in writing development. At the other end is the view that grammar teaching has a harmful effect on writing development. This premise is still highly contested by researchers in the field. This can be seen in the recent work of the EPPI-Centre. As the most recent initiative to establish what research tells us about grammar teaching, an English Review Group at the University of York, in association with the Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre) of the London Institute of Education was commissioned by the government to undertake a systematic review of research undertaken since the beginning of the 19th century to 2004. The group conducted two international systematic research reviews which focused on different aspects of teaching grammar to improve the quality and accuracy of 5-16-years-olds' writing in English. The committee published a report which showed that there is little evidence to indicate that the teaching of formal grammar is effective (Andrews et al., 2006). However, in his article Andrews

does acknowledge that more research is needed on the issue as views remain polarized, with a belief among some teachers, newspapers and members of the public that such teaching is effective, and among others that it is ineffective. The findings of this review, as explained by Andrews (2005), established that, first, the teaching of syntax appears to have no influence on either the accuracy or quality of written language development for 5 to 16-year-olds; and second, that the teaching of sentence-combining appears to have a more positive effect on writing quality and accuracy. The article calls for more empirical studies: "There is a dearth of evidence for the effective use of grammar teaching of any kind in the development of writing" (Andrews, 2005, p. 75).

In contrast to this view, due to the falling standards of language proficiency as noted earlier, a renewed emphasis on grammar has been noted in recent years. The last decade has seen reviews and news headlines such as "Grammar teaching and writing skills: the research evidence" by Hudson (2001); "Welcoming grammar back into the writing classroom" by Devet (2002); "Grammar is back, but when will we start cooking?" by Vavra (2003); "Grammar is Imperative" *Baltimore Sun* (November 2004, cited in Myhill, 2010); and so on. This renewed interest indicates that some researchers insist that formal teaching of grammar is imperative. Trousdale (2010, p. 80) reports that some teachers who were interviewed in Scotland stated clearly that "explicit teaching of grammar – as part of a more widespread and substantial articulation of knowledge about language in the English classroom – was essential in improving their students' literacy skills." This is true in many countries where grammar is still taught in traditional ways. For example, Gelderen (2010) reports that traditional grammar teaching is very common in the Netherlands.

I would like to conclude this brief review of the historical background of grammar teaching in the L1 contexts by stating that the grammar teaching issue is far from resolved. As Hancock and

Kolln (2010) point out, the grammar wars currently fought seem to be unwinnable by either side. Both seem to assume that "grammar is primarily a set of formal restrictions or constraints, the 'rules' that govern its use are in more formal registers. Therefore, it is either the main goal of writing instruction or a somewhat unfortunate minor concern that has the potential to become a major distraction if given too much attention" (Hancock & Kolln, 2010, p. 34). It is also important to note that much recent research does emphasize that explicit teaching of grammar is necessary; however, as Andrews (2010) states, most of the recent research in the field since 2004 has been in second-language learning. This research study is particularly concerned with the approaches used in L2 grammar teaching. However, it is of significance to note the tensions between the two extreme views regarding the teaching of grammar in L1 contexts because grammar teaching L2 contexts is often influenced by the trends in L1 contexts, and quite often methods of teaching grammar are adopted without a clear understanding of the differences between L1 and L2 teaching contexts. Therefore, we must now turn our attention to grammar teaching in the second language contexts.

2.3 Grammar Pedagogy in L2 Contexts

English is a second language (L2) for over 300 million people who speak another language as their native tongue but also use English to communicate with fellow citizens. In some countries, such as India, where it is estimated about 21 million people speak it fluently as their second language, English is the official language or joint official language for government businesses (Greenbaum & Nelson, 2002). This number has only grown since 2002. In such countries, the teaching of English language takes on a significant role in language education. A broad definition of grammar teaching from a Second Language Acquisition (SLA) perspective was given by Ellis (2006, p. 84):

> *Grammar teaching involves any instructional technique that draws learners' attention to some specific grammatical form in such a way that it helps them either to understand it metalinguistically and/or process it in comprehension and/or production so that they can internalize it.*

Contrasting views regarding traditional methods of teaching grammar in the L1 contexts and the rise of communicative methodology in the late 1970s, caused grammar instruction to be downplayed not only in L1 contexts but also in L2 contexts, especially In China. Research of the time in L1 contexts as seen above suggested that the teaching of grammar was detrimental to the development of writing. This new revelation had a strong influence on English education in China which will be discussed in the next subsection. Meanwhile, it may be worth looking into research in the field of second language acquisition in order to understand the different views with regards to grammar teaching. According to Nassaji and Fotos (2004), recent research has demonstrated the need for formal instruction of grammar for learners to attain high levels of accuracy. This has led to a resurgence of grammar teaching, and its role in second language acquisition has become the focus of much current investigation.

All SLA research is usually guided by one general principle: Effective grammar instruction must complement the processes of L2 acquisition (Batstone & Ellis, 2009). Referring to Krashen's (1987) distinction between conscious learning and unconscious acquisition of language, Nassaji and Fotos (2004, pp. 126–127) first summarize the arguments against grammar teaching: "language should be acquired through natural exposure, not learned through formal instruction. Explicit grammar lessons would develop only declarative knowledge of grammar structures, not the procedural ability to use forms correctly, and there was no interface between these two types of knowledge since they existed as different systems in the brain." However, a large body of literature

supports the view that formal instruction in grammar is of immense value in second language pedagogy.

A theory of SLA is an attempt to show how input, internal processing and linguistic output are related (Ellis, 1985). In this study, 'input' refers to the teaching of grammatical concepts, 'internal processing' refers to internal conceptualizing of the grammatical structures, and 'linguistic output' refers to the application of those grammatical structures in actual writing. According to Ellis (1985), the linguistic output is the main source of information of how a learner acquires a second language. He stated elsewhere (2006) that learners do not always acquire what they have been taught and that for grammar instruction to be effective it needs to take account of how learners develop their inter-language. It is also found that one's understanding of language -- even one's own -- normally far exceeds one's ability to speak it (Davies, 1976).

In SLA, grammar takes the central role in language pedagogy, according to Ellis (1994) and has practical and theoretical motivation. However, the effectiveness of formal instruction depends on the expected outcome and goals of the instruction (Ellis, 1994). Furthermore, Spada (2002 as cited in Nassaji & Fotos, 2004) notes that when learners receive communicative exposure to grammar points introduced through formal instruction, their awareness of the forms becomes longer-lasting and their accuracy of use improves. Nassaji and Fotos (2004) briefly outline four reasons for re-evaluation of grammar as a necessary component of language instruction: first, awareness of form in the target language plays an important role in language learning; second, L2 learners pass through developmental sequences and grammar instruction could be advantageous depending on learner readiness; third, a large body of research has pointed out the inadequacies of language instruction which focuses on communicative aspects neglecting the teaching of grammar;

and fourth, the evidence provided by classroom-based studies of the positive effects of grammar instruction. These four reasons may be considered substantial evidence for the necessity of grammar teaching to L2 learners.

In a study done by Furuhata (1999) in Japan, it was found that the communicative activities may be unfamiliar and uncomfortable to students from other teaching traditions. This was found to be the case because educational systems in these countries emphasize 'rule learning, translation, and reading aloud, and to the students from large classes, limited resources, and teacher's low proficiency in English' (Furey, 1986 qtd. in Furuhata, 1999). Many ESL students have never experienced role-playing, group problem-solving tasks, story retelling exercises, or class discussion (Furuhata, 1999). Moreover, Furuhata (1999) mentions that there is resistance to using these approaches in the class because of the idea that these approaches and the corresponding classroom practices were developed by people with a western cultural perspective. A study by Bowen (n.d.) emphasizes that there are certain types of learners who respond very positively to a grammatical syllabus as it can give them both a set of clear objectives and a clear sense of achievement. Other learners need the security of the mother tongue and the opportunity to relate grammatical structures to mother tongue equivalents. Above all, this type of approach can give learners a basic foundation upon which they can then build their communicative skills (Bowen, n.d.). Thus, unlike the debate in L1 contexts which is more on whether there is a need for grammar instruction at all, the debate in most SLA research is on the explicit and implicit instruction in grammar. Since this study is conducted in an L2 context, it is of particular importance to understand the difference between explicit and implicit learning.

Scholars working in different disciplines or who subscribe to different theoretical schools have argued that L1 acquisition relies principally on processes of implicit learning, whereas the acquisition of an L2 often relies on both implicit learning and explicit learning (Xiao-fei & Tian, 2008). Ellis (2006) uses the term second language learner's explicit and implicit knowledge where he refers to explicit knowledge as the learning language concepts and implicit knowledge as the internalizing of those concepts so as to be able to use them in communication. Gaining implicit knowledge is the goal of explicit teaching, according to Ellis (2006), and most SLA researchers agree that competence in an L2 is primarily a matter of implicit knowledge. This observation is of significance to this study as the aim of the proposed visual approach is for learners to gain implicit knowledge of the concepts through explicit instruction in relevant grammatical concepts using the means of internal visualization. These ideas are discussed more at length in the section on visual approach.

Considering the differences of opinion in explicit and implicit learning, two broad types of grammar teaching activities can be distinguished – those that treat grammar as an object to be studied and analysed and those that treat it as a tool for engaging in effective communication. Most researchers agree with Batstone and Ellis' (2009) position that both types of activity are needed – and, indeed, that the former can serve to guide learner performance in the latter. Therefore, one of the theories that underpin this research is that both explicit and implicit teaching of grammar is important in second language acquisition. The key to successful language acquisition, however, lies in the approaches and methods that are used for instruction. However, it has been noticed that grammar teaching is usually treated separately from the teaching of writing, and it is recommended that instruction in L2 writing include explicit instruction on grammar, lexical forms and rhetorical patterns as exemplified by authentic text and discourse (Nassaji & Fotos, 2004). With

careful consideration of grammar teaching methods such as the visual approach which will be discussed shortly, explicit instruction in grammar can be of benefit to development of writing.

2.3.1   Grammar Pedagogy in China

Chinese students have become the largest international student group in the UK and in the US higher education and it has been predicted that the Chinese university system will become the biggest university system in the world with about 35.5 million students enrolled (Coughlan, 2011). It is, therefore, vital to understand the needs of Chinese ESL students.

For many years grammar has been taught in China in the traditional way – explicitly, using rote learning of grammatical rules and practising them through drills and exercises in isolation. Traditional practices often use decontextualized drills and exercises unrelated to – and sometimes in conflict with – actual uses of language (Collerson 1994, cited in Matthews et al., 2008). Wang-kun (1981) gives a brief history of English teaching in China and mentions three stages: 1. G*rammar-translation* (1862-1922) based on a theory that the logical rules underlying lexicon and grammar were universal and the laws of speech were the same for all languages. This method was not successful due to several factors, but mainly because it consisted of a study of grammar in which the grammatical rules were neither structural nor coherent, and traditional usage was emphasized, quoting sentences mostly from classical works. The study of everyday speech was neglected because it was considered to be "vulgar and of no immediate value"; 2. The *Direct Method* (1922-1949) in which the aim was to learn to speak by speaking, but due to lack of good models the method actually failed; and 3. *Communicative Approach* (after 1949) during which emphasis is placed more on developing fluency rather than accuracy.

In recent years the distinction between implicit and explicit learning and instruction has been widely recognized, and implicit instruction has been actively investigated and advocated. Although more emphasis is being placed on the communicative approach of language teaching (Xiao-fei & Tian, 2008), it is not without some setbacks. In fact, it is a commonly held view that the role of grammar has "suffered in favour of communicative approaches" (Meiring & Norman, 2001). Oka also states that the recent emphasis on the communicative approach is "confronted with a resurgence of grammar because it has failed to instil grammatical competence" (Oka, 2004). Although English has been taught in Chinese schools as part of their curriculum since the establishment of the People's Republic in 1949 (Wang & Lam, 2009), it has been noted with some concern that Chinese students have difficulties in reaching the desired proficiency levels in English that are unique to them with regards to their evolving English curriculum, the methods and approaches used in the teaching of English, and the influence of their first language (Lixin, 2009). For example, various studies in the recent years, such as the one by Juan and Jing (2010), have shown that although Chinese students acquire basic knowledge of sentence formation during their high school studies, they do not transfer that knowledge to their oral or written communication.

With the revision of the English language syllabus in 1993 and later in 2003, there have been drastic changes in the way English is expected to be taught, and a new set of learning objectives require the teachers to change their ways of teaching by using a more communicative approach (Juan & Jing, 2010; Lixin, 2009). However, according to Juan and Jing (2010), the teaching and learning of grammar is necessary in foreign language acquisition. In the average teaching process in China, they say, teachers divide grammar teaching into four stages: a) Presentation; b) Isolation and explanation; c) Practice; and d) Test. They cite problems existing in grammar teaching in China now, that include inconsistency between the goal of teaching and real classroom teaching, ignorance of

teachers and learners, inappropriate textbooks, and negative learning attitudes. Due to these problems, teachers have tried to adapt the communicative approach in order to increase student involvement in learning. However, this shift from traditional approaches to the communicative approach has not shown entirely positive results. For example, Li and Song (2007) complain that the teachers focus so much so on the communicative abilities of the students that pay little attention to the grammatical structure of their students' speech. They reject the importance of teaching grammar completely and regard grammar teaching as "conflicting with communicative activities" (Li & Song, 2007, p. 63). It is no surprise that students produce texts which are below the expected standards of grammatical proficiency. Yu (2001) presents some other factors that have led to the resistance of Communicative Language Teaching (CLT): low income of Chinese English teachers drive them to take up a second or third teaching job resulting in less time in designing their own syllabi to suit learner needs, or put in any extra effort in their lessons; overcrowded classrooms where it is impossible to carry out learner-centred activities; negative attitude towards playing games or role playing in class; and most importantly, lack of qualified English teachers.

Another issue is the exam-oriented teaching in Chinese schools. The focus of all study in high school is on passing the College Entrance Examination called the *Gaokao* which is used to determine who gets to go to college for higher education. As was stated by Beijing (2012, p. 19) "to date, the exam remains the fairest way to give qualified candidates their best shot at higher education." Beijing comments on the importance of successfully completing the exam: "For urban kids, the gaokao may not be as decisive as before, given the diverse choices available. But for those from rural areas, success in the exam is still the only means for them to effect a change in their lives" (2012, p. 19). As such, the three years in high school are dedicated towards preparation and completion of the *Gaokao,* and the goal of grammar teaching is not to enable to students to acquire

proficiency in the language, but to acquire the skills of answering specific types of questions on the *Gaokao* (See [Appendix G](#) for a sample paper).

Despite the problems arising from the current methods of teaching grammar, one fact that has been emphasized by all the recent research in the Chinese context is that grammar is an integral part of teaching English. Several studies (for example, Fengjuan, 2010; Juan & Jing, 2010) have indicated that explicit instruction in grammar to the Chinese learners is necessary, and that when presented in the context of their learning, there are greater chances of them achieving grammatical proficiency and developing writing skills.

One of the writing problems of Chinese learners includes influence of their first language (Mandarin) in the process of composition. As Darus and Ching (2009) state, compared to native speakers, L2 writers use both L1 and L2 for cognitive operations when they are composing in the L2; and that they switch back and forth between their L1 and L2 in order to compose a text. According to the authors, the L2 writers use their L1 to plan their writing for text generation, transfer their L1 knowledge to L2 writing contexts, and develop ideas and produce text content and organization in L1 first before translating it to L2. Although this can have a positive effect, it most often causes writers to make grammatical errors due to different language systems of L1 and L2. Grammatical errors may also be caused by the interference from L2 system itself and may be due to inadequate understanding of grammatical rules of English (Darus & Ching, 2009). A case study by Gonzalez, Chen, and Sanchez (2001) reveals that Chinese writers make grammatical errors in verb tense and conjugation, word order, use of set phrases and articles, and so on, due to negative transfer from their first language. Other reasons are inadequate knowledge and English skills for expressing complex or abstract ideas; unfamiliarity with the cultural components of a topic; heavier focus on

grammar and syntax level than on the communication of meaning or ideas; and unfamiliarity with the cultural conventions of expository writing in the target or native language (Gonzalez et al., 2001). For instance, Gonzalez et al explain that the sequence of modifier-modified in Mandarin extends beyond word pairs (e.g. adjective-noun) to sentences with complex clauses, and also as a principle of discourse organization at the text level. This is evident in errors in sequencing such as in the case of a because-therefore order. Another problem as identified by the case study was the influence of the thinking patterns in the two languages: "The same essays written by a Chinese EFL learner were perceived very differently by Chinese and English native speakers, from a logical thinking pattern for the former, to an incoherent writing for the latter" (Gonzalez et al., 2001, p. 439).

Thus, writing in a second language is not an easy endeavour because, as Leki (1996, cited in Guangwei, 2007, p. 68) says "the development of academic writing competence can be a difficult undertaking... and difficulty of acquiring academic writing competence in a second language (L2) is even greater because an L2 writer has to grapple with a wider range of issues, among which are L2 proficiency and cross-cultural differences."

2.4 The Importance of Grammar in the Development of Writing

The several issues that have been mentioned above have led to a similar debate as in L1 contexts: is the teaching of grammar important in the development of writing skills in L2 contexts? Writing is often regarded as an important skill because it is a medium through which we communicate ideas, opinions, and responses to our circumstances with people who may read the writing in real time or a long time after. There is a kind of permanency attached to writing and, therefore, as a craft it requires proficiency and skill so that the intended meaning is the same as the

interpreted meaning. A study of errors and error analysis would help understand the complexity of second language acquisition.

2.4.1   Errors and Error Analysis

One of the features of L2 developmental writing is the presence of grammatical and rhetorical errors in the texts. An error can be defined as a "deviation from the norms of the target language" (Ellis, 1994). The task of the writing instructor is to help the learner identify and rectify the errors. A focus on the writing process as a pedagogical tool is only appropriate for second language learners if attention is given to linguistic development, and if learners are able to get sufficient and effective feedback with regard to their errors in writing (Myles, 2002). From behaviorist and mentalist perspectives of error, which have emphasized the product (the error itself) to more constructivist views, which focus on underlying process (why the error is made), researchers have attempted to understand the errors in writers' texts by hypothesizing their possible sources (Myles, 2002). As Ellis (1994) says, the field of Error Analysis is closely associated with the work of Corder (1967, 1974) who made out a case for examining errors as a way of investigating learning processes. He also helped to develop a methodology for carrying out an error analysis. As cited in Li and Sun (2010), Corder (1967) noted that errors could be significant in three ways: 1) they provided the teacher with information about how much the learner had learnt; 2) they provided the researcher with evidence of how language was learnt, and 3) they served as devices by which the learner discovered the results of the target language. Error analysis, however, as practiced in the sixties and seventies, was an imperfect research tool. As Corder (1974) suggested, following are the steps in EA research: 1) collection of a sample of learner language; 2) identification of errors; 3) description of errors; 4) explanation of errors; 5) evaluation of errors. However, later research indicated that errors made by L2 learners were of different types and

corresponded to language developmental sequence (Ellis, 1994). For example, a study of learner errors reported by Ellis (1994) showed that although many errors were caused by transferring L1 'habits', many more were not; learners often contributed creatively to the process of learning. It was also indicated that learners appeared to go through stages of acquisition, as the nature of errors they made varied according to their level of development.

There have been several studies in the past that used different methods of analysing errors. Gass & Selinker (1994) identified six steps followed in conducting an error analysis: Collecting data, Identifying errors, Classifying errors, Quantifying errors, Analyzing source of error, and Remediating for errors. The underlying assumption is that students' errors made in grammar are systematic and classifiable. Attention to error type and an understanding of the violation or misuse of specific grammar rules offers teachers a means of helping students deal with language and usage problems. The description of the errors according to various models is usually made by classifying errors into categories such as omission of an element, addition of an unnecessary/incorrect element, choice of an incorrect element, mis-ordering of elements, and incorrect combining of elements.

Although reading an error-filled text can be tiring and disconcerting, errors can help us identify the cognitive strategies that the learner is using to process information. According to Ellis (1985), it is through analysing learner errors that we elevate "the status of errors from undesirability to that of a guide to the inner working of the language learning process" (p. 53). The goal of writing development in L2 is to produce texts that are close to being error-free so that exact meaning is communicated. However, students writing in a second language generally produce texts that contain varying degrees of grammatical and rhetorical errors. In fact, depending on proficiency level, the more content-rich and creative the text, the greater the possibility there is for errors at

the morphosyntactic level (Myles, 2002). Therefore, it is in the interest of the writing instructors to take note of the type and number of errors the L2 writers are making in their particular circumstance.

2.4.2 Syntactic Complexity

Another important feature in the development of writing skills is syntactic complexity. Syntactic complexity (also called syntactic maturity or linguistic complexity) refers to the range of forms that surface in language production and the degree of sophistication of such forms. Development of language proficiency is usually measured by the learners' complexity, accuracy, and fluency (CAF) in the use of target language. Although there are factors that influence CAF such as cognitive task complexity (Kuiken, Mos, & Vedder, 2005), it is generally thought that CAF are reliable indicators of language proficiency, especially if they complement each other. Beers and Nagy (2009) explore the use of syntactic complexity as a predictor of writing quality. Past research has yielded inconsistent findings concerning the relationship of syntactic complexity to measures of writing (see Crowhurst, 1983 for a review). However, it has been acknowledged that good writing requires, among many other things, the effective use of syntactic structures. The relationship between syntactic structure and writing quality is complex, both because there are many other factors that contribute to quality, and because the relationships between syntactic form and quality is genre-dependent (Beers & Nagy, 2009).

According to Ortega (2003), this construct is important in second language research because of the assumption that language development entails among other processes, the growth of an L2 learner's syntactic repertoire and her or his ability to use that repertoire appropriately in a variety of situations. Length of production unit, amount of embedding, range of structural types, and

sophistication of the particular structures deployed in production have all been the target of quantifications when characterizing syntactic complexity, resulting in a variety of global measures (Ortega, 2003). Although, the measures vary across the fields, the main purposes for use of these measures are very similar. In L2 writing research, specifically, syntactic complexity measures have been used to evaluate the effects of a pedagogical intervention on the development of grammar, writing ability, or both (Ortega, 2003).

Fundamental to research in several domains of second language acquisition (SLA) are measures that gauge the three traits of complexity, accuracy, and fluency (CAF) in the language production of learners. According to Norris and Ortega (2009), these measures typically take the form of ratios, frequencies, or formulas. The global estimates they yield when applied to oral and written L2 data are thought to be reflective of theoretically important constructs which are operationalized via qualities of L2 production, such as subordination for syntactic complexity, variety of word types for lexical complexity, errors for accuracy, or pauses for fluency (Norris & Ortega, 2009). The syntactic complexity measures most commonly employed across language-related fields are based on length (of words or clauses, or sentences); amount of subordination (computed by counting all the clauses and dividing them over a given production unit of choice), yielding, for example, the mean number of clauses per T-unit or c-unit. Another measure is the amount of coordination and also a variety of formulas that have been devised to capture variety, sophistication, and so on.

In the case of syntactic complexity, specifically, at a minimum SLA researchers should measure global or general complexity, complexity by subordination, and complexity via phrasal elaboration (Norris & Ortega, 2009). However, Ortega (2003) warns that syntactic complexity

measures can also be misapplied if they were to be used as absolute developmental indices or as direct indices of language ability. 'More complex' may mean 'more developed' in many different ways. At the same time, 'more complex' does not necessarily mean 'better' (Ortega, 2003). Similarly, it would be misguided to equate more linguistically complex writing with 'good' or 'expert' writing. However, it is clear that the syntactic structure of sentences is a crucial component of sentence fluency. A text relying exclusively upon simple sentence structures is unlikely to leave a favorable impression. For sentences to ''vary in length and style,'' or to begin in different ways, the writer must make use of a variety of syntactic structures (Beers & Nagy, 2009). It could be argued that sentence quality and sentence complexity are fundamentally independent. There are good and bad short sentences, and good and bad long sentences. Moreover, it is likely that the exact nature of the relationship between text quality and sentence complexity is not the same for different genres (Beers & Nagy, 2009).

Thus, an improved understanding of the workings of syntactic complexity in L2 writing advances research programmes that investigate the role of L2 proficiency in the development of L2 writing expertise. The accumulated evidence reported by Ortega (2003) indicates that, if employed appropriately and interpreted meaningfully, global metrics of syntactic complexity can be valuable tools in writing development research. As Beers and Naggy (2009) say, it is not surprising that research has failed to identify a simple formula relating sentence complexity and quality. However, the fact that syntactic complexity does not have a strong and direct relationship with writing quality does not mean that it is irrelevant.

It has been established by several studies mentioned earlier in this review, that grammar teaching in isolation does not result in increasing structural complexity and does not benefit writing

development. Just as it has been established in the preceding section that sentence embedding increases syntactic complexity and indicates linguistic maturity to a certain level, so it may be followed that grammar instruction embedded into writing instruction may yield better results in the development of writing. It has been proposed that grammar teaching needs to be contextualized to writing instruction. More about this theory of contextualized teaching of grammar follows.

2.5 Teaching Grammar in the Context of Writing Instruction

One way to meet the challenges presented above is to teach grammar in the context of writing. Context may be defined as "the situation within which something exists or happens and that can help explain it" (*Cambridge Advanced Learner's Dictionary*, 2008). To contextualize means to 'consider something in its context.' Interestingly, the example given by the dictionary is: *We must contextualize a problem before we can understand its origin*.   Therefore, quite simply, grammar in the context of writing might mean teaching grammar points that are relevant to the immediate context of the learner's writing task and may even arise from the text produced by the writer.   Weaver (2010) found that scaffolding the use of grammar during the writing process produces the most long-lasting results, for both writers and their writing. After publishing the EPPI review report that provided evidence that teaching grammar formally had no impact on writing development, Andrews (2010, p. 101) has come to realize that "contextualized grammar teaching might be one aspect of the way forward; and that the distinction between explicit and implicit grammatical knowledge might prove to be a useful one, if we can also distinguish between what teachers and learners need to know." This was perhaps in support of an argument that while it is necessary for teachers to know about language in order to successfully provide students the linguistic choices that they have available, it may not be necessary to require students to attain similar knowledge.

To some language educators contextualizing may mean just another form of communicative language teaching; however, it is more than that. Myhill (2005, 2010) distinguishes contextualized teaching of grammar from merely de-contextualizing it. For her, teaching grammar in context avoids all the worst excesses of prescriptive grammar teaching. However, Myhill (2005, 2010) warns that grammar in context may not be a fully understood concept. She notes that the notion of 'in context' means little more than grammar teaching which is slotted into English lessons, where the focus is not grammar but some other feature of English learning. In other words, 'in context' may simply mean 'not decontextualized'. "The rejection of decontextualized, and with it by implication, prescriptive, grammar teaching was rooted in insightful critique of what was happening in English classrooms. In contrast, the 'grammar in context' principle is both less sharply critiqued and considerably less clearly conceptualized" (Myhill, 2010, p. 135). Some critics complain that we cannot really teach grammar adequately in the context of writing. Weaver (2010, p. 203) acknowledges that they are right, if "our primary aim is to teach grammar rather than writing." It is, therefore, necessary to establish that the purpose for teaching grammar first of all must be to help student writers improve their writing skills. It is with this aim in mind that we must focus on contextualized teaching of grammar.

Myhill (2005) suggests that writing is a social practice, determined and influenced by social, cultural and historical contexts. It is a meaning-making activity, and students need to make connections between grammar and meaning. Therefore, in articulating the theory of contextualizing grammar teaching, she suggests three principles which in brief are: writing is a *communicative* act and any attention to grammar should be informed by this; writers should be encouraged to see the various linguistic choices available to them as *meaning-making resource;* and children should be supported in making *connections* between their various language experiences as

readers, writers and speakers, and in making connections between what they write and how they write it. A recent study conducted by Myhill, et al. (2012) provides robust evidence for the first time the positive benefits of teaching grammar when linked to the teaching of writing. The study acknowledges that there has been ample writing research conducted in recent years, but none in which grammar is taught in the context of writing lessons with a view to developing children's writing (Myhill et al., 2012). The study purports that teaching grammar when embedded into writing instruction helps in the development of writing skills, although the researchers call for more studies to be conducted that test the impact of specific interventions on contextualized grammar teaching.

Thus embedding grammar instruction within writing instruction is seemingly the best way forward. Integrating visuals into the instruction and guiding learners to progressively create mental images of the concepts and visualize structures might add to the positive impact of grammar instruction on the development of writing in the Chinese context. It is with this assumption that I now proceed with a review of existing literature on visuals and visualization.

2.6 Visual Approach

By visual approach I mean complementing the verbal or textual explanation with visuals such as sentence diagrams, charts, PowerPoint presentations, visual imagery, pictures and video clips to teach grammatical concepts, especially of sentence structure, in the context of teaching writing skills. The approach not only makes use of visual images through which information is presented to the learners, but also helps the learner to create mental models, to visualize the sentence structure by mentally creating a sentence diagram, or using visual imagery to help understand sentence structure during the process of text production. The visual approach is based

on the theories of visual cognition and multimodal (broadly, verbal and non-verbal) learning that is currently influencing learning theories in the modern world. I think this approach will have an impact on the learner's conceptualization of grammar points that may be necessary in improving their writing skills because learners today live in a visual culture.

2.6.1   Visual Culture

The present age is often described as the age of information and technology and a common culture among the new generation worldwide is the visual culture. It has been estimated that by age 21, the average student will have spent 10,000 hours on video games… and read for less than 5,000 hours (Bleed, 2005). In 2011, of the world's 4 billion mobile phones in use, 1.08 billion are smartphones that make use of communication using images (Hepburn, 2011). Facebook has grown to more than 800 million active users, adding more than 200 million in a single year. Twitter now has 100 million active users and LinkedIn has over 64 million users in North America alone (Hepburn, 2012). The figures are an indication of how social media have become a significant force in social networking. Social networking includes a rich exchange of images, downloading and uploading of videos, and using images to convey meaning. In China it is not surprising to see students using the latest versions of technology such as i-pads and i-phones to engage in social networking as well as to enhance their knowledge and learning. However, educators seemingly are hesitant to make use of these media to enhance their teaching. Despite the fact that we live in an age where students are surrounded by a visual culture, in most second language teaching contexts, the methods of writing instruction mostly include solely the print media. When we look at the life of a student outside a classroom, we are not surprised to find that most often their daily preoccupation is with visual media. Students spend their time chatting with friends via social networks, exchanging videos, music, and photographs to make their communication richer and

more meaningful. It is crucial to use these technological advances to address the needs of the modern learner especially in language learning. Taking into account this current state of students' preoccupation with visual media, I assume that a visual approach to the study of grammar would make more meaning to these students who would then see the relevance of what they learn to their particular social contexts.

When discussing about the importance and relevance of visual media, it is important to mention the various learning styles of students. Since the publication of Howard Gardner's *Frames of Mind: The Theory of Multiple Intelligences* (1983), there are thousands of schools that claim to use Multiple Intelligences (MI) theory in planning their curricula, evaluation, and/or instructional approach (Liu, 2008). In a study that aimed to find out the distribution of multiple intelligences in Chinese EFL classes, it was found that Chinese undergraduate students show strong Intrapersonal Intelligence and Visual/Spatial Intelligence, while they also show very weak Verbal/Linguistic Intelligence and Intrapersonal Intelligence (Liu, 2008; Wang, 2007). This is an important factor that forms the starting point of this investigation; in that, the Chinese students are generally found to have strong visual/spatial intelligence which makes their learning style more susceptible to visual learning. It is also true, however, that scholars are divided in their opinion about the theory of multiple intelligences and learning styles mostly because of the inadequacy of measurement tools (Wintergerst, DeCapua, & Ann Verna, 2003). Criticisms of the renewed interest in learning styles have focused both on the theoretical origins and justifications for the concept and on problems of definition, measurement and assessment, and others have called attention to false labeling of children in terms of their learning styles which includes overgeneralization and ignoring mixed kinds of learning styles, so leading to false expectations and opportunities for learning (Slack & Norwich, 2007). It is also agreed, as reviewed by Wintergerst et al. (2003), that a major hurdle in assessing

the learning styles of English as a Second Language (ESL) and English as Foreign Language (EFL) students is the development of an instrument with established validity and reliability. This in large part may be due to the difficulty of developing and establishing the reliability and validity of learning styles instruments for non-native speakers of English and/or the realization that learning style preferences change over time (Wintergerst et al., 2003). Another criticism against this theory of MI is that these are not separate intelligences in a meaningful way. It is of vital importance that we move beyond the notion of learning styles and multiple intelligences to the most obvious, general preferences of 21st century learners. As has been mentioned above, today's generation prefers visual modes of communication and social networking; and the question as to which multiple intelligences they use in learning does not arise. What is important here is to consider how, if at all, visuals have been used in Education.

2.6.2 Visuals in Education

We cannot ignore the fact that our students' lives are increasingly influenced by visual images. Glasgow (1994) observes that while our classrooms focus on decoding text and conventional teaching, students outside the classroom are not preoccupied with print, rather, it is the visual images from television, videos, and magazines that draw their attention. According to Semali (2003, p. 271), the explosion of media literacies has "outpaced our pedagogy, our curricula and methods of instruction, and the definitions of what it means to be literate in a multimedia society." In the multimedia world of the Internet and digital television, it seems that the way messages are sent across – in both visual and digital languages -- have multiplied and become part of the out-of-class curriculum (Semali, 2003). George (2002, p. 32) agrees, "For students who have grown up in a technology-saturated and an image-rich culture, questions of communication and composition absolutely will include the visual, not as attendant to the verbal but as complex

communication intricately related to the world around them." Sabau (2008, p. 113) also mentions that students today "not only demand media rich environments, but are comfortable navigating them and manipulating their messages." Thus most of them are involved in visual learning which includes their expert use in manipulating and using visual images. This also indicates the necessity of including visuals in the educational process because the visual, screen-based world is the natural environment for many of today's college students. According to Felten (2008) our technology and culture are producing a large crop of visual learners — digital natives who are intuitive visual communicators and more visually literate than previous generations. This leads to the conclusion that the "visual generation" (McDougall, 2007) is more likely to be made of visual learners. This is because of their enthusiastic immersion in new multimedia forms of communication. According to visual culture theorist Nicholas Mirzoeff (1999, cited in Darts, 2004), the human experience is now more visual and visualized than ever before, and visual culture is not a just part of our everyday lives, it is our everyday lives.

Moving from a general view of visuals as being an important part of the life of these students, we can now consider the use of visuals specifically in the context of learning and education. Citing Ashcraft (2002), Carifio and Perla (2009, p. 406) observe that Gestalt psychology and cognitive theory have convincingly demonstrated that "visuals depict, show, and establish relationships and that all learning is the learning of relationships." This is the basic observation that defines an ever-increasing need for integrating visuals in all teaching and learning. Therefore, it is perhaps necessary to consider the visual culture in which today's students are immersed when discussing current pedagogical issues.

As early as in the 1940s, researchers such as Wernsdroff (1948) had suggested: "The teaching methods which revolve around the theory of audio-visual aids, when properly understood, are so practical and, when thoughtfully employed, so beneficial to the pupil, that their wider adoption in the teaching of modern languages merits consideration." Decades later, Barbousas (2009) represents popular opinion that visual technology promotes the inclusion of children to the modern experience, as if to suggest that the denial of the moving image to educational practice subjects the child to a lack of knowledge. However, interestingly, Ramadas (2009), notes that visual methods in pedagogy are formulated usually without reference to cognitive, historical or philosophical considerations. As if in response to this comment, researchers are now turning to the science of cognition and the theories of learning. In a bid to promote the use of visual aids in language teaching, in the late 1980s, Murr and Williams (1988) wrote an interesting article that enlightened readers about the role the left and right hemispheres of the brain played in the learning a language. According to them, the emphasis on speech and text has meant that the areas of the brain's left hemisphere linked to these types of language processing are well exercised, while spatial reasoning, symbolic processing and pictorial interpretation, which seem to be tied to the right hemisphere, remain largely ignored. "The emphasis on text," they advised, "must be balanced by attention to graphic formats and the visual arts, by raising our consciousness of symbols, connecting text and graphics through language networks and creating a compatibility with our visual culture" (Murr & Williams, 1988, p. 418). This view was further developed by Paivio in the famous Dual Code Theory. In order to understand more fully the role of the verbal and the visual, and the links between them, a brief explanation of dual code theory and other theories of cognition follows.

2.6.3   Theories of Visual Cognition

To begin, we must turn to Paivio's seminal work on Dual Code Theory. The Dual Coding Theory (DCT) hypothesizes that our cognitive processes handle verbal (logogens) and visual (imagens) representations in separate memory channels and that each has a certain capacity for information processing in working memory (Paivio, 1986). In other words, Paivio proposes that verbal stimuli – those which come in verbal form (as speech) – and non-verbal stimuli (as the rest: received through touch, sight, sound, taste) – are processed in different ways by sensory systems that are in common to them both (Paivio, 1986). Gilbert (2010) adds further: the items of verbal and non-verbal information are stored separately in the brain, and the two types of associative structures are capable of 'cross-linking' to form 'referential connections'. Sadoski and Paivio (2001, pp. 42–66) also refer to the DCT to say that the mind has two separate processing systems: the linguistic system and the visual system. In teaching of languages, to refer back to what Murr and Williams (1988) had stated, the linguistic system is often exercised more than the visual system.

It appears that presenting students with a written text accompanied by graphics, as opposed to just written text alone, allows readers to activate and integrate both the visual and the linguistic systems, and this interconnection helps readers generate inferences about the text (Sadoski & Paivio, 2001). However, it is also important to note that only visuals, i.e. visuals without any text, can also hinder learning. According to Carifio and Perla (2009), it is often said that one picture, or visual, is worth a thousand words (of text); but visuals without text are most often just pretty pictures. Using both these systems is often referred to as using multimodal learning. A report on research on multimodal learning through media by Meitiri group commissioned by CISCO Systems (2008) found that recent technological advances through functional Magnetic Resonance Imaging (fMRI) scans confirm a dual coding system through which visuals and text/auditory input are

processed in separate channels, presenting the potential for simultaneous augmentation of learning. The bottom line is that students using well-designed combinations of visuals and text learn more than students who only use text (Metiri Group, 2008). The point to be noted is that while individuals might develop separate verbal and visual representations of the material, when mental referential connections are made between the two modes, learning is enhanced (Mayer & Sims, 1994).

Marcus, Cooper, and Sweller's (1996) mental model theory is an alternative explanation to dual coding theory. This theory, according to Liu (2004) suggests that graphic information is relatively easy to understand because it is concise information. In this, the illustrator has realized and imagined a mental picture for the readers. However, as Liu (2004) writes, written information demands more cognitive processing than graphic information because readers must make their own mental model of the words.

The theories reviewed above suggest that learning is enhanced when learners are presented with information in multiple ways through multimedia. However, it is not to be concluded that instruction using technology in itself enhances learning. In fact, a recent study on the impact of interactive whiteboard technology, which is considered to be highly effective, on medical students' achievement in ESL essay writing in Egypt by Albaaly and Higgins (2012) indicated that though the students' essay-writing skills improved in both groups, the use of the interactive whiteboard had no additional beneficial impact on the experimental group's achievement. According to them, the pedagogical approaches to support learning are more significant than the technology itself (Albaaly & Higgins, 2012). This needs to be kept in view as pedagogical approaches to teaching languages are developed.

Multimedia incorporates the use of sight, sound, and other senses; however, the important point it makes is that the presence of the visual along with the verbal or textual modes enhances cognition. The cognitive theory of multimedia learning by Mayer et al. (2001) have shown that learners are better able to transfer their learning when given multimodal instruction. Multimodal instruction includes both verbal or textual and visual modes. As suggested by the cognitive theory of multimedia learning, ''multimedia presentations have the potential to result in deeper learning and understanding than do presentations that are presented solely in one format'' (Mayer et al., 2001, p. 68). Mayer has done considerable progressive work on the theory of multimedia learning (For example, Mautone & Mayer, 2001; Mayer, 2008; Mayer & Anderson, 1992; Mayer & Johnson, 2008; Mayer & Massa, 2003; Mayer & Sims, 1994; Mayer et al., 2001; Moreno & Mayer, 1999). From these studies, three elements of multimedia learning emerge: "The most relevant elements in a science of learning are (a) dual channels—the idea that humans possess separate channels for processing visual and verbal material; (b) limited capacity—the idea that each channel can process only a small amount of material at any one time; and (c) active processing—the idea that deep learning depends on the learner's cognitive processing during learning (e.g., selecting, organizing, and integrating)" (Mayer, 2008, p. 761).

It is not surprising that today visual literacy is being promoted in a big way. At its most basic, using visual modes encourages the habits of mind we hope to inculcate in students the ability to think critically, and even to think deeply and deliberately, about the images and information they receive from myriad sources (Little, Felten, & Berry, 2010). This is an important point in terms of why this study places a higher importance on the visual mode although it acknowledges the importance and usefulness of all modes of multimedia learning.

In second language learning, especially in the learning of grammatical concepts that may be useful to students in their writing development, a visual presentation of ideas will supposedly provide the necessary connection between language and meaning. It is possible that the digital generation would easily understand grammatical concepts and the complex relationships between various parts of a sentence when presented to them visually. In so doing, it might be possible that L2 writers will develop syntactic complexity in their writing as they visualize the relationships between the components.

2.6.4   Visuals and Visualization

Apparently, multimedia presentations allow learners to hold verbal and pictorial representations at the same time, thus increasing the chances that learners will be able to build mental connections between them. Building connections between verbal and pictorial mental models is an important step in conceptual understanding (Koehler, Thompson, & Phye, 2011). Although most of the literature uses a general term 'visual representation' or 'visualization' to refer to both the use of visual aids and mental concepts, it is less confusing to use the term 'visuals' for external (physical) representations and 'visualization' for internal (mental) representations as suggested by Koehler et al. (2011), Gilbert (2010), and Mathai & Ramadas (2009). Gilbert (2010) explains it this way: Visual representations exist in two ontological forms: *external representations* which are open to inspection by others and *internal representations* which comprise of personal mental constructions of an individual, otherwise known as mental images. This distinction is often linked to memory. Atkinson and Shiffrin (1968) proposed a model of memory based on two types of memory, short-term memory and long-term memory. Short-term memory includes sensory memory and working memory. Sensory memory contains unlimited capacity while working memory contains very limited capacity. Nevertheless, the major problem for both types of memory is the

restricted duration to hold information. If something has been remembered, it means we have successfully moved information from short-term memory to long-term memory. More details follow on these two types of representations.

2.6.4.1   *Visuals or External Representations*

The visualized data that a student faces in a science course is very diverse, ranging from realistic drawings and photographs (e.g., a photo of a pot with boiling water) to highly abstract representations (e.g., the structure of matter or a model of an atom). In fact, science courses are being saturated with visual information (Malamitsa, Kokkotas, & Kasoutas, 2008). Several years ago, Pit Coder (1963) asked an important question: If visual aids are useful for teaching geography, say, or science, then why not languages? As an answer, he redefined visual aids in language-teaching: "Anything which can be seen while the language is being spoken may be a visual aid" (Corder, 1963, p. 85). This includes gestures, body language, facial features, objects, pictures, or even students themselves.

Visual displays are usually included in the materials to serve many purposes: to reproduce major text material in a visual, spatial format; to provide an overview of relevant information; to illustrate relationships among text elements; to summarise the main points; to add numerical data to verbal material; and at the attentional level, to provide variety on the page (Moore & Scevak, 1997). The brain not only wants to make sense of what it learns, but also wants to know that learning has purpose and value. "Simply put, the brain likes explanations. When ESL teachers share with students the why of what they are doing, not just the what and the how, the brain appreciates it and more deeply values the learning" (Lombardi, 2004). All audio-visual materials have positive contributions to language learning as long as they are used at the right time, in the right place (Cakir,

2006). Effective ESL teachers use frontloading, by integrating graphic organizers, using prediction strategies, introducing vocabulary, conducting pair-shares, and presenting video clips, to prepare the brain for the new knowledge to come (Cakir, 2006). Cakir (2006) also states that non-native speakers of a language rely more heavily on visual clues to support their understanding and that it motivates the learner and brings the real world into the classroom.

Visual design refers to the design of the course, the way in which information is presented to the learner. To re-emphasise this point, Nokes and Sappington (2010) state that more than 80 per cent of the information our brains process is visual, so the conclusions we draw about the validity of information are influenced by how the information is presented. According to them, good visual design does not just enhance learning, it affects the way that learners perceive course content. Several studies have shown that including pictures and graphs improves learning and recall. A study performed by researchers Levie and Lentz (cited in Nokes & Sappington, 2010) found that a group following directions that included both text and diagrams performed an astounding 323 per cent better than a comparison group that followed the same directions without the illustrations. In the words of Lambert & Carpenter (2005, p. 20): "As teachers, we have the responsibility to look at our instructional toolbox and make changes to keep pace with the way media engages and challenges learners. Like all educators, we have students who deserve to learn 21st century media skills and literacy to communicate in ways that are relevant in a new century." Gomez (2002) advises that it is time for teachers to take advantage of the way kids entertain themselves today, to employ those same media and the thinking habits they foster for the betterment of student learning.

There are many examples of how visuals can be used in a language class. Apart from pictures and videos, visual organizers too play an important role in language learning. Stokes (n.d.) says that

frameworks, for example, assist learners in visualizing how ideas may be related to prior knowledge, subordinate ideas, and information from other sources. Story maps that can be depicted as vertical or horizontal flow maps, Venn diagrams that are useful in analysing similarities and differences between two or more concepts, and frameworks for webbing that encourage thought regarding the whole and its parts are examples of visual organizers (Stokes, n.d.) .

There is a wealth of research that supports the use of audio/visual aids in a language classroom. In 1946, Johnson (1946, p. 407) had written: "visual aids may be used for the attainment of any or all objectives. In linguistic training, it is rather in the field of grammatical usage, the development of vocabulary and idiom that visual aids are of inestimable value." After years, as Canning-Wilson (2001) states, there is considerable confidence placed in the value of audio-visual aids to enhance the learning of foreign languages, yet there is little empirical data and research to support the proposition that video or visuals facilitate in the learning of foreign languages. According to Winn (1991), graphs show relationships between at least one continuous and one categorical variable, and charts show relationship between categorical variables. These graphs and charts can be used to present the bigger picture, say for example, of the four main types of sentence structures. At one glance the learner can see similarities and differences as well the relationships of different parts of each structure in relation to other structures. The students then build a mental model, and use this in transformational reasoning. Among other benefits of using diagrams, graphs, and charts, some important benefits that could be very useful in the teaching of grammar are listed by Winn (1991)as:

- They can serve as schemata that help to organize information
- They can make abstract ideas more concrete
- They can show how parts are related to each other and form a whole

Copperman et al. (2007) also describe how graphical representation of conceptual knowledge provides a concise and aesthetic format for describing concepts, and the relationships between those concepts. Chen (2004) clarifies in her article that although many people who work with educational technology have the false impression that visual elements are comprised only of graphical images, the visual elements not only include text but also "colour, simple shapes, depth, space, and typography" (Chen, 2004, p. 1). In language teaching, a visual approach can help clarify misconceptions easily. A quick diagram or a sketch can save many words of explanation and much valuable class time. "Visual aids can give reality to what verbally might be misunderstood," and it also helps to "create a situation or context which is outside the classroom walls making the ideas more relevant to the student" (Kreidler, 1971, p. 22). In fact, a single picture presents a whole array of information simultaneously, whereas descriptions present information sequentially. According to Svinicki (2009) simultaneous presentation means that all the components of information can be linked to all the rest of the components at the same time. Sequential presentation means that information must be held in working memory until all the rest of the information is delivered. Unfortunately our working memory has a limit on how long it can hold information and how much information it can hold and we risk cognitive overload (Tindall-Ford, Chandler, & Sweller, 1997) as alluded to in the discussion of the theories of cognition. "It's quite possible that by the time all the information has been delivered, the first bits have been lost, and you're left with the 'gist' of the information rather than its entirety. In visual presentation, however, you have the whole of the information at once available for scanning and sorting" (Svinicki, 2009). For Ramadas (2009) diagrams aid thinking and problem-solving by exploiting certain capabilities of the visual system: like detecting spatial and geometrical relations, efficiently encoding such information and going beyond it to form generalizations and help in transformational reasoning.

2.6.4.2   *Visualization or Internal Representation*

Visual aids can stimulate visual processing that also leads to visualization. According to *Cambridge Advanced Learner's Dictionary* ("Visualize," 2008), to visualize means to form a picture of someone or something in your mind, in order to imagine or remember them while visual is something related to seeing and a visual aid is something that you are shown, such as a picture, film or map in order to help you understand or remember information. The field of research into visualization has, perhaps quite naturally, been dominated by cognitive psychologists (Gilbert, 2010). However, Piaget and Inhelder (1996, cited in Ramadas, 2009) were perhaps the first to study mental visual transformations carried out by children. They proposed that early childhood imagery is 'reproductive' in nature; and the development from reproductive mental imagery to transformational reasoning with images becomes possible with the emergence of mental operations (Ramadas, 2009).

It is important to understand what is meant by visualization in cognitive theory. Internal visual representation derived in the absence of retinal stimulation, is known as visual mental imagery, and is thought to be engaged in a range of cognitive tasks including learning, reasoning, problems solving, and language (Behrmann, 2000). In other words, visual mental imagery is our ability to reactivate and manipulate visual representations in the absence of the corresponding visual stimuli, giving rise to the experience of "seeing with the mind's eye" (Ganis & Schendan, 2011). When seen from the perspective of language learning, this general observation could mean that when specific grammatical concepts are presented using images, they help make mental models that are easily reactivated even in the absence of the visual stimuli. Kosslyn and Moulton (2009) point out that one remarkable aspect of mental imagery is that we can use it to access at

least some aspects of implicit information stored in the memory. This is particularly useful information in light of this study because it shows that visual imagery helps activate implicit information stored in the memory making learning more meaningful. Grammatical concepts presented thus would be stored in implicit memory characterizing it as implicit knowledge which is the goal of explicit grammar teaching. However, as Kosslyn and Moulton (2009) caution, our images are only as good as the implicit information we have stored, and imagery can be prone to flaws.

Visual messages are fundamental to complex mental processing because they provide information and opportunities for analysis that text alone cannot provide (Branch, Brill, & Dohun Kim, 2007). It is the ultimate aim of learners to be able to visualize concepts in order to enhance their learning and reasoning. Whilst visualizations can be produced without overt reference to the external world, many arise from the perception of external representations (Stokes); and the relation between an external representation and visualization will depend on the purpose for, the focus of, and level of attention to, the stimulus provided (Gilbert 2010). Sabau (2008, p. 111) explains it further: "all visual processing begins with visual stimuli and visual thinking includes mental images which are often composed of memories, abstract designs or composites of previous visual stimuli recorded in the long-term memory of the brain. Mental images enable a variety of thinking processes from spatial reasoning to problem solving." Further, he says, the cognitive processes include conceptualizing, creating, imagining, classifying and reasoning along with social cognition (Sabau, 2008). These cognitive skills are vital in the process of developing writing skills. According to Carifio and Perla (2009) mainstream research in cognitive and computer science and artificial intelligence recognizes that verbal, mathematical, and visual systems and displays are all forms of representing deep structure information, and all have their own distinct but similar language.

To describe the relationship between visual perception and visual imagery, Behrmann (2000) writes, "in perception, an external stimulus delivered to the eye activates visual areas of the brain, and is mapped onto a long-term representation that captures some of the critical and invariant properties of the stimulus. During mental imagery, the same long-term representations of the visual appearance of an object are used to activate earlier representations in a top-down fashion through the influence of pre-existing knowledge. Rather than being based on propositional or symbolic representations, mental images appear to embody spatial layout and topography." For example, many experiments have shown that the distance that a subject travels in mental imagery is equivalent to that travelled in perceptual performance (e.g., imagining the distance between New York and Los Angeles vs. looking at a real map to judge the distance) (Behrmann, 2000). The results of another study provides compelling new evidence that subjects have a good metacognitive understanding of their mental imagery and can evaluate the vividness of this imagery in a reliable manner from one moment to the next (Pearson, Rademaker, & Tong, 2011). This notion of the interconnectedness of visual perception, stimulated by external visual representations, and visual imagery or visualization, can be taken further and applied to the development of grammar and writing in second language learning. If students can visualize the structure of, say, a text, or even a sentence, based on previous knowledge presented in the form of, say, a diagram, there may be a chance of better or deeper comprehension of the structure resulting in similar production of text.

Sabau (2008) also explains that various types of images can be used to make abstract concepts easier to understand and to classify information into graphs or diagrams in order to illustrate various ideas and connections between domains of knowledge. Research in developmental psychology, inspired by Vygotsky's (1978) theory of cognition mediated by the social context of the learner, has focused on the relation between visualization and communication.

Vygotsky (1978) emphasizes the role of cultural, social, and historical artefacts; thus, visual images, graphic symbols and models, plans and maps are instrumental in mediating cognition (cited in Ramadas, 2009).

Commenting further on the relationship between visuals and visualization, Ramadas (2009) asserts that the two lead to transformation in order to make meaning: "A particular strength of visual representations, both internal mental ones and external diagrams and concrete models, is that they are amenable to transformations," (Ramadas, 2009). Ramadas reviews the evidence for transformational reasoning in science, linking his research with cognitive analyses of mental transformations and use of diagrams for transformational reasoning by children and adults. He identifies transformational reasoning as a crucial component in the process of making meaning through visual representations. Further, creativity and discovery in the psychological lab is helped, not by imagery alone, but by the ability to transform information between the verbal and imaginal. In this view, a mental image is more like a mental model, not quite a picture in the mind but a scheme for depicting and processing visual, spatial, temporal, causal, or other types of information (Ramadas, 2009). Having established that there is a connection between visuals and visualization, and that this connection enhances learning, it remains to be seen empirically whether their use influences the writing development of L2 learners.

2.6.5   Visuals and Visualization in the Teaching of Grammar and Writing

There have been a considerable number of studies done in language teaching using multimedia. Some examples of research done in this area include a study on the use of video in foreign language teaching (Cakir, 2006); a study on using a visual approach to study a literary novel (Cavanaugh, 2009); visual input enhancement by essay coding (Berent, Kelly, Schmitz, & Kenney,

2009); photo-voice as a visual method to integrate HIV/AIDS education into the English curriculum (Tao & Mitchell, 2010); comic strips to aid L2 learners' reading comprehension (Jun Liu, 2004); pictures in the study of *Macbeth* in a literature classroom (McDonald, 2009); and multimedia in teaching vocabulary and reading comprehension (Plass, Chun, Mayer, & Leutner, 1998) to name a few. In the teaching of *Macbeth*, for example, the teacher used images such as notes, illustrations, historical photos, maps, and movie scenes upon a screen or made use of illustrations, charts, or photos found in the classroom text or other sources to provide students with information and to facilitate discussions (McDonald, 2009). Another example is of a study that explored the efficacy of visual input enhancement, specifically essay enhancement, for facilitating deaf college students' improvement in English grammatical knowledge. Results of this study documented students' significant improvement immediately after a 10-week instructional intervention (Berent et al., 2009). Alyward (2010) developed Visual Formative Assessments (VFA) to solve lack of time in marking and giving textual feedback. According to him, VFAs are powerful because they engage students to coalesce their understanding into a concise visual image. Another study in the learning of the Chinese language was done by Shen (2010). Shen experimented with two methods of encoding: one used verbal encoding only, and the other used verbal encoding and imagery encoding. The study supports dual coding theory and confirms the importance of visual learning in Chinese vocabulary acquisition (Shen, 2010).

As can be seen, much research in the field of second or foreign language learning has been conducted on the use of multimedia, specifically visual media, in the teaching of literature, vocabulary development, and reading as well as listening comprehension. The results from these studies seem to suggest that visuals enhance learning. It is time to investigate the use of these modalities in other aspects of language teaching such as grammar and writing to enhance English

literacy. For example, a meta-analysis of 16 studies was conducted to analyze the effects of Visual Input Enhancement (VIE) by Lee and Huang (2008). They refer to the notion of "noticing" as was put forward by Schmidt (2001). For input to be processed for acquisition by L2 learners, it must first be noticed. Enhancing input using typographical techniques (such as underlining, boldfacing, italicization, capitalization, or other strategies such as colour coding or using different font sizes or types) increases the chance that the visually prominent input will be noticed and will thus establish a trace in long-term memory (Lee & Huang, 2008). Once committed to long-term memory, information is readily accessible for use as the occasion demands. At the end of their study, Lee and Huang (2008) agree that research on the effects of VIE on grammar learning is not yet a fully developed area of inquiry, which is evident from the fact that only four unpublished dissertations and 12 articles published in refereed journal have appeared in the last 15 years or so. More studies in this area are needed. McDougall (2007) puts it succinctly: At present there remains a paucity of research in this area, perhaps because of a reluctance to infer a linear causal relationship between the use of multimedia and academic achievements in other areas where there are many complex and subtle variables at play.

To address the paucity of research in the teaching of all aspects of language learning and especially in the teaching of grammar and writing, teachers and curriculum developers as well as course designers need to address the ways in which information is presented to learners based on the fact that research so far has proved that learning is enhanced when information is presented in multiple modes. "If text can be constructed like buildings, then there are stages that can be figured out and imitated. If pictures can be created from pieces of text, then the abstract becomes concrete and the concrete can be remembered" says Cecil (2009). Similarly, if diagrams can be created from sentences, or if a visual imagery is created to represent the different types of syntactic structures,

then the concept of a complete and meaningful sentence becomes clear and errors can be avoided or rectified during sentence production giving way to creative expression. According to Kempen (2004) grammar rules tend to be rather abstract and difficult for primary and secondary school students to understand and apply; consequently, some explicit instruction in grammar is unavoidable. Sadly, according to him, the revolutionary developments in the cognitive sciences (linguistics, informatics, psychology) over the past decades indeed have hardly affected the teaching of grammar (Kempen, 2004).

The aim of using a visual approach in grammar teaching is to guide students to progress from visual perception to mental modelling to internal visualization. This means using what they see with the eye to deconstruct, analyse, reconstruct, visualize, and create effective sentences. Once again, it should be emphasized that grammar teaching as a decontextualized, isolated activity – whether taught using visual aids such as diagrams – does not have any impact on the development of writing skills. However, this does not negate the impact visuals can have on the conceptualization and cognitive processing of grammar concepts relevant to sentence production.

One of the most basic ways of presenting complex information visually is through a diagram. Although the most basic of aids among the myriad of multiple modes available to teachers today, the sentence diagram can still be regarded as the most useful of all approaches. Decades ago, traditional teaching of grammar incorporated labelling of parts of speech and drawing sentence diagrams to analyse sentence structure. However, many scholars opined that diagramming sentences or parsing sentences, was a useless activity and all it did was teach students how to make diagrams (Reed & Kellogg, 1896). Juffs and Harrington (1995) represent the view that sentence parsing presents more difficulty to students to process sentences rather than their grammatical

competency. In the preface to their book, Reed and Kellogg (1896) defend their use of diagrams: "The fact that the pictorial diagram groups the parts of a sentence according to their offices and relations, and not in the order of speech, has been spoken of as a fault. It is, on the contrary, a merit, for it teaches the pupil to look through the literary order and discover the logical order. He thus learns what the literary order really is, and sees that this may be varied indefinitely, so long as the logical relations are kept clear." Further, Reed and Kellogg (1896) state, the diagram drives the pupil to a most searching examination of the sentence, brings him face to face with every difficulty, and compels a decision on every point (Reed & Kellogg, 1896). On the other hand, some have pointed out that too much diagramming may distract the learners. Reed and Kellogg (1896) admit that there is danger of requiring too much written analysis. When the ordinary constructions have been made clear, diagrams should be used only for the more difficult sentences, or, if the sentences are long, only for the more difficult parts of them. In both oral and written analysis there is danger of repeating what needs no repetition. When the diagram has served its purpose, it should be dropped (Reed & Kellogg, 1896).

Although the activity of diagramming sentences was introduced over a hundred years ago, it can be used even today with a fresh understanding of contextualizing the activity to the students' own writing to make it more meaningful to them. It can not only help the learners to see for themselves the relationships between different sentence parts, it also helps them to visualize the sentence structure that will help them in their own sentence production. In Reed and Kellogg's (1896) words, in written analysis, the simple map, or diagram, found in the following lessons, will enable the pupil to present directly and vividly to the eye the exact function of every clause in the sentence, of every phrase in the clause, and of every word in the phrase—to picture the complete analysis of the sentence, with principal and subordinate parts in their proper relations. It is only by

the aid of such a map, or picture, that the pupil can, at a single view, see the sentence as an organic whole made up of many parts performing various functions and standing in various relations. Without such a map he must labour under the disadvantage of seeing all these things by piecemeal or in succession (Reed & Kellogg, 1896). Such diagrams (that used traditional grammar terminology) were later referred to as Reed and Kellogg diagrams. Reed and Kellogg diagrams were used in this study in preference to other types of more recent sentence diagramming (such as the tree diagrams proposed by Transformational Grammar) mainly because the students in this study were familiar with the traditional grammar terminology and grammatical concepts that are used in the Reed and Kellogg diagrams.

With the introduction of descriptive grammars, especially the Transformational-generative grammar, the use of tree diagrams came into being. The tree diagrams involved the phrase structures as the basic structures on which the remaining branches were attached. At one time the endless flowcharts in the classrooms and the branching tree diagrams of sentences filled the chalkboards which for many did not make any sense (Suhor & Suhor, 1983). However, as Suhor & Suhor (1983) state, some well-planned visual models can be illuminating and can make important and practical distinctions. For example, according to Suhor and Suhor (1983), those tree diagrams provide a theoretical basis for sentence-combining, a very practical classroom technique. However, sentence diagrams of different types are now used only in linguistic descriptions and debates, but hardly recognized as a useful pedagogic activity. It might be worth rediscovering the usefulness of sentence diagrams, along with other visual and multimodal channels, in the teaching of syntactic structures with the aim of helping learners internally visualize and create mental models and to recall the structural relationships during their own sentence production. An interesting example from present times can be given of a course being taught in the English Department at Trinity

College called *Constructing Thought* (Landecker, 2009). The course involves sentence diagramming as proposed by Reed and Kellogg. Students compete with each other collaboratively in teams by making diagrams to analyse a sentence created by the opponent team. "They know how to diagram a sentence -- and they are passionate about it" (Landecker, 2009). With special reference to China, a teacher writes in her blog: "After my stint in China and trying to come to grips with the learning mode the Chinese students' desire…are used to…feel they learn most from… I'm very curious as to whether the Reed-Kellogg diagrams are used in English classes there – the diagrams seem very supportive for the learning style of the Chinese students" (Lister, 2006). Personally, I have learnt various concepts of grammar through diagramming. I took College Composition classes as an L2 learner of English, and learnt how to analyse sentence structure by using both Reed and Kellogg diagrams and Tree diagrams. I loved diagramming sentences and they helped me understand complex sentence structure very well and I mentally pictured the diagrams as I tried to construct my own sentences. My experience with diagrams led me to teach my students in a similar way all through my teaching career and I found that the method seemed to help most, if not all, of them at least in increasing their understanding of grammatical concepts.

Although no specific empirical study has been conducted in studying the impact of the visual approach on the teaching of grammar, many studies have described how teachers have attended to students' everyday engagements with online media and multimodal texts in order to increase their interest and motivation to write as well as to develop academic critical practice (Choo, 2010). A visual grammar of German (Clausing, 1975) was developed in the attempt to use diagrams for analysis and was reportedly quite successful. Clausing (1975) mentions that the use of visuals in teaching grammar and syntax has been neglected; however, he says, that the teachers need to use visuals more effectively in their grammatical explanations. Moreover, as stated by Clausing (1975, p.

109) "Such visual presentations, derived from linguistic insights and principles, are within the reach of every instructor… and can always be improved".

Regarding the teaching of writing, George (2002) realizes that the visual and written communication continue to be held in a kind of tension where the visual in the teaching of writing is considered as "a problematic, something added, an anomaly, a 'new' way of composing, or, somewhat cynically, as a strategy for adding relevance or interest to a required course" (George, 2002, p. 13); however, she believes that some tug of war between words and images or between writing and design can be productive as it brings into relief the multiple dimensions of all forms of communication (George, 2002). An interesting article explores how the enormous increase in technology use among young people has affected their writing and the positive link between this new technology and literacy achievement. A survey found that young people who own blogs or use social networking sites write more often and have more positive attitude towards writing than other youth who do not. For example, comparing exam papers from the past 25 years, Massey (2005, cited in Clark, 2009) found that teenagers nowadays are indeed "ten times more likely to use non-standard English in written exams than in 1980, using colloquial words, informal phrases and text-messaging shorthand – such as m8 for 'mate', 2 instead of 'too' and u for 'you'." However, the same study also found that teenagers now are using far more complex sentence structures, a wider vocabulary and a more accurate use of capital letters, punctuation and spelling. They also type more quickly than any generation before them (Clark, 2009).

Another way in which the visual media can be used is in assessment. Cunnigham and Redmond (2008) advise that foreign-language specialists can ask students to generate flow charts, character maps, Venn Diagrams, and other helpful graphic organizers that encourage the use of the

71

target language while providing a method for assessing the literacy development of the students. In terms of in-class delivery of information, using multimedia presentation software (e.g. *Microsoft Office PowerPoint*), according to Cunnigham and Redmond (2008), provides teachers with an easy method for creating interesting, appropriate, and engaging literacy activities for their students. At the same time, presentations by students can be used for assessment of their language skills. In this regard, sentence diagrams can be used to assess students' understanding of sentence structure that they themselves produced and can help in identifying sentence structure errors. Additionally, as Cunnigham and Redmond (2008) note, visuals produced through the use of technology or shown via technology in the classroom can be easily maintained for access in future instruction, thus providing the teacher with an efficient way to create materials. An area that has been encouraging the use of such technology in language teaching is CALL (Computer Assisted Language Learning). Although visuals have often been used to complement verbal messages typically used in lectures and print lessons, recent advances in graphics technology have prompted multimedia instructional designers to explore the potential of various types of visuals that can be presented via computer.

In China, in particular, as a response to the call for higher quality language delivery and to cultivate global competitors for the soaring economic development of the country, a considerable number of teachers of College English are trying every means to find some suitable approaches to enhance their teaching quality (Liu, 2010). According to Liu (2010), due to the overall development of hardware, an increasing number of computers and multi-media equipment are being installed in classrooms and students as well as teachers now have access to modern equipment. However, Liu records that his study on the use of multimedia in English teaching did not show any statistically significant difference in the communicative performance of English learners. He attributes the main reason to insufficient training of the teachers in the use of multimedia effectively in the language

classroom (Liu, 2010). This is an important observation as it indicates the reasons for promoting and including media, and in particular visual, literacy as a part of school curriculum.

2.6.6   A Need for Visual Literacy

In trying to emphasize the need for and the usefulness of the visual media in the teaching of language skills, and in particular, the teaching of grammar and composition, it is acknowledged that special skills might be required to understand, interpret, and create visual information. In the *Visual Literacy White Paper* commissioned by Adobe Systems, Australia, visual literacy is defined as the ability to construct meaning from visual images, using the critical skills of exploration, critique and reflection (Bamford, 2003). It includes the ability to visualize internally, communicate visually and read and interpret visual images. Visual literacy is what is seen with the eye and what is 'seen' with the mind. Visual literacy includes skills needed to accurately interpret and produce visual and graphical information such as drawings, diagrams, tables, charts, maps, and graphs (Coleman & Goldston, 2011). Although writing about this concept date back to the 1940s, visual literacy has enjoyed something of a revival in recent years because of the growing reliance on imagery associated with new technologies. Bleed (2005) agrees that visual literacy is required of us as much as textual literacy. Most academic programs, however, are centered on reading and writing words. We must expand our concept of literacy to match the reality of today. He quotes Pink, "Although previous success in school and work was heavily dependent on left-brain abilities of logic and analytical talent, right-brain abilities are now the abilities that matter most – artistry, empathy, and seeing the big picture" (cited in Bleed, 2005). Moreover, in order to use media effectively for instruction, instructors need to develop media literacy (Semali, 2003). Apart from developing visual literacy, instructors need to be mindful of the limitations that the visual approach imposes on them.

2.6.7 Limitations in Using a Visual Approach

Using a visual approach in teaching and learning may not be without a few limitations. For one, visual processing is a complex phenomenon, and is, therefore, difficult to understand. According to McDonald (2009), semiotic research suggests that in order to read a multi-modal text effectively, the reader must initially and perhaps unconsciously decode two semiotic systems: the spatial system of design to decode the images and the linear system of the writing to decode the words. The reader then must interpret how the two systems combine to make one overall meaning (McDonald, 2009). Therefore, although multi-modal texts may have simple ways of presenting information, the underlying relationships may be complex. Indeed, in an EFL context, processing multi-modal texts can be seen as extremely complex because learners not only have to process the graphic and written modes, but they also have to translate them into their own language (Liu, 2004). One researcher describes the irony: the visual media, even as they open our eyes, blind us to other realities (Bayne, 2008). In addition to that, Chmela-Jones et al. (2007) warn us that aimless and inadvertent application of visual aids can give rise to misconceptions and confusion. Similarly, shortcomings in the visual aid used can lead to unsuccessful in-context viewing. The unnecessary implementation of visual aids may also have a confusing rather than an enlightening effect (Chmela-Jones et al., 2007). In the use of multimedia, Cakir (2006) suggests that teachers be well-trained in using and exploiting the media, especially video, otherwise, it becomes boring and purposeless for students. Stokes (n.d.) adds, the use of visuals in education, although consistently shown to aid in learning, must be carefully planned. The use of visuals that steer the learner to the exciting or entertaining aspects of presentation rather than encouraging thoughtful analysis of the underlying meaning may interfere with the intent of the lesson. An important point is made by Aylward (2010) that diagrams should be simple so that too much attention is not focused on

drawing the diagrams, and also the diagrams should not call for artistic talent on the part of both students and teachers.

Referring to the theories of visual cognition, special consideration is given to the possibility of cognitive overload in the use of multimedia. The amount of information being processed in working memory at one time is referred to as cognitive load (Chandler & Sweller, 1991). Cognitive-load theory assumes a limited working memory in which all conscious learning and thinking occurs and an effectively unlimited long-term memory that holds a large number of automated schemata that can be brought into working memory for processing (Tindall-Ford et al., 1997). As a consequence of this architecture, cognitive-load theory suggests that information presentation techniques should be designed to reduce the burden on working memory and, therefore, facilitate learning through schema acquisition and automation (Tindall-Ford et al., 1997). In other words, the theory attempts to explain that there is a certain amount of information that can be used and stored in working memory at one time without exceeding our processing capacity (Pastore, 2010). The literature on cognitive overload also refers to this problem as the split-attention effect where the attention of the learner is split by the two or more modes through which information is presented.

These issues may be avoided by careful planning on the part of the language instructor. It might be worth taking a note of Mayer's principles of multimedia design (Mayer & Johnson, 2008):

1. The *multimedia principle*—you use both words (as spoken text) and pictures (as animation or a series of still frames).

2. The *coherence principle*—you minimize any extraneous words or pictures.

3. The *modality principle*—you present the words as narration rather than as on-screen text.

4. The *temporal contiguity principle*—you present the narration at the same time the corresponding event is depicted in the graphics.

Moreover, Mayer (2008) presents ten theoretically grounded and evidence-based principles for the design of multimedia instruction: five principles for reducing extraneous processing, three principles for managing essential processing, and two principles for fostering generative processing:

1. Reduce extraneous material.

2. Highlight essential material.

3. Do not add on-screen text to narrated animation.

4. Place printed words next to corresponding graphics.

5. Present corresponding narration and animation at the same time.

6. Present animation in learner-paced segments.

7. Provide pre-training in the name, location, and characteristics of key components.

8. Present words as spoken text rather than printed text.

9. Present words and pictures rather than words alone.

10. Present words in conversational style rather than formal style.

Following these principles may help reduce the negative impact of visual or multi-modal approach in teaching and learning. Stokes (n.d.) also advises that the use of visuals in education, although consistently shown to aid in learning, must be carefully planned because the use of visuals that steer the learner to the exciting or entertaining aspects of presentation rather than

encouraging thoughtful analysis of the underlying meaning may interfere with the intent of the lesson.

2.7 Summary

In summary, research literature suggests that both implicit and explicit instruction in grammar is essential in second language teaching, and that this instruction when embedded into writing instruction can be more effective. In addition to that, multimodal learning, especially the combination of the verbal and visual modes, can enhance language learning. Therefore, it is appropriate to empirically investigate whether the use of a visual approach (that includes in addition to the verbal explanations the use of visual aids and the visualization of sentence structure with the use of diagrams and visual imagery) has an impact on the development of the writing skills of L2 learners.

3. CHAPTER THREE: Methodology

This study investigates whether a visual presentation of grammatical concepts within the framework of contextualized grammar instruction has any impact on the development of writing of first year English-medium university students in China.

3.1 Philosophical Assumptions of the Research

The views of social science represent strikingly different ways of looking at social reality and are constructed on correspondingly different ways of interpreting it. According to Cohen, et al (2007), we need to approach these conceptions of the social world by examining the explicit and the implicit assumptions underpinning them. In other words, there are always theoretical assumptions involved in research, determining which phenomena are visible and which are invisible and making different educational goals and pedagogical strategies either thinkable or unthinkable (Wegerif, 2008). Some of these assumptions underlying the current study are discussed below.

3.1.1 Ontological, Epistemological, and Methodological Assumptions

The most important philosophical assumptions that guide the research undertaken are those regarding ontology, epistemology, and methodology. Based on these assumptions, and according to tradition, a research takes on distinctive characteristics that label it as either positivist or constructivist/interpretevist.

The ontological issue relates to the nature of reality and its characteristics. According to Bryman (2008) *Objectivism* is an ontological position that implies that social phenomena confront us as external facts that are beyond our reach or influence. It asserts that "social phenomena and

their meanings have an existence that is independent of social actors." *Constructivism*, on the other hand, is an ontological position that asserts that "social phenomena and their meanings are continually being accomplished by social actors." It implies that social phenomena and categories are not only produced through social interaction but that "they are in a constant state of revision" (Bryman, 2008). Knowledge is, therefore, viewed as indeterminate. In other words, as Lincoln and Guba (1994) state, positivists believe that there is a single reality, whereas constructivists believe that there are multiple, constructed realities. Traditionally, these different ontological orientations were considered as belonging to opposing paradigms; however, this idea is now being challenged.

The ontological perspective of this study is derived from the belief that learning is contextually bound, and that "the learning environment (affordances and constraints, as well as its instructional design) will influence the learning process and strategic behaviour of the learner" (cited in Wiklund-Engblom, 2010). As pragmatists would say, the external reality of the learning process is independent of our mind thus agreeing with the positivists and postpositivists; however, they deny that "truth regarding reality can actually be determined" (Teddlie & Tashakkori, 2009). Thus, truth regarding the reality of learning process would be constructed as social reality based upon socio-cultural aspects. Although I do believe that absolute reality exists, such as that of language as a means of communication; I also feel that learning a language is influenced by the socio-cultural environment of the learner.

The ontological positions influence the epistemology of the research. An epistemological issue concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline (Bryman, 2008). *Positivism* is an epistemological position that advocates the application

of the methods of the natural sciences to the study of social reality and beyond. It also entails the following principles as summarized by Bryman (2008):

> *Only phenomena and hence knowledge confirmed by the senses can genuinely be warranted as knowledge; the purpose of theory is to generate hypotheses that can be tested and that will thereby allow explanations of laws to be assessed; knowledge is arrived at through the gathering of facts that provided the basis for laws; science must (and presumably can) be conducted in a way that is value free; and there is a clear distinction between scientific statements and normative statements and a belief that the former are the true domain of the scientist.*

Interpretivism, on the other hand, is a term given to a contrasting epistemology to positivism. It is based upon the view that a strategy is required that "respects the differences between people and the objects of the natural sciences" and as a result the social scientist needs to understand the meaning of social action (Bryman, 2008).

However, recent discussions veer towards the notion that it is not necessary that particular epistemological positions must follow a particular ontological position. According to Scott (2007), proponents of a pragmatic position, among others, argue that it is possible to separate these beliefs from the use of methods and strategies and that both qualitative or quantitative approaches or a combination of the two can be justified on the grounds that "one must judge a research by its practical applicability rather than its truthfulness or its correspondence with an external reality." This idea appealed to me and I found myself examining my research questions that would eventually help me determine how I would find the answers to them. The methods used in a particular study, I now believe, should be guided by the research questions, since the primary concern of any study is to discover the means by which the research questions may best be answered in the practical reality. Therefore, in my understanding, the best approach to answer my major question about what works in the area of grammar pedagogy would be the mixed methods approach.

Teddlie and Tashakkori (2009, p. 87) refer to mixed methods as a third methodological movement that "rejects forced choices between positivism/postpositivism and constructivism with regards to methods, logic, and epistemology." They depict two paradigms associated with mixed methods – pragmatism and transformative perspective – as embracing features associated with both positivist and constructivist points of view. Although both these paradigms are associated with mixed methods, they can be quite divergent. Moreover, many scholars argue that pragmatism is not a paradigm at all. I subscribe to the views presented by Teddlie and Tashakkori and believe that pragmatism is a paradigm that would represent my beliefs regarding 'truth' and 'reality.' Teddlie and Tashakkori (2009) define pragmatism as "a deconstructive paradigm that debunks concepts such as 'truth' and 'reality' and focuses instead on 'what works' as the truth regarding the research questions under investigation" (p. 7-8). The second paradigm, transformative paradigm, as Mertons (2003, quoted in Teddlie and Tashakkori, 2009, p. 87) proposed, "is characterized as placing central importance on the lives and experiences of marginalised groups… and the researcher consciously analyses the asymmetric power relationships and seeks ways to link the results of the inquiry to wider questions of social inequity and social justice." Considering the two definitions of the two paradigms associated with mixed methods, I believe that my study is more strongly associated with the pragmatist point of view.

The core idea of pragmatism, according to Hammersley (2004), is that the meaning of any concept is determined by its practical implications; and that the truth of any judgment is determined in and through practical activity, whether in the context of science or in life more generally. In other words, the focus of pragmatists is on 'what works' in a particular situation. An inquiry according to the pragmatists always starts from a problem that emerges out of previous experience, and always involves taking much of that experience for granted: "Only what is open to

reasonable doubt is questioned, not all that is open to *possible* doubt" (Hammersley, 2004, pp. 848–849). Similarly, the knowledge produced by inquiry cannot be considered as valid with absolute certainty. However, in the long run, inquiry leads to discovery and rectification of errors. To address 'what works' in grammar pedagogy, I consider my inquiry to arise out of a problem that I observed in my experience of teaching English in China. The research questions I wish to address in this study call for both quantitative and qualitative frameworks and therefore considering the pragmatist's view I concluded that a mixed methods design would be the best approach to answer my research questions.

Epistemologically, as Teddlie and Tashakkori (2009, p. 87) explain, mixed methods approach challenges the distinct contrast between objectivity (positivist) and subjectivity (constructivist) and believe that "epistemological issues exist on a continuum, rather than on two opposing poles." I agree with this view and believe that mixed methods research can use a full array of quantitative and qualitative methods in various combinations depending on the research questions of a particular study. I shall proceed to expand on the various combinations used in a mixed methods approach and in the process explain why I chose a particular combination of mixed methods for this study.

3.2 Mixed Methods Research

Although mixed methods research came to be accepted in the 1990s in most academic disciplines it has only recently acquired its position as a distinct and legitimate practice in its own right. Mixed methods is a rapidly emerging research design (Collins & O'Cathain, 2009) and the research strategies are increasingly being employed in social and educational research (Brannen, 2005). According to Collins and O'Cathain (2009) mixed methods research employs the use of two

or more methods in a single research project. Generally, this refers to empirical research that involves the collection and analysis of both qualitative and quantitative data. Furthermore, mixed methods may be defined as a mixing of quantitative and qualitative approaches within a single study, with data integrated at some stage (Collins & O'Cathain, 2009). Some of the advantages of mixed methods research as explained by Bryman (2008, pp. 611–13) are identified as follows:

1. *It provides triangulation – although the technique of triangulation is traditionally associated only with quantitative research methods, in mixed methods it is implied that the results of an investigation employing a method associated with one research strategy are cross-checked against the results of using a method associated with the other research strategy.*

2. *Offset – this implies that the weaknesses of a quantitative or a qualitative method can be offset by including a quantitative or qualitative method that has its own strengths. Each method has its own limitations or 'imperfections' which can be compensated for by using an alternative method.*

3. *Completeness – this indicates that a more complete answer to a research question or set of research questions can be achieved by including both quantitative and qualitative methods. It also implies that the gaps left by one method can be filled by another.*

One of the advantages of mixed methods research advocated by Brannen (n.d.) in a National Council of Research Methods (NCRM) discussion paper is the fact that mixed methods research is an opportunity that deflects attention away from theoretical work that is often specific to particular disciplines, encouraging 'thinking outside the box' – a practice to be welcomed. Taking note of these advantages of mixed methods approach, this study used the qualitative data to provide triangulation to further validate the findings and also to give a sense of 'completion' to the answers of each research question. For example, the interviews provided an insight into why or why didn't the visual approach have an impact on writing development, thus completing the gaps that may have been left by pure quantitative evidence. Only a mixed methods approach could provide answers to the research questions under investigation in a satisfactory manner.

Mason (2006) mentions that the most commonly used logic in mixing the methods, is that researchers wish to add some breadth or depth to their analysis. The *Encyclopaedia of Social Science Research Methods* explains that:

> *The rationale for mixed-method research is that most social research is based on findings deriving from a single research method and, as such, is vulnerable to the accusation that any findings deriving from such a study may lead to incorrect inferences and conclusions if measurement error is affecting those findings. It is rarely possible to estimate how much measurement error is having an impact on a set of findings, so that monomethod research is always suspect in this regard" (Bryman, 2004).*

Further, Bryman (2004) states that the rationale of mixed-method research is underpinned by the principle of triangulation, which implies that researchers should seek to ensure that they are not over-reliant on a single research method and should instead employ more than one measurement procedure when investigating a research problem. Thus, the argument for mixed-method research, which in large part accounts for its growth in popularity, is that it enhances confidence in findings (Bryman, 2004).

However, it is important to also take note of some of the disadvantages that a mixed methods research may impose. According to Brannen (2005), first, researchers may escape exposure to the traditions of a particular discipline and may fail to acquire a secure identity within a discipline. Second, it is important that theory should inform the research questions one poses at the start of a project. However, given that a mixed methods research strategy is determined by practical rather than disciplinary influences, the approaches to theory becomes eclectic and there is a danger that researchers who are not sufficiently grounded before they do their research will import theory when they write it up in order to strengthen or support a particular set of findings. Third, publishing a mixed methods research findings may prove to be very difficult because it

remains the case that most prestigious journals are discipline based and have leanings to particular types of methodology.

Despite the above disadvantages of mixed methods research, this study relied on the current trends that are moving in favour of a combination of methods with the hope that the findings would be accepted as the result of a robust research design that uses the strengths of the two distinct methods. In effect, it was hoped that the evidence that quantitative data would provide would be further explained by the qualitative data providing a deeper insight into the impact of the visual approach on student writing. The use of mixed methods in this way strengthened the validity of the findings and helped gain a deeper understanding of the evidence that will help shape grammar teaching in theory and in practice.

3.2.1   Research Designs in Mixed Methods

Several designs have been used in mixed-methods research in the past; however, Creswell and Plano-Clark (2007) identify four main typologies: *the triangulation design*, where different but complimentary data is obtained on the same topic; *the embedded design*, where one data set plays a supportive secondary role in a study based primarily on the other type of data; *the explanatory design*, where in two phases the researcher uses qualitative data to explain or build on initial quantitative results; and *the exploratory design,* which is based on the premise that quantitative research is inappropriate until exploratory qualitative methods have been used to build a better foundation of understanding.

In this study, I did not integrate the quantitative and qualitative components in order to get one set of findings; rather, I used the qualitative data to help explain or provide a deeper insight

into the impact of the intervention, thus making it **an explanatory design**. In his widely cited typology of mixed methods designs, Creswell (2007) defined an "explanatory design" as one in which the results of an initial quantitative phase are explained by a subsequent qualitative investigation. For instance, I wanted to know statistically whether there was a significant difference in the quality of the written texts before and after the intervention; however, it is of great value for me to gain a deeper insight into the participants' response to the visual approach and the reasons for whether or not, and why, this approach worked for them. Therefore, the statistical findings along with the qualitative data collected through a linguistic analysis of writing samples and through in-depth interviews at the end of the intervention provided a richer insight into the results of the experiment.

3.2.2   Explanatory Design: QUAN →qual

This study aimed to use the Explanatory design which has been explained by Creswell and Plano-Clark (2007). In the study the quantitative approach was used as the dominant aspect and qualitative data was used to explain some aspects of the findings. Furthermore, the two methods were used sequentially according to a design suggested by Teddlie and Tashakkori (2009). The possible permutations of the research designs are presented in terms of both the sequencing and the dominance of qualitative and quantitative methods (Brannen, 2005; Teddlie & Tashakkori, 2009). Many combinations have been suggested over the years by scholars such as Bryman (2004) who presents a fourfold classification of mixed-method studies presented by Morgan (1998) depending on the particular types of data that is used as the principal data followed by other kinds of data; and Creswell (1995) who distinguishes two further types of multi-strategy research in which both quantitative and qualitative research are administered more or less at the same time or the two research strategies have equal status within the overall research plan. These different

types frequently co-occur as the different research methods are employed to examine different aspects of the phenomenon being investigated in mixed methods research.

I considered the array of the different types and designs within mixed methods and keeping in view my research questions, I chose a design that would best assist me in finding suitable answers to these questions. In the design that I chose for this study, the arrow indicates the sequence (quantitative followed by qualitative) and dominance of a method is indicated in capital letters (QUAN). Thus, the pattern: QUAN → qual, which indicates that the main approach (written in all capitals) is followed by the one written in small letters (Teddlie & Tashakkori, 2009, p. 143) which is used to explain and support the statistical findings.

In the present study my aim was to use qualitative data to increase further understanding of the impact of the visual approach on student writing development and to use the subjective responses of the participants to inform, explain, or supplement the quantitative findings. To use Mason's (2006) words, the study used a "rhetorical logic" in which one set of data – the qualitative data -- was used to "embellish" the analysis of the other set – the quantitative data. The figure below displays the type of data collected within each of the QUAN and qual analysis and shows how some emergent themes from the interviews explain or complete the quantitative analysis (*Figure 3.1*):

QUANTITATIVE		qualitative
Statistical analysis of the: • Errors at sentence level • Sentence types to indicate variety of sentence structures • Subordinate clause types to indicate variety of clauses • Subordinate clauses, verbals, and prepositional phrases to indicate syntactic complexity • Scores of the writing samples to indicate overall writing quality	→	Student responses regarding: • The relationship between grammar and writing • The role of visuals in their understanding of sentence structure • The effect of the visual approach on the quality of their writing • The improvement they see themselves in their writing

Figure 3.1: The Mixed Methods Research Model (QUAN → qual)

Considering the ideas gained from my reading from various sources about the design I had chosen for my study, I developed over several drafts the specifics of the design targeted directly to answer each of my research questions. After several drafts, it became clear to me that the first four research questions clearly called for statistical analysis and the remaining two questions called for qualitative analysis. Thus, on the next page, I present the final research design *(Table 3.1)* that I used in this study following the general principle of the mixed methods explanatory design using the sequence QUAN→qual.

3.3 Research Design

The following research design was adopted using the mixed methods approach to address the research questions (*Table 1*):

Research Question	Sample	Instrument	Date collection	Data Analysis
1. Does a visual approach improve the grammatical correctness of sentence structure in writing?	*Convenience sampling* One experimental group = two classes (33 samples); One control group = two classes (31 samples) Total: 64 samples	Error Analysis Framework	Pre and post intervention writing samples from the experiment group Writing samples from the control group at the same points in time.	*Error Analysis* Compared the mean number of errors in the writing samples produced by both groups while controlling for the errors in the pre intervention samples. ANCOVA was used to test the hypothesis.
2. Does a visual approach improve the variety of sentence structures, especially in the use of different subordinate clauses, produced by the students in their written texts?	*Convenience sampling* One experimental group = two classes (33 samples); One control group = two classes (31 samples) Total: 64 samples	Coding framework	Pre and post intervention writing samples from the experiment group Writing samples from the control group at the same points in time.	*Content Analysis* Compared the mean number of sentence types and subordinate clause types produced by both groups while controlling for them in the pre intervention samples. ANCOVA was used for statistical analysis.
3. Does a visual approach improve syntactic complexity of the sentences produced by students in their written texts?	*Convenience sampling* One experimental group = two classes (33 samples); One control group = two classes (31 samples) Total: 64 samples	Coding framework	Pre and post intervention writing samples from the experiment group Writing samples from the control group at the same points in time.	*Content Analysis* Compared the mean number of subordinate clauses, verbals, and prepositional phrases produced by both groups while controlling for them in the pre intervention samples.

				ANCOVA was used for statistical analysis.
4. Does a visual approach improve the quality of their writing?	*Convenience sampling* One experimental group = two classes (33 samples); One control group = two classes (31 samples) Total: 64 samples	Established marking criteria	Pre and post intervention writing samples from the experiment group Writing samples from the control group at the same points in time.	*Content Analysis* Compared the mean score awarded on the writing samples of the two groups while controlling for the pre intervention sample scores. ANCOVA was used for statistical analysis
5. Does a visual approach help students in gaining better understanding of sentence structures?	*Random selection* 25% sub-sample 12 students from the intervention group and 8 students from the control group. Total = 20 students	Semi-structured interview schedule	Interviews Some references to the statistical test results	*Codes used:* Grammar and writing Response to Visual Approach Improvement in their writing Confidence in their knowledge of grammar and sentence structure
6. What are students' responses to the visual approach and do they think it helps them?	*Random selection* 25% sub-sample 12 students from the intervention group and 8 students from the control group. Total = 20 students	Semi-structured interview schedule	Interviews Some references to the statistical test results	*Codes used:* Response to the visual approach Problems in using the visual approach

Table 3.1: The Research Design

3.4 The Sampling Strategy

The importance of sample size in determining the accuracy of the results is the reason that larger samples generate more precise estimates and smaller samples produce less accurate estimates—regardless of the size of the larger population (Morgan, 2008).

There are several sampling strategies as proposed by quantitative studies where the sample type and size determines the validity, reliability, and generalizability of a particular research study. According to Sapsford (2007), a good sampling strategy should ensure that the sample is representative of its population within calculable margins of error; that groups can validly be compared; and that the size of differences or correlations between them in the population can be assessed. Traditionally, the sampling strategies are broadly divided into four groups: probability sampling, purposive sampling, convenience sampling, and mixed methods sampling (Teddlie & Tashakkori, 2009). A Random sample is defined as "one in which every member has an equal, non-zero chance of being selected" (Sapsford, 2007, p. 62). Although random sampling is considered to be the ideal sampling strategy by many scholars, it is highly criticised in social science research, perhaps due to the fact that in this field it is not always possible to obtain randomised samples as most research is conducted in the social or educational settings, and randomized sampling does not necessarily represent more accurate findings than non-randomized ones. In any case, it was impossible to achieve a random sample for this study due to the nature of the setting in which the research was conducted. The classes were assigned by the department and the teacher or the students had no choice but to be part of a particular assigned class.

The sample comprised two experimental groups and two control groups. The study employed **convenience sampling** which according to Teddlie and Tashakkori (2009) involves

drawing samples that are both easily accessible and willing to participate in a study. Although they warn that participants in convenience sampling "may not be the most appropriate to answer the research questions," and may "often result in biased data," the sample in this study may well be considered the most appropriate as they had common sociocultural and academic characteristics of the type of participants required for the study in order to answer each of the research questions.

I had no other choice but to use convenience sampling for this study due to the fact that being one of the tutors in the department, I was assigned two writing classes which comprised of 17 and 18 students respectively. The students were of mixed gender, similar ability and level of English. A total of 35 students formed the two experiment groups. The control groups were taught by two different tutors who each had a class of 18 students, making a total of 36 students in the control group. The total number of participants for the study was 71 (35+36=71). The circumstances of my work dictated the sample size in my study as there was no way I could enrol more students in my writing classes, or teach more writing classes than I was assigned. The sample was small but it was a fair representation of about 1500 students enrolled in the first year at the Centre of English Language Education at the University of Nottingham, Ningbo, China. As Morgan (2008) has stated in most qualitative studies, the goals of the research emphasize an in-depth and highly contextualized understanding of specific phenomena, and such goals are well-suited to small sample sizes. For these purposes, qualitative researchers are well justified in using criteria such as *saturation* or redundancy in the data collection, rather than statistical criteria, as a standard for determining sample size—especially when the alternative is to be 'drowning' in more data than it is possible to analyze (Morgan, 2008). I agree with this view as qualitative data formed an important part in the mixed methods employed by this study and it was important to find in-depth answers to the research questions that called for qualitative analysis. A small sample size was even desirable to

this end. Moreover, since I was using both quantitative and qualitative data, it was important for me to acquire manageable data in order to get meaningful findings.

Furthermore, from the point of view of actual intervention, the method required the use of visuals, including sentence diagramming, which was an unfamiliar concept to my colleagues who could have participated in the research by conducting the intervention along with me. This would have afforded a bigger sample for the project. Unfortunately, it was not possible for me to provide training to my colleagues prior to the intervention due to the limited time and tutor unavailability. Therefore, I proceeded to work with the sample size available to me. I do acknowledge that because of a small sample size I may not be able to generalize my findings, but I believe that the findings can be a starting point for further investigation into the field.

3.5 Background of the Participants

The participants in the study were students who had just completed their senior secondary school and had chosen to pursue their first degree at Nottingham University Ningbo China. This university is a branch campus of the main university at Nottingham, UK, and it follows British style of education. Students are admitted into the university based on previous qualifications and a score of 115 in their College Entrance Examination (CEE) ("Entry Requirements," n.d.). All students are placed in the first year programme which is designed to help students make a transition firstly from high school to college and secondly from Chinese system of education to British system of education. After a brief orientation, students are placed into cohorts based on their chosen majors and are assigned courses that are meant to provide sufficient language skills to proceed to a full-fledged English academic environment. Attempts are made by the department to distribute equal number of students across the department with classes ranging from 16 to 18 students. Attempts

are also made to ensure the classes are gender-balanced, although this is not possible at all times in all majors.

The research questions in the investigation did not call for a comparison of variables such as gender, age, or major area of study. The only point that was considered was the level of linguistic fluency of the students. As their admission requirements would suggest, the students had similar linguistic ability and were at similar level of maturity. All the students were Chinese nationals and had received their primary and high school education in mainland China, except for one student who had received some of her primary and high school education in Taiwan. All the participants spoke Mandarin as their common first language and had studied English as a foreign language in their previous education.

Although these groups were formed based on the students' chosen majors, the students had not yet been introduced to courses in their majors and had not yet gained any discipline-specific knowledge that would set them apart from each other. All students had completed their first semester of English for Academic Purposes (EAP) and were headed towards English for Specific Academic Purposes (ESAP) in the second semester. Students were expected to enter into their disciplines after completing the first year programme at the end of the second semester. I must say that all the groups participated in the project and remained enthusiastic about it till the end of the semester. In the following section I shall explain in detail the process of data collection.

3.6 Data Collection

Before I began actual data collection, I conducted a pilot study at the same research location.

3.6.1   Pilot Study

A pilot study was conducted in the first semester of the academic year 2010-2011. The intervention was piloted with one writing class of 17 students and compared with another class of 17 students who acted as the control group. I taught both the groups the same content regarding sentence structure using visuals to one group and printed hand-outs to another group. 34 writing samples were collected and analysed and four students volunteered for an interview at the end of the semester. The pilot study was very useful as it provided first-hand experience for every aspect of the research and provided an opportunity to learn from mistakes and refine the research strategy even further. One of the lessons learnt from the pilot study was about the interviews. The four students in the pilot study were from the experimental groups. I realized that I needed to interview students from the control croup as well in order to find points of comparison for my study. I also realized that I had to refine some of the questions I was asking because I found myself having to explain some questions to the students and I became aware that I might be leading them to the answers I wanted to hear. I also realized that at times when the students searched for words in their mind to express themselves, I often came in to assist them in response to which they simply echoed what I had just said. I realized that I couldn't have used this data for analysis. I took suggestions from my colleagues and my supervisor to rephrase the questions so as to make them clearer and reread the literature about conducting interviews in order to refine my interviewing skills. Regarding the writing samples, I realized that it was important to use writing prompts that enabled students to attempt tasks that matched their proficiency level and exhibited a level of difficulty and that was suitable to them at the particular point in time when the samples were collected. As for the intervention itself, I realized that I would need to develop visuals and hand-outs that would fit in with the course learning outcomes which were slightly different from the outcomes in the first semester when the pilot study was conducted.

3.6.2   Writing Samples

When the actual research study began in the second semester, all participants in the experiment and control groups were informed of the intentions of the research and were asked to write two writing samples, one before and one after the intervention. The writing samples were to be analysed to answer research questions that required statistical analysis. As was explained in the section on Sampling Strategy (3.4), the target total was 71, the number of participants who participated in the intervention; however, the total number of writing samples collected at both times amounted to 64 as 7 students were absent on the day when either the pre-intervention or the post-intervention sample was collected. Therefore, all analysis was based on a sample of 64, where the number of samples from the experimental groups was 33 (N = 33) and the number of the samples from the control groups was 31 (N = 31).

The **pre-intervention writing sample** (*see Appendix A)* was collected from all the participants. The writing prompt was carefully chosen on a topic that was simple and at a suitable level of difficulty. The participants were asked to write an essay in which they would explain why they thought higher education was important in modern society. They were asked to write no more than 500 words in 30 minutes in class. Dictionaries or other writing tools were not permitted. The students were encouraged to seek clarification if they needed help in understanding the task. As none of the participants exhibited any signs of needing clarification, it was assumed that all writers had understood the question and had no difficulty in completing the task. A total of 35 essays were collected from the experiment groups and a total of 34 essays were collected from the control groups (2 students from the control groups were absent) making a total of 69 pre-intervention writing samples.

Similarly, a **post intervention writing sample** (*see Appendix B*) was collected at the end of the intervention. The prompt for this sample was also chosen carefully keeping in mind the level of difficulty the students were expected to have reached at the end of the academic year and had gained sufficient knowledge and experience of writing academic essays of various types. The prompt reflected the types of writing that was taught during the semester. The types of essays taught over the semester included Cause and Effect, Argumentative, and Evaluative types of essays. The participants were asked to write an essay in which they were to explain whether they agreed with the statement that 'Studying academic English in the first year at UNNC is necessary for Chinese students.' They were asked to support their stance by giving reasons and personal observations. The students were allowed 30 minutes to write no more than 500 words. Again, the students were encouraged to seek clarification in case they did not understand the task, but it was apparent that they had understood the task and were eager to write their opinion on this topic that was being debated among student social circles. A total of 33 essays were collected from the experiment groups (2 students were absent) and a total of 33 essays were collected from the control groups (3 students were absent), making the total to 66 post-intervention samples.

Due to a total of seven absentees at a date when either pre or post intervention samples were collected, a final total of 64 samples were used as a complete set that was to be analyzed. As described earlier, the 64 writing samples (Experiment *N*=33; Control *N*=31) were from students who completed both the pre and the post intervention tasks. A student may have produced a writing sample at either of the two sample collecting points, but if he or she was absent on one of points, the other sample was automatically discarded.

3.6.3   Interviews

The second type of data collected was through semi-structured interviews. At the end of the intervention in week 11, a sub sample of approximately 25 per cent of the total targeted sample was interviewed in order to address the research questions that called for qualitative data. This sub sample was obtained by asking students to volunteer from all groups. The sample consisted of 12 volunteers from the experiment groups, and 8 volunteers from the control groups. These were evenly distributed within each group.

These 20 participants were interviewed in order to collect data about their response to visual teaching of grammar and to find out whether or not their understanding of sentence structure had increased. Although information about the visual approach was mostly taken from those who went through the intervention, the control group participants were also asked to give their opinion after a brief demonstration of some visuals that were used with the experiment groups. These twenty students were interviewed in pairs thus making ten interview sessions. The participants were invited to share their thoughts in pairs in order to avoid hesitation or inhibition on the part of the shy students who might otherwise feel intimidated. It was thought that when with a friend, they might feel more relaxed and more willing to open up. The interviews were recorded using a small digital device and then were transcribed by listening and directly typing onto the computer. At first shorthand and symbols were used to transcribe the audios and then later the scripts were revised and written in comprehensible structures. The audios were replayed repeatedly until the script resembled the spoken words almost exactly as they were spoken. Pauses, mistakes, repetitions, as well as voice fillers were also noted as they help in the interpretation of what was being said or not said.

The interviews were semi-structured and a few questions were pre-planned (*see Appendix F*). However, as conversations flowed naturally during the interviews, several other questions were asked and comments were made, and interesting dialogues ensued occasionally between the participants. The first part of the interview schedule was designed to be used with all the participants regardless of whether they were from the experiment groups or control groups. This was because it was not considered necessary to categorize their responses separately as no comparison between the two groups was called for by the research questions. The questions on the experience with the visual approach were only asked to the experiment groups. However, it was also assumed that if the control groups were briefly introduced to the idea of the visual approach and a demonstration of some visuals given to them, it would be interesting to record their first impression of the approach. Therefore, after a brief demonstration along with some explanation of the concepts as well as the visuals, the interviewees from the control groups were asked to share their initial response to such an approach and whether they thought this approach would work with students in general in China. The semi-structured interview schedule included questions relevant to theoretical constructs. These are shown below:

Theoretical constructs	Theories referred
The importance of studying grammar in second language acquisition	SLA theories of grammar acquisition
Relationship between grammar (specifically, sentence structure) and writing skills	Teaching grammar in the writing context
Methods of teaching/studying grammar (specifically in China)	Explicit vs implicit teaching Communicative approach Grammar translation etc. used in Chinese secondary schools Exam-driven teaching
Visual approach vs. traditional approach	Multi-modal learning vs. mono modal learning
Response to specific types of visuals and their influence on understanding	Multi-modal learning Visuals (external)/visualization (internal) Theories of cognition (Dual-code theory) Cognitive over-load
Relationship of visuals to writing skills	Receptive and productive skills

Table 3.2: Theoretical Constructs Used to Develop the Interview Schedule

The theoretical constructs informed the types of codes that were used to code each interview script during analysis. More on this will follow in the section on Data Analysis (*Section 3.9*). The next section describes the intervention – the most important part of the research project.

3.7 The Intervention

3.7.1 The Experiment Groups

I was fortunate to teach the two experimental classes. Because it was impossible to provide training to teachers in the use of the visual approach in a short period of time, the initial idea of asking another teacher to conduct the experiment with one of the two groups was eventually dropped during the planning of the intervention. The experimental groups received an intervention that focused on a visual presentation of grammatical concepts such as different sentence structures within the context of their writing tasks. The visuals were used over 8 weeks during the regular reading and writing lessons developed by the department.

The experiment groups received through various visuals (see *Figures 3.2* and *3.3* for some examples) and related activities the same information that was also given to the control groups. For example, the control groups analysed the sentences by identifying sentence parts whereas the experiment groups used sentence diagrams. At the end of eight weeks, the experiment was closed and time was given to the students to complete their essays for course assessment. During the last week (the 11th week of the semester) the post intervention writing task was administered. The same writing prompt was given to both the control and experimental groups. The theoretical constructs that informed the intervention are discussed below:

3.7.2 Contextualized instruction

Based on the theory of teaching grammar in the context of teaching writing, the intervention focused on drawing out grammatical concepts that were relevant to the development of their writing skills. The examples chosen for analysis were taken from their own written texts and were on the topics under discussion. A new concept of grammar was introduced to the students in response to the misuse of or absence of the grammatical feature. For example, different types of sentence structures were introduced visually after arriving at a conclusion in the class that there was need for variety in the sentence structures in the written texts. Visual imagery was used to help students identify and understand the composition of different sentence structures. A detailed description of what visual imagery means and how it has been used in cognitive science is found in the Literature Review chapter (*section 2.6.4*); however, a brief explanation is provided in *section 3.7.4* below. In addition to visual imagery, sentence diagrams were used to analyse different sentence structures and understand the function of different parts of the sentence in relation to the whole. Charts were also used to introduce a bigger picture of the concepts being taught. Overall, the following activities made up the intervention:

3.7.3 Error Analysis and Self-correction

Common grammatical errors were identified and analysed using sentence diagrams and making references to the charts. Some of the common errors included sentence fragments, missing sentence elements, run-on sentences or comma splices, misplaced sentence parts or word order, incorrect combining of ideas, faulty parallelism, and lack of structural clarity. Most error analysis was done during revision and rewriting of their coursework essay drafts.

3.7.4   Syntactic Complexity

The students were encouraged to achieve syntactic complexity in their writing by using a larger number of and variety of subordinate clauses, prepositional phrases and verbals such as gerunds, infinitives and participles. The concepts were introduced using visuals such as diagrams and charts. These are described more in detail below.

3.7.5   Visual Approach

Visuals were used to introduce new grammatical concepts and also to analyse the sentences during editing and rewriting their tasks. The visuals ranged from charts, sentence diagrams, and pictures, to visual imagery that helped them to visualize sentence structures as they were constructing sentences or analysing errors. Below are details of the types of visuals that were used in the intervention:

Type of Visual	Application and Use
Pictures	These were used to teach concepts such as prepositional phrases and their functions in a sentence. For example, a picture of a man sitting on the floor with a laptop in his lap (*see Figure 3.2*) was used to encourage students to create sentences with prepositional phrases in order to enhance the syntactic complexity in their sentence structures. The sentences were then typed onto the slide and function of each prepositional phrase was examined. This activity was done as the students were learning about Cause and Effect essays and the topic of discussion was "the effects of advanced technology."
Sentence Diagrams	Diagrams were used to analyse sentences and their parts and also to identify common structural errors. The students were taught the basics of sentence diagrams as proposed by Read and Kellogg (*See further description below this table*). They drew diagrams of complex sentences in order to understand the structure and the function of each sentence part. Most of these sentences were taken from students' own written texts. The objective of the exercise was to help them see the important elements of a sentence (in order to avoid sentence fragments or incomplete sentences and run-on sentences) and identify such errors in their own texts. It was assumed that after some time of repeated activity, the students would internalize these diagrams and would not need to physically draw the diagrams. They would then draw mental diagrams and fit sentence parts to analyse the structure and identify errors. It was also considered a quick way of finding out the more difficult concepts and addressing them in class.
Charts	Charts were used to provide a bigger picture of the concept being introduced. For example, one chart showed briefly the four different structure types. Short explanations were given for each type and the students were able to see and compare or distinguish one structure from the other. Similarly, another chart displayed the three main types of subordinate clauses. Yet another one displayed the three types of verbals. These charts were introduced and then displayed on the classroom walls for student reference as they wrote their texts.
Visual Imagery	Along with the charts was introduced visual imagery. For example, simple sentences were represented by a single adult while compound sentenced were represented by a couple holding hands. The idea was to show adults as being independent people. A baby, on the other hand, represented a dependent or subordinate clause and was usually pictured along with an adult representing a complex sentence. A family of parents and a baby or babies represented a compound-complex sentence (*see Figure 3.3).* When the students tried to improve their sentences during review, they were encouraged to visualise these ideas as they tried to bring variety into their sentence construction. The imagery was used with the assumption that it would enhance their understanding of the concept.

Table 3.3: Types of Visuals Used in the Intervention

Figure 3.2: Image used to teach prepositional phrases
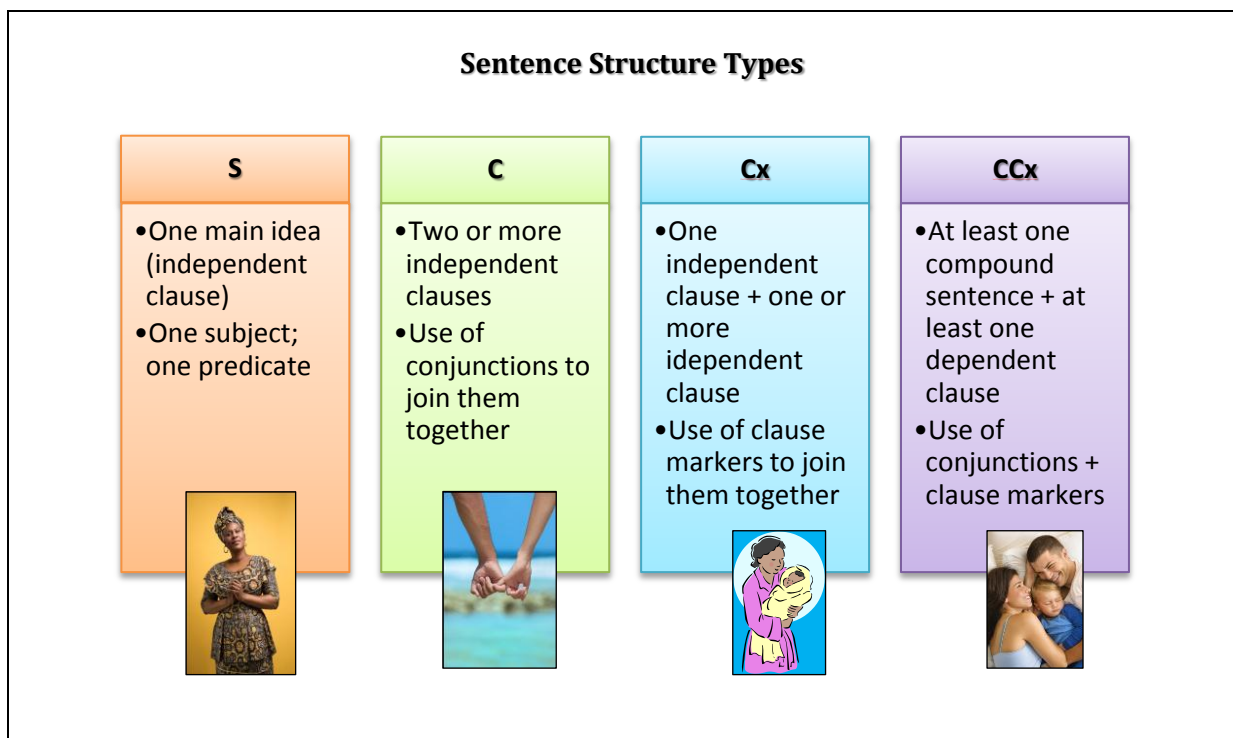
Figure 3.3: A chart with images used to create a visual imagery of the sentence types

One of the major concepts that were used in the intervention was that of creating visual imagery. Visual mental imagery is our ability to reactivate and manipulate visual representations in the absence of the corresponding visual stimuli, giving rise to the experience of 'seeing with the mind's eye' (Ganis & Schendan, 2011). Essentially, this means that grammatical concepts that are presented using images help make mental images that are easily reactivated even in the absence of the visual stimuli.

The visuals included traditional sentence diagrams that were developed by Alonzo Reed and Brainerd Kellogg in the late nineteenth century. These were first published in the book *Higher Lessons in English* (1896). Although Reed-Kellogg diagrams are not used extensively in the classroom today, in my personal experience, I find the Reed-Kellogg diagrams pedagogically suitable as long as they are carefully planned and used within the context of student writing. This is because in the past whenever I used the diagrams informally in my teaching, I realized that many students found the diagrams very helpful. Reed and Kellogg diagrams were used in this study in preference to other types of more recent sentence diagramming (such as the tree diagrams proposed by Transformational Grammar) mainly because the students in this study were familiar with the traditional grammar terminology and grammatical concepts that are used in the Reed and Kellogg diagrams.

A sentence diagram may be defined as the pictorial representation of the grammatical structure of a sentence. Sentence diagrams were extensively used in the past, and are still used in many institutions today, as part of the laborious exercises in grammar. I have chosen to revisit this method as part of the visual approach used to teach grammatical concepts, albeit with one major difference – it is taught within the context of teaching writing and limited to only the most necessary concepts that are required to construct well-formed sentences and to increase syntactic

complexity. This concept of analyzing sentences using Reed-Kellogg diagrams and using visual imagery to aid understanding of grammatical concepts formed a major part of the intervention. One of the sentence analysis exercises has been provided as *Appendix K*. See below an example of a diagram of a complex sentence taken from a text that students were reading for class discussions (*Figure 3.4*):

Following a market approach has created vast amounts of wealth for people and nations in certain parts of the world.
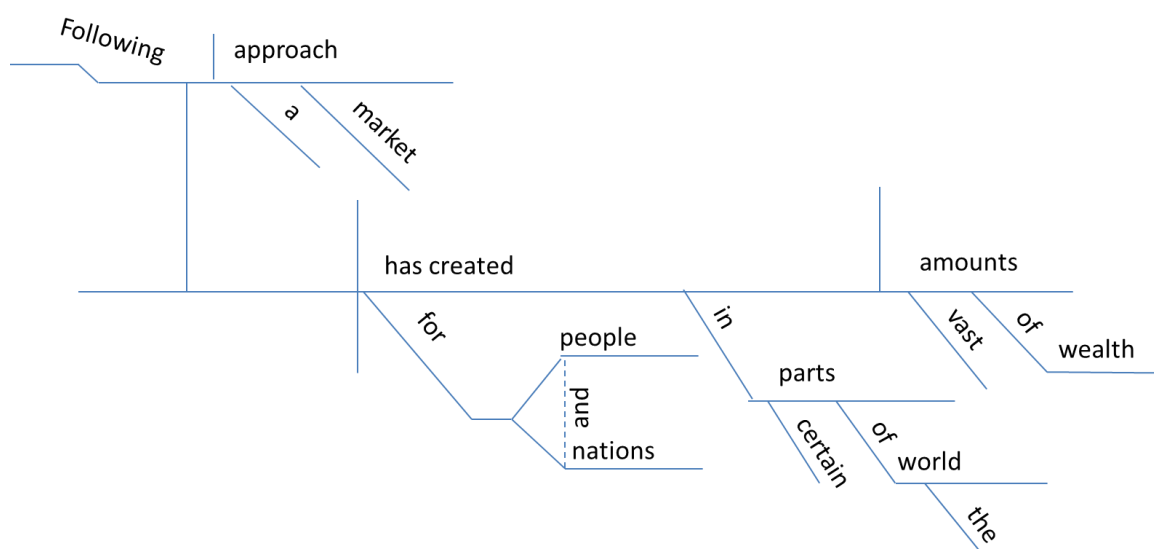
Figure 3.4: An example of a sentence diagram

Although these sentence diagrams are no longer used in teaching sentence analysis, some analysts do find value in using them for increasing understanding of the syntactic structure of sentences. For example, Ellis ("Talking shop," 1993) saw value in using some kind of diagrams:

> *We might supply the learners with a list of sentences that illustrate two different grammatical structures or two different uses of the same structure and ask them to sort them into two sets and then explain how they differ. Or we can give them a diagram that explains some area of grammar and then ask the learners to use it to decide whether individual sentences are grammatical or ungrammatical.*

Many other researchers and practitioners have seen value in using Reed-Kellogg diagrams. These have been reviewed in Chapter 2 (Section 2.6.5).

3.8 The Control Groups

Two control group classes were taught by two different teachers, one the module convenor himself, and the other a professional teacher of English with several years of experience. In order to ensure validity and reliability of the experiment, the control group teachers were given briefings occasionally during which it was emphasized that the control groups receive instruction on the same topics as did the experimental group. I ensured that the students in the control group received hand-outs that contained the information that was being given to the experiment groups. For example, the control groups were given information regarding sentence structure, various features that bring structural complexity such as subordinate clauses, prepositional phrases, and verbals. They also completed some exercises regarding identification of sentence structure types in a reading passage that were also given to the experiment groups. See *Appendix H* for an example of the hand-outs given to the control groups and see *Appendix I* for the Teaching Plan for both the groups that gives a detailed view of the topics and materials that were used during the intervention.

The course instructors of the control groups were provided hand-outs with information and were asked to distribute these to their students and explain the contents in the classes. The content or the grammatical features that were covered in these hand-outs were exactly the same as those given through visuals to the experiment groups. For example, the four different types of sentence structures were presented to the intervention groups in the form of a chart along with pictures that were representative of the concepts (see *Figure* 3.3). The hand-out given to the control group had the same information about the four types of sentence structures but there were no pictures or no visual representation of the concepts (see *Appendix H*). In terms of activities regarding sentence analysis, the experiment groups used sentence diagramming to identify the

| *Identification* | *Classification* | *Explanation and Exem|* |

types of sentences in a particular exercise while the control groups did verbal analysis using the

information in the hand-outs and then wrote their answers.

In sum, the control groups received instruction on the same grammar points as did the

experiment groups. The grammar points were taught in the course of their writing instruction and

their on-going writing activities were used as the context to provide this instruction. Apart from

lessons taken from their required reading texts, the essay drafts were used to identify and correct

their own or their peers' errors. The instruction was provided with the aim to help the participants

feel more confident about their knowledge of grammar and apply those concepts in their writing,

as well as to improve the level of syntactic complexity in their sentences.

3.9 Data Analysis

Mixed Methods call for both quantitative and qualitative data which in this study are

analysed in different ways using two different computer programs. While it was envisioned that

qualitative data would be used to support or explain the result of quantitative data, both types of

data were analysed separately. Statistical analysis was done using SPSS (Statistical Package for

Social Sciences, version 20) and the interviews were coded using NVivo (version 9).

3.9.1   Quantitative Data Analysis:

Research questions 1, 2, 3, and 4 mainly called for quantitative analysis. These questions

required a comparison of data collected as post-intervention writing sample while controlling for a

pre-intervention writing sample. To answer question 1, does a visual approach improve the

grammatical correctness of sentence structure in writing?, the texts were analysed and errors were

identified using an error code *(see*

Error		Error category	Error type	Examples Demonstrating Errors	
E 1	Sentence level	Omission/ Addition	Omission of words or phrases Unnecessary additions Incomplete sentences/non-sentences/Fragments	*Being an active and creative university student. (missing predicate/verb phrase)*	*Bei...* *stu...*
E 2	Sentence/Clause level	Combining ideas	Incorrect combining of ideas: Faulty Coordination Faulty Subordination	*I will go to the party <u>and John has a blue tie.</u>* *Television viewers can relate to a person they idolize, <u>and</u> they feel obliged to buy the product endorsed by their hero.*	*I w...* *<u>Be...</u>* *a p...* *to ...* *her...*
E 3	Sentence level	Marker/linkers /determiners	Incorrect choice of or missing clause markers, conjunctions, discourse markers, articles, pronouns, or prepositions	*I like to play tennis <u>and</u> Tom likes to play football. <u>And</u> Jack likes football.*	*I lik...* *pla...*
E 4	Sentence level	Punctuation errors	Run-on sentences Comma splices Capital letters and end punctuation errors	*The library is a good place to go, <u>we need to read books</u>*	*The...* *bec...*
E 5	Sentence level	Order/ organization	Word order/phrase order Misplaced or dangling modifiers Incorrect noun combinations	*I heard that my roommate intended to throw a surprise party for me <u>while I was outside her bedroom window.</u>*	*<u>Wh...</u>* *<u>win...</u>* *int...* *me...*
E 6	Sentence level	Faulty Parallelism	Faulty parallelism in the use of word forms, phrases, or clauses	*He liked <u>to play</u> basketball and <u>riding</u> horses. (infinitive//gerund)*	*He...* *hor...*
E 7	Sentence level	Other grammar errors	Subject-verb agreement; incorrect word form esp.in the case of verbals Singular/plural, Tenses	*He study in a university.* *Education helps us <u>to understanding</u>…*	*He...* *Edu...*
E 8	Sentence level	Overall Quality of Sentences	Long, winding sentences Unnecessary repetitions Unrelated ideas	*Writer combines too many ideas into one sentence.*	*Div...* *Cor...* *unr...*
E 9	Sentence level	Overall Quality of Sentences	Incorrect word choice Lack of clarity of structure/meaning Seems illogical or ambiguous	*Writer produces ambiguous sentences or sentences that may be grammatically correct but lack clarity in meaning*	*Ch...* *wo...* *pro...*

Table 3.4 *or* [Appendix C]). The error code was developed after reviewing existing literature on error analysis in SLA. Relevant theories on errors made by L2 learners and the method of error analysis used by various researchers informed the development of the error code. The code of errors was created especially for this study, but was based on codes of errors created by other researchers and scholars in the field (For example, AbiSamra, 2003; Ellis, 1997; Giri, 2010; Hubbard, Jones, Thornton, & Wheeler, 1996). Most studies in this area, especially in Second Language Acquisition, use an error code that includes every possible writing error, ranging from omission of words to subject-verb agreement to sentence ambiguity. For example, Giri's (2010) study followed the conventional procedure of error analysis via elicitation of data, identification of errors, description/classification of errors, explanation of errors, and evaluation of errors. The description of the errors was made at various levels. e g. omission of an element, addition of an unnecessary/incorrect element, choice of an incorrect element and mis-ordering of elements. Another study done by Abisamra (2003) used the advice given by Ellis (1997) and Hubbard et al. (1996) and followed their examples of how to identify and analyze learners' errors. The four steps exemplified by this study are: selection of a corpus of language followed by the identification of errors. The errors are then classified and analysed, and then an explanation of different types of errors are offered. Gass & Selinker (1994, p. 67) identified six steps followed in conducting an error analysis: Collecting data, Identifying errors, Classifying errors, Quantifying errors, Analyzing source of error, and Remediating for errors. Ellis (1994) also refers to several taxonomies suggested for error analysis based on linguistic classification of errors. The theory states that errors made by L2 learners were of different types and corresponded to language developmental sequence (Ellis,

1994). According to the theory, learners appeared to go through stages of acquisition, as the nature of errors they made varied according to their level of development (Ellis, 1994). References are often made to Corder (1967, 1974), who explored the idea of the usefulness of errors made by the learners during language instruction, and employed error matrices to identify, classify, and explain the types of errors made. Explanations of the types of errors made and their impact on overall second language acquisition of these students was beyond the scope of this study. However, errors that were relevant to sentence structure were taken into account during the investigation.

Using the ideas from past research, the errors that were identified in the writing samples were based on a carefully constructed taxonomy called a Code of Errors, and each error was identified and carefully slotted into relevant categories. The errors were then counted and entered into SPSS. The types of errors identified in this study were confined to the errors relevant to sentence structure and did not include errors such as misspellings.

Identification		Classification		Explanation and Exemplification	
Error		Error category	Error type	Examples Demonstrating Errors	Errors Corrected
E 1	Sentenc e level	Omission/ Addition	Omission of words or phrases Unnecessary additions Incomplete sentences/non-sentences/Fragments	*Being an active and creative university student. (missing predicate/verb phrase)*	*Being an active and creative university student <u>is important.</u>*
E 2	Sentenc e/Clause level	Combining ideas	Incorrect combining of ideas: Faulty Coordination Faulty Subordination	*I will go to the party <u>and John has a blue tie.</u>* *Television viewers can relate to a person they idolize, <u>and</u> they feel obliged to buy the product endorsed by their hero.*	*I will go to the party. John has a blue tie.* *<u>Because</u> television viewers can relate to a person they idolize, they feel obliged to buy the product endorsed by their hero.*
E 3	Sentenc e level	Marker/linkers /determiners	Incorrect choice of or missing clause markers, conjunctions, discourse markers, articles, pronouns, or prepositions	*I like to play tennis <u>and</u> Tom likes to play football. <u>And</u> Jack likes football.*	*I like to play tennis <u>whereas</u> Tom likes to play football.*
E 4	Sentenc e level	Punctuation errors	Run-on sentences Comma splices Capital letters and end punctuation errors	*The library is a good place to go, <u>we need to read books</u>*	*The library is a good place to go <u>because</u> we need to read books.*
E 5	Sentenc e level	Order/ organization	Word order/phrase order Misplaced or dangling modifiers Incorrect noun combinations	*I heard that my roommate intended to throw a surprise party for me <u>while I was outside her bedroom window.</u>*	*<u>While I was outside her bedroom window</u>, I heard that my roommate intended to throw a surprise party for me*
E 6	Sentenc e level	Faulty Parallelism	Faulty parallelism in the use of word forms, phrases, or clauses	*He liked <u>to play</u> basketball and <u>riding</u> horses. (infinitive//gerund)*	*He liked <u>playing</u> basketball and <u>riding</u> horses.*
E 7	Sentenc e level	Other grammar errors	Subject-verb agreement; incorrect word form esp.in the case of verbals Singular/plural, Tenses	*He study in a university. Education helps us <u>to understanding</u>…*	*He studies in a university. Education helps us <u>to understand</u>…*
E 8	Sentenc e level	Overall Quality of Sentences	Long, winding sentences Unnecessary repetitions Unrelated ideas	*Writer combines too many ideas into one sentence.*	*Divide sentence into two or three or Combine sentences, or delete unnecessary items*
E 9	Sentenc e level	Overall Quality of Sentences	Incorrect word choice Lack of clarity of structure/meaning Seems illogical or ambiguous	*Writer produces ambiguous sentences or sentences that may be grammatically correct but lack clarity in meaning*	*Change sentence structure or word/phrase order or word choice to produce clarity*

Table 3.4: The Code for Error Analysis

In order to answer the second question, does a visual approach improve the variety of sentence structures, especially in the use of different subordinate clauses, produced by the students in their written texts?, the texts were divided into sentences and each sentence was categorized as either simple, compound, complex, or compound-complex. The idea was to identify the types of sentence structures being used and to find out if all sentence structure types were being used consistently. It was also necessary to find out if complex sentences were definitely being used as they are usually considered an important feature of academic writing. By calculating the number of each type of sentence, it was hoped that a comparison between pre-intervention and post-intervention writing samples would reveal whether the students were using a larger variety of sentence types after the intervention. Specifically, it was aimed to find out whether the students used all types of sentence structures or not, and whether they would attempt previously unattempted sentence type(s). This is based on the idea that good writers attempt to bring variety into their sentence patterns in order to avoid monotony and to bring about a natural pace of thought development. In common speech, it is natural to use more complex sentences than any other, followed by simple sentences. Simple sentences, when enriched by the skilful use of phrases and modifiers may be considered very effective. Some writers use short, simple sentences in its most basic structure for emphasis and effectiveness. Compound sentences are less commonly used in academic language and it is well-known that second language writers combine ideas, often incorrectly, by adding conjunctions such as 'and' or 'but.' Compound-complex sentences are often difficult to construct and require good grammatical control to achieve sentence clarity.

Often, attempts made at these sentence types by novice writers produce clauses that are loosely connected and end up being long and winding, resulting in ambiguity. Following this natural pattern, writers often make use of a higher number of complex sentences followed by simple sentences, then compound, and finally very few compound-complex sentences. Megginson (n.d.) draws an interesting analogy to explain this to students: Writers who use only simple sentences are like truck drivers who do not know how to shift out of first gear and just as a good driver uses different gears, a good writer uses different types of sentences in different situations.

In complex sentences, a variety of subordinate clauses demonstrates good control of sentence structure. A complex sentence is very different from a simple sentence or a compound sentence because it makes clear which ideas are most important (Megginson, n.d.). An academic text has more subordinate clauses, more "that/to" complement clauses, more long sequences of prepositional phrases, more attributive adjectives and more passives than spoken language (Gillett, 2011). Hinkel (2002) describes the function of each type of subordinate clause (noun, adjective, and adverb clauses) and shows that the use of all these types as opposed to only one or two types, demonstrates linguistic maturity. This study investigates whether the students used a variety of sentence structures and a variety of subordinate clauses in their writing samples.

To answer question 3, does a visual approach improve syntactic complexity of the sentences produced by students in their written texts?, the number of subordinate clauses, verbals such as gerunds, infinitives, and participles, and prepositional phrases was identified in each sample. The mean of the post-intervention samples was then compared between the two groups while controlling for the mean of pre-intervention samples.

As Hinkel (2002, p. 128) says, "In academic texts of various types, the use of subordinate clauses is prevalent, and they are identified as markers of textual and structural complexity." Hinkel (2002) further states that in the assessment of writing on standardized and placement tests requisite in many U.S. colleges and universities, the types, frequencies, and accuracy of subordinate clauses used in L2 essay writing plays a major role. Hamp-Lyon's (1991) survey of scales employed for rating non-native speakers' academic writing shows that subordinate clause use represents a crucial gauge of L2 proficiency. In writing instruction, many texts provide recommendations and direction for the use of subordinate clauses in order to improve the flow of text and facilitate connections between ideas (Swales & Feak, 1994). Investigations into the different types of subordinate clauses employed in writing distinguish between noun, adjective, and adverb clauses because they have different textual and structural functions. For example, noun clauses can play the role of key elements in sentence structures, and in most cases, adjective clauses and reduced adjective clauses modify nouns. Adverbial clauses also play an important role in text when they modify whole independent clause and indicate meanings of cause, concession, condition, and other relationships between sentences or portions of text. In general, subordinate clauses occupy a prominent place in discourse cohesion because they allow for ellipses and substitution of lexical and syntactic elements (Halliday & Hassan, 1976). Cook (2003) also refers to various linguists investigating child language acquisition who have argued that the complexity and nature of clause organization and dependence is an important sign of how thought is developed. Several studies have been done in the past regarding the measurement of syntactic complexity and these have been reviewed in the literature review section of this document. Based on these ideas, it was acknowledged that accurate use of subordinate clauses indicates syntactic complexity. For this reason, the frequency and variety of subordinate clauses was measured in the writing samples.

Another indicator of syntactic complexity is the use of verbals. Verbals in this study is a term that includes infinitives, gerunds, and participles and phrases attached to them termed as infinitive phrases, gerundial phrases, and participial phrases. As Berrent (1988) says, verbals (the three phrases mentioned above) are considered phrases in traditional grammar but are considered as clauses in other types of grammars because those verbal forms sometimes have logical 'subjects' associated with them. Because this study used traditional grammar in the intervention and used traditional grammar terminology, verbals have been referred to as phrases, not clauses.

According to Hinkel (2002), infinitives, gerunds, and present and past participles are some of the terms that are identified in most L2 teaching materials. For this reason, the terminology adopted in this study follows that common in most ESL instructional texts and applied Linguistic analyses of verbal constructions. According to Cook (2003), the use of verbals increases the rate of conceptual fluency. The participial phrases and gerund phrases are some of the structures that are least mastered by L2 learners because "they employ V-ing [the *-ing* form of the verb], which is more complex morphologically than V [verb] alone" (Berrent, 1988).

The third way of increasing syntactic complexity is by using post-positional modifiers (reduced adjective clauses or prepositional phrases) because, as explained by Hinkel (2002), these are more complex and syntactically sophisticated, and thus, in the case of non-native speakers require a relatively higher L2 grammar proficiency. These three syntactic features – subordinate clauses, verbals, and prepositional phrases – are considered indicators of syntactic complexity. Therefore, in order to answer research question three, the mean number of subordinate clauses, verbals, and prepositional phrases were compared between the two groups to find out whether the

intervention had any positive impact on developing syntactic complexity in their post-intervention texts while controlling for these in the pre-intervention texts.

As for question 4, does a visual approach improve the quality of their writing?, the overall quality was assessed by the overall mark awarded in the written text by two markers. The scores were awarded using the standard descriptors that were commonly used by the department for grading written work *(See Appendix D*). Each writing sample was analysed in this way and the statistics were entered first on individual grids for each sample, then collated and transferred to an Excel spread sheet. This data were then entered into the SPSS file.

3.9.1.1   *Inter-rater Reliability*

It is well-known that markers are relatively inconsistent in marking written scripts for a number of reasons. Due to this fact, it is necessary to establish inter-rater reliability. According to Trochim (2006), there are two ways of estimating inter-rater reliability: one is when the measurement consists of categories, and the other is when the measure is a continuous one. In this study the measurement was the overall score awarded to each writing sample. It was in categories because the marks were awarded in percentages that were grouped in different bands (*Table 3.5. See detailed scoring descriptors in Appendix D*):

Band 6	70-100%	Excellent
Band 5	60-69%	Above Average
Band 4	50-59%	Average
Band 3	40-49%	Below Average
Band 2	30-39%	Poor
Band 1	0-29%	Very poor (Fail)

Table 3.5: Band Score Categories

Given the number of factors influencing the rating of essays, as reported in a number of research studies, inter-rater reliability was achieved by using double marking and third marking in cases where the marks were very different. In the event, third marking was done for only two cases in the pre-intervention writing sample, and a resolution mark by the third marker was used as the final mark. Four EAP tutors who were teaching the same writing course to other groups of students were asked to act as the first marker. All four markers did not participate in the research project but were aware of the general objectives of this research. Four markers were chosen mainly because it was necessary to not provide a heavy marking load to them as they had their regular marking load. Each of the four markers were given randomly selected 16 scripts each time (pre and post intervention). They were given specific instruction regarding the marking as I was particularly interested in the overall quality of the texts. Using the standard marking descriptors, the markers assigned them a score that fit into one of the Score Bands (See *Table* 3.5). I acted as the second marker for all the scripts and, therefore, established "quality and consistency in the marking process" (Alderson, Clapham, & Wall, 2001). Because of the number of markers involved in the first marking, it was necessary that I check the consistency in the marking process. As will be described in the following paragraph, there was a high percentage of agreement between the first and the second markers, putting to rest any conflict of interest that may be raised because of my involvement in the marking process.

As Trochim (2006) suggests, the per cent of agreement was calculated for the marks awarded by both markers according to the categories, in this case, the bands. The percentage of agreement reached in the band scores of the pre-intervention writing samples was 84% and the post-intervention writing samples was 86% as shown in *Table* 3.6. This indicates that the writing scores of the two markers were mostly within one band score of each other. The two cases where

the markers' band scores differed more than one band score, a third marker was used and a mean

of the third marker and the second marker (the consistency checker) was used as the final band

score.

Pre-intervention Writing Samples	Post-intervention Writing Samples
Agreement between the two markers: 82% This means 53 writing samples were awarded exactly the same band score by the two markers; 9 samples received a band score just above or below the other; and 2 samples were scored more than one band score higher or lower. This difference was adjusted by using a third marker (the course convenor) and a mean score of the second and third markers was used as the final score. The final band score matched the band score awarded by the second marker. Final percentage of agreement: **84%**	Agreement between two markers: **86%** No third marking was used because all samples received either exactly the same band score or a difference of one band score.

Table 3.6: Percentage of Agreement between the Markers

The band scores in the standard writing score descriptors (*Appendix D*) encompass a wide

range of writing proficiency: from excellent performance (Band Score 6) to very poor performance

(Band Score 1). This pattern is used by several standard assessment bodies such as Canadian

Academic English Language (CAEL) Assessment. The CAEL Assessment developed writing band

scores, similar to the ones used in this study) as the result of a collaborative effort between CAEL

test developers and experienced ESL/EAP teachers ("CAEL Assessment," n.d.).

3.9.1.2   *Statistical Tests*

Because the groups used are classes at university, it has not been possible to randomly

assign them to the intervention – this sometimes increases the risk of comparing non-equivalent

groups. Because of this, analysis of covariance is needed to control for differences between the

groups at the start point. According to Pallant (2010) Analysis of Covariance (ANCOVA) allows one

to explore differences between groups while statistically controlling for an additional (continuous) variable. This additional variable (called a covariate) is a variable that may influence scores on the dependent variable. SPSS uses regression procedures to remove the variation in the dependent variable that is due to the covariate(s), and then performs the normal analysis of variance techniques on the corrected or adjusted scores. By removing the influence of these additional variables, ANCOVA can increase the power or sensitivity of the F-test. That is, it may increase the likelihood that the researcher may be able to detect differences between the groups (Pallant, 2010).

One-way ANCOVA involves one independent, categorical variable (with two or more levels or conditions), one dependent continuous variable, and one or more continuous covariates. This technique is often used when evaluating the impact of an intervention or experimental manipulation while controlling for pre-test scores (Pallant, 2010). The current investigation makes use of this statistical test due to the similar features described above. The independent, categorical variable in this study is the type of group classified into experiment and control groups. The dependent continuous variable is the post-intervention writing sample while the covariate is the pre-intervention writing sample. Therefore, one-way ANCOVA was the most suitable statistical procedure to do the required analysis in order to answer research questions 1, 3, and 4.

As Pallant (2010) says, the scores on the pre-test are treated as a covariate to 'control' for pre-existing differences between the groups. This makes ANCOVA very useful in situations in which there is a small sample size (as is in this case), and only a small or medium effect sizes. Under these circumstances (which are very common in social science research), Stevens (1996) recommends the use of two or three carefully chosen covariates to reduce the error variance and increase the chances of detecting a significant difference between the groups. According to Pallant (2010)

ANCOVA is also handy when it is not possible to randomly assign participants to the different groups (e.g. classes of students). This has been the case in this study as the classes had been assigned by the department. In these circumstances, it was not possible to control for all possible group differences, but, the ANCOVA technique helps reduce the systematic bias. However, the use of ANCOVA with intact or existing groups is a contentious issue among writers in the field. According to Owen and Froman (1998), ANCOVA has two primary purposes: (a) to improve the power of a statistical analysis by reducing error variance, and (b) to statistically "equate" comparison groups. The first purpose, the writers explain, operates well when participants are randomly assigned to their groups. But using ANCOVA with intact or pre-existing groups can have the opposite effect, a reduction in statistical power. The second purpose usually accompanies non-random group comparisons, and analysts apply ANCOVA to make the group comparisons more "fair."

The decision is based on two ANCOVA assumptions: one, that the covariates are uncorrelated with other independent variables; and two, that the covariates are correlated with the dependent variable (Owen & Froman, 1998). Some analysts such as Wu and Slakter (1989, cited in Owen & Froman, 1998) do not hesitate to recommend ANCOVA in order to "adjust for pre-existing group differences" when the first assumption is seemingly violated; however, Pedhazur and Schmelkin (1991, p. 283) remarked that the approach "is fraught with serious biases and threats to validity." When a covariate is a pretest and the dependent variable is the posttest, there should be a substantial correlation between the two but there are other problems as discussed by Pedhazur and Schmelkin (1991). They conclude that applications of ANCOVA in quasi-experimental and non-experimental research are by and large not valid. This seems to be the case in the current investigation; however, as said earlier, ANCOVA is increasingly used these days in quasi experiment

designs where for some reasons – because of expense, ethical concerns or general disruptiveness – participants cannot be randomly assigned to groups. Despite the tension between the strict statistical analysts and the social researchers, ANCOVA seems to serve the purpose of comparing the performance of two groups while controlling for the covariate which is the pre-intervention writing sample in this case. Moreover, it is worthy of note that the analysis provides insights that are further explored by qualitative data in a more meaningful way.

As a rule, statistical packages encourage users to ignore assumptions and leap right to the main analysis. However, Owen and Froman (1998) recommend that when the analyst wants to use ANCOVA with an intact group or other nonrandom assignment, the correlation between the covariate(s) and the independent variable(s) should be reported. They also recommend that researchers report tests of ANCOVA assumptions. These recommendations are followed and the tests of assumptions are presented in *Appendix E*.

3.9.2   Qualitative Data Analysis:

In order to answer the research questions that demanded qualitative data, semi-structured interviews were conducted. The interviews were conducted in English which was the L2 for all participants. The interviews were audio recorded and then transcribed and saved as scripts. These scripts were then imported into a data software package called QSR NVivo 9 that is commonly used by social scientists to analyse qualitative data. The interview scripts were then classified into two groups: six scripts belonging to experimental groups and four scripts belonging to the control groups. Each script was a record of an interview session and included two different participants who each contributed to the discussion and held their own opinions and beliefs. After reading all the interview scripts several times, a total of 22 sub-codes were created using NVivo to record the

comments on different themes. These 22 sub-codes were then clustered into six main codes reflecting the six emerging themes: Importance of Grammar; Previous Experience of Studying Grammar in High School; Grammar and Writing; Contextualized Grammar; Sentence Structure and Writing; and, Visual Approach. As I read through the interview scripts I highlighted the sections that I thought were associated with particular sub-codes that I had created in NVivo. As I went about reading the scripts, I kept creating new sub-codes as I came across comments on new topics or themes. After completing the process, I clustered the sub-codes into six broad themes which also formed the main codes under which I classified the most general comments regarding the theme. I read the scripts again to cross check the comments against the codes and refined the sub-codes eliminating some overlaps. Further details about the coding framework, the themes, codes, and sub-codes along with examples are presented in Chapter 5.

3.10   Ethical Considerations

Any researcher must consider ethical issues related to a particular study. This study used the pragmatist tradition and therefore was interested in finding out what works best in grammar pedagogy. Because research seeks out what works best in given circumstances which may hurt or change depending on the social reality informing a study, it is advisable to observe ethical principles at every stage of the research, from planning, designing, sampling, collecting and analysing data, and publishing the findings. The guidelines published by BERA (British Educational Research Association) (2004) were observed as diligently as possible in this study. However, as was made apparent during the paradigm wars, qualitative researchers seek a different set of guidelines that are characteristic of qualitative research. One such set of guidelines was advocated by Klein and Myers (1999). A mixed methods research such as this would therefore appeal to both these guidelines. As BERA suggests, a local ethics committee should approve of the research to be

conducted. Ethics approval from the site where research is to be conducted and from University of Exeter was received before the investigation commenced (see *Appendix L*). An informed consent was acquired from all participants prior to the start of the investigation for both kinds of data: writing samples and interviews (Samples of the form is attached in *Appendix K*). The signed forms have not been attached to this thesis in order to protect the identity of the participants.

The rules of conduct as summarized by BERA (2004) include: responsibilities to the participants (including informed consent, deception, rights to withdraw, confidentiality, etc.); responsibility to the sponsors of research; and responsibilities to the community of educational researchers. As per the responsibility towards the participants (BERA, 2004), this study operated within the ethic of respect of the participants regardless of age gender, race, religion, political belief, lifestyle, or any other differences between the researcher and the participants. Due to the fact that a convenience sampling strategy was employed in this research, it was not entirely possible to have voluntary participation of the sample. Nonetheless, after explaining the purpose and nature of the research, the participants were asked to complete an informed consent to participate in the research. Provision was made for individuals who wished to withdraw from participation in the study at any point of time. No such request was made and participants took part in the intervention throughout.

Another point of ethical concern was that the intervention would influence the participants' scores on their assessment. This was addressed by ensuring that the intervention called for writing that was not used for grading for the course. All writing samples were collected outside the course requirements and did not count towards assessment. Moreover, the intervention involved the teaching of grammar that was not a part of the curriculum and was not a part of student

assessment. The students were constantly reminded that the writing samples they were producing were not to be used as part of their assessment.

Due to the nature of the intervention, it may have been possible for the students receiving instruction using the visual approach to achieve higher or lower level of grammatical accuracy in their writing. Since this was an experiment, it cannot be denied that assuming its success, such an effect was desirable; however, to settle the concerns of the effect of the approach on performance by the control group, it was suggested that if the approach has a positive effect on the written performance of the experimental group, the control group be given similar lessons using the visual approach at another time, perhaps the summer session.

Another matter of ethical concern was regarding the possibility of teacher effect. The intervention groups were taught by the same person and teacher performance may have influenced the outcome of the study. To address this concern, the comparison groups were carefully chosen to ensure that more than one well experienced and knowledgeable tutor taught them. This ruled out the possibility of the tutor effect to a great extent; however, it cannot be denied that there may have been some influence of the teaching style on the experiment groups. Moreover, the novelty of the method may have had its influence on the learners as well. The method involved the use of images and activities involving analysis, and also used emphasis on grammatical concepts that were not being taught to groups other than the four groups involved in the study. Thus, the fact that they were doing something "different" may have had an influence on their performance.

Additionally, any sort of deception was completely avoided. In order to ensure fairness and to avoid the 'hawthorne' effect – a bias created by being singled out for an experiment (Bryman,

2008) -- the identity of the control groups and experimental groups was not revealed to each other. This means that the experiment group did not know which other group was being used as the control group in the research experiment, and vice versa. The information provided to the participants was carefully designed so as to avoid contamination, hence enhancing reliability and validity of the intervention. All measure was taken to secure the identity of the participants and confidentiality and anonymity was maintained at all times. As has been discussed in the section of methods, appropriate methods and the theories and philosophies underpinning them were employed to address the research questions. All these guidelines as advocated by BERA (2004) were observed throughout the various stages of the research. While most of the common ethical principles are observed by all researchers, qualitative research demands for a different set of guidelines which are used as complimentary guidelines in a mixed methods research such as this one.

Creswell (2007) acknowledges that today qualitative research is legitimate in its own right and does not need to be compared to achieve respectability. According to the principles often used in judging the quality of qualitative research a set of seven principles suggested by Klein & Myers (1999) were observed. For example, in order to achieve the principle of hermeneutics circle, several types of evidence collected over a period of time, such as the writing samples collected at two points in time and the qualitative data collected during the interviews, combined to make the whole and contributed to the theory that is developed from the data with regards to using a visual approach in the teaching of grammar embedded into writing instruction. Observing the principle of contextualization where the context of the study is to be made clear and the cited literature is to review the need for this research, it has been clearly explained that the study was conducted within the Chinese learners' context where all the learners were at a similar level of linguistic proficiency

as proved by their admission to the institution. Other principles such as interaction between the researcher and participants, and multiple interpretations (Klein & Myers, 1999) were also observed. The researcher had consistent interaction with the participants as she was the one who conducted the intervention as well as the interviews. The study was abstracted to theories of grammar teaching within the context of writing by various researchers cited in the reviewed literature. The theories that have been generated from the research, especially regarding the use of the visual approach, and the theory of contextualized teaching that was tested as well, may form the basis for further research that may be generalized to a wider group of second language learners. Therefore, it can be said that this study has met high quality standards and has followed the general ethical codes of conduct.

3.11 Strengths and Weaknesses of the Design

There are limitations within which a researcher is sometimes forced to work; however, these limitations do not always affect the research findings if the research design has been robust and research ethics have been taken into consideration at all times. One of the major limitations of this study was the size of the sample. Although the sample size may be considered appropriate for this study, it is too small a sample to generalize the study to all second language learners. As explained in an earlier section on sampling strategy, my work context would only allow two writing classes of 16-18 students per English tutor. Therefore, it was not possible for me to acquire a larger sample for this study.

Moreover, it must be acknowledged that the study was being conducted in the Chinese context, and the sample was made up of Chinese learners. Therefore, the study may be considered specific to Chinese learners enrolled in their first year of university studies. In other words, the

findings are of great significance and it is hoped that they will contribute to the knowledge of the learning process of Chinese students in English medium universities and also will provide a useful basis for further research involving a larger and more varied sample. The aim of this study, as stated earlier, was not to generalize the findings to a large population, rather, to understand the significance and impact of the intervention, the visual approach, in a specific Chinese context.

Another weakness of the research design was the type of sampling strategy that was used. Convenience sampling strategy is one of the well-known strategies applied by many social scientists; however, although still contested, random sampling is often considered the most appropriate strategy that provides validity and reliability to the research and research findings. For this study, it was not possible to obtain random sampling due to the nature of the research intervention. It is acknowledged that due to these limitations of sample size and sampling strategy employed for this research, the findings will not be generalized; rather, the study will serve as a starting point for further investigation with larger and more varied samples, perhaps with randomised controlled trials. Despite working with these limitations, care was taken to ensure that all ethical procedures were followed during the study in order to get reliable findings.

However, the study had its own strong points as well. One of the strengths of the study was that the intervention was not directly related to the assessment criteria of the module and therefore did not have any consequences on the final assessment of either groups. This allowed the researcher to conduct the study independently, and collect the samples that would not be a part of the assessment, therefore, allowing students the freedom from stress and anxiety related to examination and scores.

In addition to that, another positive point of the study, I would consider, is the use of the mixed methods and the research design itself. A combination of two or more methods can provide additional reliability to the findings due to triangulation, although the design can prove to be very complex and it required more effort and time. Despite this, the qualitative data collected by the study helped explain further the statistical findings and provided confirmation of the quantitative analysis. In order to best arrive at comprehensive answers to the research questions, a mixed methods of data collection and data analysis was the best and most suitable design for this investigation.

3.12 Summary

The investigation addressed the issue of grammar teaching and its influence on the development of writing skills on Chinese learners. Based on a Pragmatist viewpoint, the research questions dictated the choice of research design that was employed in this study. The Quan → qual research design called for statistical analysis of the sample writing texts collected before and after an intervention that used a visual approach. The control groups were provided the same content using traditional printed hand-outs. Data was collected in the form of writing samples and semi-structured interviews. The quantitative data was then analysed using ANCOVA through SPSS and qualitative data was coded and analysed using NVivo. Using a mixed-methods approach, this study has generated data that provides evidence as well as a deeper understanding of the influence of the visual approach on writing development.

4. CHAPTER FOUR: Statistical Findings

This study investigates the question: Does a visual approach used in the teaching of sentence-level grammar and embedded into writing instruction improve students' writing? Specifically, it aims to answer the following questions:

1. Does a visual approach improve the grammatical correctness of sentence structure in writing?

2. Does a visual approach improve the variety of sentence structures, especially in the use of different subordinate clauses, produced by the students in their written texts?

3. Does a visual approach improve syntactic complexity of the sentences produced by students in their written texts?

4. Does a visual approach improve the quality of their writing?

5. Does a visual approach help students in gaining better understanding of sentence structures?

6. What are students' responses to the visual approach and do they think it helps them?

A total of 64 written samples collected before the intervention, and the same number of written samples collected after 8 weeks of intervention were analysed to address the research questions. Both quantitative and qualitative data were collected for this study. Descriptive analysis, analysis of covariance (ANCOVA), and qualitative content analysis was used for evaluating the obtained data. This chapter presents the findings of the first four research questions because these call for a statistical analysis of the data. The findings of the last two questions that mainly call for qualitative data, which continue to support statistical findings by way of explaining and complementing them, will be presented in the next chapter. Most of the statistical analysis involved the use of Analysis of Covariance (ANCOVA). The analysis will be described according to each research question. However, each question involved the two research groups (two experimental groups and two control groups) as the Independent Variable; the post-intervention writing sample

as the Dependent Variable; and the pre-intervention writing sample as the Covariate. This is described in *Figure 4.1* below:
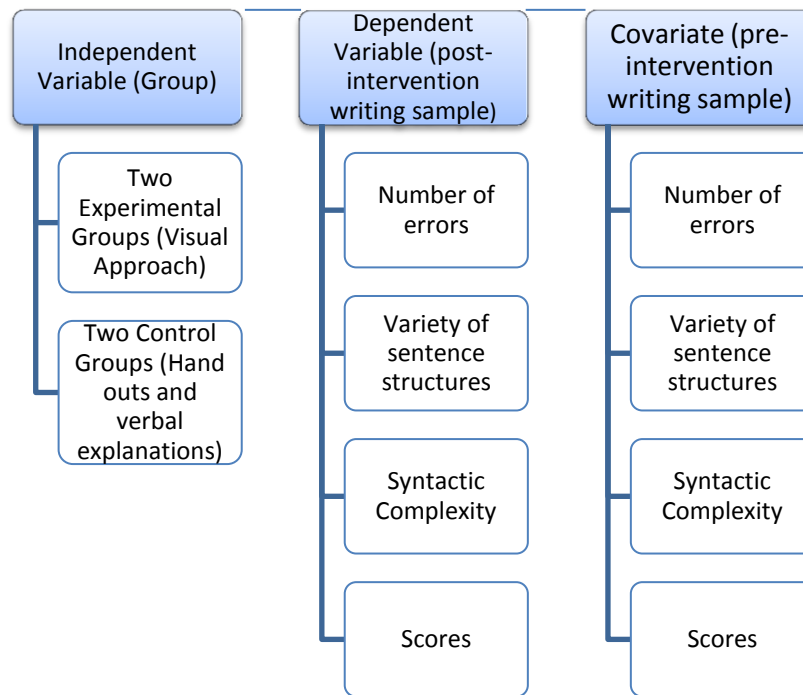
Figure 4.1: Variables used in the Statistical Analysis

Generally, the length of the essays indicates how comfortable students are in their written expression. Although several factors such as topic knowledge, class environment, and attitude towards writing in English might have played an important role on students' writing performance, word length is arguably a good parameter to judge a students' written competence in a specified period of time. The writing samples taken prior to the intervention were based on an essay prompt (*See Appendix A*) which required them to explain why they thought higher education was necessary in modern society. The post-intervention writing task (*see Appendix B*) was based on the same genre that required similar rhetorical patterns (cause and effect) and was in compliance with the

difficulty level they were required to reach by the end of the semester. Detailed information regarding the writing samples can be found in *Section 3.6.2* of the Methodology Chapter.

Table 4.1 below presents a descriptive analysis of their written texts where a total number of paragraphs, total number of sentences, and a total number of words written in the pre and post intervention samples are compared. The last column presents the percentage of improvement in the number of paragraphs, sentences, and words written by the experiment groups in the post intervention texts compared with the control groups.

Grammatical Correctness of Sentence Structure	Experiment Sample (N = 33)		Control Sample (N = 31)		% of improvement on the post-test by the Exp. Groups when compared with the Control Groups
	Pre	Post	Pre	Post	$\dfrac{Post_{exp} - Post_{control}}{Post_{control}} * 100$
Total number of paragraphs (*N* x paragraphs)	50	78	52	54	44.4 %
Mean	2	2	2	2	0
Min	1	1	1	1	0
Max	4	5	4	4	25 %
Total number of sentences (*N* x sentences)	299	376	283	296	27 %
Mean	9	11	9	10	10 %
Min	5	7	6	6	16.6 %
Max	15	17	16	15	13.3 %
Total number of words (*N* x words)	4803	6783	4021	4879	39 %
Mean	146	206	130	157	31.2 %
Min	74	137	76	96	42.7 %
Max	205	281	224	235	19.5 %

Table 4.1: Number of paragraphs, sentences, and words compared

The table with descriptive data above shows that the experiment groups wrote lengthier essays than did their counterparts. In all, they wrote a higher number of paragraphs, a higher number of sentences, and a higher number of words. Individually, it can be seen that although the students remained consistent with a mean of 2 paragraphs, a higher number of sentences and words shows that they were able to better develop the main idea in a paragraph. Additionally, the increase in total number of sentences was lower (27%) when compared with the total number of

paragraphs and words. This also might mean that the experiment groups were able to write longer sentences and perhaps more embedded sentences that they did before or when compared with the control groups. This aspect will be analysed later when an analysis is done regarding the types of sentences and the number of dependent clauses they wrote. Lengthier essays and more embedding in sentences signifies a trend that the students were becoming more accustomed to writing in English and may have gained more confidence in their writing skills, perhaps due to the intervention. However, it is important to address the specific research questions for this study. The results of ANCOVA are presented below for the relevant research questions followed by descriptive statistics and inferences from the findings.

4.1 Grammatical Correctness of Sentence Structure

This section presents the findings related to Research question 1: *Does a visual approach improve the grammatical correctness of sentence structure in writing?*

4.1.1   Statistical Analysis

To fully assess the significance of the difference found between the groups, it was necessary to conduct a statistical analysis. The most suitable statistical test to run on this data was one-way ANCOVA. This was because it was necessary to control for any previous influences on differences between the groups due to the fact that these were not randomly assigned. Further explanation regarding the use of ANCOVA for statistical analysis is provided in the Methodology chapter (*Section 3.9.1.2*). There are a number of assumptions associated with ANCOVA. All these assumptions were tested for all ANCOVA analysis and a summary of the outcome for each test of assumption for research questions 1-4 are presented in *Appendix E.* After checking for the assumptions, the ANCOVA test was carried out.

The Levene's Test of Equality of Variances is run as part of ANCOVA. The test is considered to be a rather conservative test and the difference in variance is less important when the size of sample is nearly equal as in this case, especially in social sciences. Therefore, ANCOVA was still conducted on this data even though Levene's test on this data shows that variances are not equal (p = .002). A summary of the ANCOVA for Research Question 1 regarding grammatical correctness is given below in *Table 4.2*:

Source	Type III sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pretest Errors	141.930	1	141.930	12.931	.001*	.175
Group	339.438	1	339.438	30.925	.000*	.336
Error	669.554	61	10.976			
Total	6268.000	64				
Corrected Total	1084.000	63				

*p < .05

Table 4.2: Summary of ANCOVA showing a comparison of the number of errors present in the post-intervention writing samples while controlling for the pre-intervention samples

The one-way between-groups analysis of covariance was used to compare the number of errors made by the two research groups after 8 weeks of instruction, with pre-intervention number of errors as a covariate to eliminate the effect of any existing pre-intervention differences on the results. After adjusting for pre-intervention mean number of errors, the line corresponding to the independent variable (Group) shows a significance value that is less than the set alpha level of .05. That is, F (1, 61) = 30.9, p = .00, partial eta squared = .33. This means that the groups differ significantly in the number of errors they made. In other words, eta squared analysis indicated that 33% of the increase in grammatical correctness can be explained by the use of visual approach in the teaching of grammar as embedded into the writing instruction (Cohen, 1988, pp. 280–287).

4.1.2   Descriptive Analysis

The descriptive data in *Table 4.3* below shows the number of errors students made in their pre and post intervention texts. Using the code for error analysis, the errors students made were

categorized into 9 types of errors (E1 – E9) related to sentence structure (See *Appendix C* for a Code of Errors). The last column shows improvement in grammatical correctness made by the Experiment Groups by comparing the percentage of reduction in errors of each type in their texts when compared with the Control Groups.

Errors	Experiment Sample (N = 33)		Control Sample (N=31)		% Reduction of Errors in the post test of Exp. Groups when compared with Control Groups
	Pre	**Post**	**Pre**	**Post**	$$\frac{Post_{control} - Post_{exp}}{Post_{control}} * 100$$
E1	53	39	55	33	-18.1 %
E2	27	1	9	9	88.8 %
E3	79	41	35	75	45.3 %
E4	10	9	21	16	43.7 %
E5	17	10	15	25	60 %
E6	3	2	3	5	60 %
E7	121	81	93	92	11.9 %
E8	9	2	9	5	60 %
E9	120	46	109	85	45.8 %
Total	**439**	**231**	**349**	**345**	**33 %**

Table 4.3: Descriptive Analysis of Percentage Reduction of Error within groups

A quick glance at the percentage of improvement column shows that the experiment groups made an overall 33% improvement in grammatical correctness when compared with the control groups. In other words the experiment groups reduced their errors in almost all categories after being taught grammar using the visual approach.

The table below (*Table 4.4)* shows details of the total number of errors recorded for each of the groups. The experiment groups show a substantial improvement in the grammatical correctness in their texts as is apparent from the mean number of errors they made in the post-intervention texts (7) compared to the mean number of errors they had made before the

intervention (12.97). Following along the same line we can see that the control groups did not make much improvement. Comparing the mean of the two main groups in the post-intervention texts, the experiment groups reduced the errors by 36.3%. The standard deviation (SD) shows that the range of variance is smaller for experiment groups (*sd* = 2.562) than for the control groups (*sd* = 4.478). This indicates that more students were performing closer to the average at a similar level in terms of grammatical correctness after being taught with the visuals. The bigger range of variation in the control groups indicates that there were many cases of extremes and they were deviating from the standard.

Number of Errors	Experiment Sample (N=33)		Control Sample (N=31)		% Reduction of Errors in the post test of Exp. Groups when compared with Control Groups
	Pre	Post	Pre	Post	$\dfrac{Post_{control} - Post_{exp}}{Post_{control}} * 100$
Total errors	439	231	349	345	33 %
Mean	12.97	7	11.26	11.13	37 %
Min	5	3	4	4	25 %
Max	20	12	25	20	40 %
SD	4.187	2.562	5.053	4.478	

Table 4.4 Total Number of Errors along with the Mean, Minimum and Maximum number of Errors along with a note of Standard Deviation

Table 4.5 on the next page is an illustration of the comparison of the two texts from one of the students. The first column displays the pre-intervention text with errors (See Appendix C for a Code of Errors) identified sentence by sentence. The same is done for the post-intervention text.

Pre-intervention writing sample **Prompt:** Why is higher education important in modern society?		Post-intervention writing sample **Prompt:** 'Studying academic English in the first year at UNNC is necessary for Chinese students.' Do you agree with this statement? Give reasons and personal observations.	
After finishing the fundamental education, higher education seems essential for students to prepare for their future careers.	E2 E5	After finishing this semester, now I have realized that studying academic English in the first year at UNNC is necessary for Chinese students.	
Because in fundamental education in high school, students are required to cover a wide range of courses from Math to Chemistry.	E3 E1	Because of the emphasis focusing too much on multiple choice questions, Chinese students actually pay less attention to their writing skills which will play an important role in their future academic career.	E1
As a result of this, students are not able to focus on a major component [prep] which they are primarily good *at*.	E5	The biggest difference in writing an essay between CELE exam and Chinese exam is the focus on logical process.	E9
Accordingly, the higher education (e g university, college) provides chances and opportunities to students [missing words] for their desirable aim in the future.	E3 E1	In Chinese exam, students try to memorize those sentences which have certain structures and put directly into their essays and try to make the essays look good.	
Students in university not only learn their academic courses, but also learn how to arrange their time or how to study.	E9	Additionally, both teachers and students think highly of the beauty of the essay which ought to be tiny and clear.	E9
These are not available in the previous education where the teachers in high school have already arranged for the students.	E3 E9	Regardless of the content and other logical stuff, teachers encourage students to write more clearly so that markers will be happy to see such "beautiful" essay and give a high mark.	
As a consequence, high education in university and college, resembling a society, enable students to fully prepare and adjust themself who will be in workplace soon.	E3 E9 E7 E2	However, in academic writing, the whole structure is fundamental basis and students should discuss and argue their stance after reading pdfs and other materials.	
		Both content and grammar are focused on instead of what is focused on by Chinese high school teachers.	
		Furthermore, students also give up those sentences which are put into the whole paragraph regardless of the smooth flow of the whole logical flow. [unclear meaning/sentence lacks clarity]	E9
		To conclude, to a significant extent, studying academic English in the first year at UNNC is necessary for Chinese students.	
Total number of errors	13	Total number of errors	4

Table 4.5: Table displaying a sample of pre and post intervention texts with errors

4.1.3 Inferences from the Analysis

Statistically, it can be inferred from ANCOVA results (*Table 4.2*) that a significance value of *p*=.00 shows that when compared with the control groups, the experiment groups demonstrated a higher level of grammatical correctness in their texts after being taught grammar at sentence level using a visual approach.

It can be seen in the descriptive data (*Table 4.3)* that the largest number of errors made by both the groups at both times was E7 which refers to errors in agreement, words forms, and tense; and E9 which refers to lack of clarity in sentences mainly due to incorrect word choices. It is also interesting to note that after the intervention, the Experiment Groups showed an improvement in both these areas (E7 = 11.9% and E9 = 45.8% improvement) in the post intervention samples when compared with the control groups. Although the control groups also improved in these two areas, their improvement was very small. The biggest improvement made in grammatical correctness by the experiment groups was in the area of coordination and subordination at the clause level (E2 – 88.8% improvement over the control groups). This seems to indicate that the experiment groups showed a better understanding and implementation of clauses in their texts. Overall, the experiment groups reduced the number of errors by 33% when compared with the control groups. This reduction can be seen in almost all the types of errors that were identified for analysis the experiment groups. The only area where the experiment groups did not make substantial improvement was in E1. Category E1 indicates omission of words or phrases, unnecessary additions, non-sentences or even fragments which affect the structural meaning of the sentence. It can be seen here that although both groups reduced the number of errors they made in this area, the experiment groups made 18% more errors than the control groups. It seems that the visual

approach did not have a huge impact in reducing this particular type of error as it had in other types of errors.

Table 4.5 shows an example of an essay written by a student pre and post intervention. From the analysis in *Table 4.5*, it is clear that this student made errors in both the pre and post intervention texts. However, the student had made a higher number of and a higher variety of errors in the pre-intervention text. Comparatively, in the post-intervention text, the student made fewer errors and only two types of errors: E1 which included unnecessary words or structurally incomplete sentences and E9 which was mainly incorrect choice of words that, to some extent, impeded understanding. There was more than half, i.e. 69 % per cent reduction of errors in this sample.

In sum, it appears that the visual approach seemed to help the students to reduce the number of errors in almost all the categories indicating an improved grammatical correctness at sentence level.

4.2 Variety of Sentence Structures

Next, the second research question was addressed: *Does a visual approach improve the variety of sentence structures, especially in the use of different subordinate clauses, produced by the students in their written texts?*

In order to answer this question quantitatively, the writing samples were analysed to see whether or not the students used all four types of sentence structures: simple, compound, complex, and compound-complex. The texts were further analysed to see whether the students used a higher number of complex sentences with a larger variety of dependent clauses in their texts, as

they were encouraged to use complex sentences more frequently in academic writing. Both the groups were given lessons on the four types of sentences (simple, compound, complex, and compound-complex) and the three types of subordinate or dependent clauses (noun clause, adjective clause, and adverb clause). The explanations and examples were taken from their main textbook along with an exercise to help them identify the different types of sentence structures. However, the experimental group was given lessons using the visual approach (charts and sentence diagrams) while the control group was given the same content using the traditional approach through hand outs and verbal explanations.

4.2.1   Descriptive Analysis

The total number of each type of sentence structure used by both groups is displayed below in *Table 4.6:*

Sentence Structures	Experiment N = 33		Control N = 31		% of improvement on the post-test by the Exp. Groups when compared with the Control Groups = $\frac{Post_{exp} - Post_{control}}{Post_{control}} * 100$
	Pre	Post	Pre	Post	
Total Simple sentences	147	184	167	170	8.2 %
Mean	4	6	5	5	20 %
Min	1	0	2	0	0
Max	13	10	13	12	-16.6 %
Total Compound sentences	23	20	25	13	53.8 %
Mean	1	1	1	0	100 %
Min	0	0	0	0	0
Max	4	4	4	1	300 %
Total Complex sentences	109	150	77	103	45.6 %
Mean	3	5	2	3	66.7 %
Min	1	1	0	0	100 %
Max	7	7	5	8	-12.5 %
Total Compound-complex sentences	23	20	13	12	66.7 %
Mean	1	1	0	0	100 %
Min	0	0	0	0	0
Max	3	3	2	3	0

Table 4.6: Different types of Sentence Structures Compared between the Groups

The descriptive statistics in *Table 4.6* show that both the experiment and control groups used all four types of sentence structures in their pre and post intervention texts. However, focusing on the post-intervention samples, we can see that the experiment groups increased their use of all the types of sentences when compared with control groups. The descriptive statistics also show that both groups used simple sentences more than any other type of sentences, followed by complex sentences. They used fewer compound and compound-complex sentences although the experiment groups wrote a much higher number of these structures than the control groups. Comparatively, the control groups did not show much improvement in their use of the compound and compound-complex sentences although they did improve their use of complex sentences. This is consistent with the instruction that while a variety in sentence types was encouraged, overuse of compound sentences especially when wrongly connected with conjunctions such as '*and*' or '*but*' affected the quality of writing. Similarly, compound-complex sentences were reserved for occasional use as they tended to be long and rambling sentences that sometimes contained ambiguity. These instructions were given to both the experiment and control groups as part of the features of good academic writing.

The trend in the data suggests that although these students used all types of sentences, they found it easier to construct simple sentences as they continued to use a higher number of simple sentences. However, they seemed to have used a high number of complex sentences which was desirable. Similarly, with regards to the use of a variety of dependent or subordinate clauses in

their complex sentences, it was found that both groups used all three types of dependent clauses at both times, although they differed in the frequency in the use of these clauses.

A comparison of the three types of dependent clauses used in complex and compound-complex sentences is given below in *Table 4.7*:

Types of Dependent Clauses	Experiment N=33		Control N=31		% of improvement on the post-test by the Exp. Groups when compared with the Control Groups = $\frac{Post_{exp} - Post_{control}}{Post_{control}} * 100$
	Pre	Post	Pre	Post	
Total Noun clauses	53	85	45	62	37 %
Mean	2	3	1	2	50 %
Min	0	0	0	0	0
Max	6	7	5	7	0
Total Adjective clauses	76	56	48	30	86.7 %
Mean	2	2	2	1	100 %
Min	0	0	0	0	0
Max	6	6	5	6	0
Total Adverb clauses	61	78	20	47	65.9 %
Mean	2	2	1	2	0
Min	0	0	0	0	0
Max	8	8	3	4	100 %
Total Dependent clauses	190	219	113	139	57.6 %
Mean	6	7	4	4	75 %
Min	1	1	0	1	0
Max	11	12	9	12	0

Table 4.7: Use of the types of dependent clauses to demonstrate variety

The table above shows that both groups used all types of dependent clauses at both times; however, it is clear that the experiment groups used a higher degree of subordination in their writing as they increased the use of dependent clauses by 57.6 % when compared with the control groups in the post-intervention texts. Specifically, it can be inferred from the last column that the experiment groups improved much more in their use of adjective clauses (86.7%) followed by adverb clauses (55.9%) and then noun clauses (37%) when compared with the control groups.

To illustrate the variety of sentence structures the students used, I would like to present a comparison of pre and post intervention writing sample from one student in the table on the next page:

Pre-intervention writing sample **Prompt:** Why is higher education important in modern society?		Post-intervention writing sample **Prompt:** 'Studying academic English in the first year at UNNC is necessary for Chinese students.' Do you agree with this statement? Give reasons and personal observations.	
1. As the society development people pay more attention to education than ever before	**CX**	1. UNNC is a wonderful school having multi-cultural features	**S**
2. Higher education is important for some reasons	**S**	2. English which is widely used in different areas in the world is also used in this multi-cultural college	**CX**
3. Firstly, we can obtain technology and knowledge through education	**S**	3. Therefore, studying academic English is necessary to a significant extent not only for global culture understanding but for studying abroad	**S**
4. Not only our knowledge skills but social skills can be improved	**S**	4. Studying academic English in the first year is necessary because of encouraging multi-cultural communication	**S**
5. Secondly, we can have a more competitive future because of higher education	**S**	5. It is reasonable that learning varieties of subjects with English because tutors and students came from different countries and English is the only one language can be understood	**CCX**
6. In the higher education, we will know how to get along with our classmates which is similar to the situation in workplace	**CX**	6. A main benefition of learning English is that it can motivate students to deeply take part in cross-border's activities both in academic fields and cultural fields	**CX**
7. In the higher education, some activities, such as, teamwork which is necessary in company can be practised	**CX**	7. It means that students can be attracted by some good operations and they use that in daily life	**CCX**
8. Finally, we can have plenty of time to consider what kind of job we want to choose, during learning subjects	**CX**	8. However, some students argued that they enter into college to learn some special knowledges and studying English in first year is not necessary	**CCX**
9. This is good for job choosing	**S**	9. Although it seems reasonable, it ignores the importance of English in UNNC	**CX**
10. If we have more knowledge we will have more choice	**CX**	10. UNNC is a multi-cultural college and English is the only useful tool to communicate between tutors and students	**C**
		11. Therefore, if we do not study English in the first year, our special fields' knowledges learning will be affected too	**CX**
		12. So, in the UNNC, studying English in the first year is important	**S**
		13. In conclusion, because of the special features of this college, we should study English in the first	**S**

143

		year to a great extent not only in terms of communication but in terms of academic fields	

Table 4.8: Comparison of sentence variety in the pre and post intervention texts from the same student

In the above sample, the student attempted only two types of sentence structures in the pre-intervention writing sample: simple (S) and complex (CX). Incidentally, the student wrote five sentences each of the two sentence types. After the intervention, the student wrote a longer text and used all four types of sentence structures. The student was able to construct 5 simple sentences (S), 1 compound sentence (C), 4 complex sentences (CX), and 3 compound-complex sentences (CCX). Comparatively even the simple sentences written in the post-intervention task display syntactic maturity that was not present in the first sample. For example, Sentence 3 in the post-intervention writing sample is marked as a simple sentence (S) based on traditional grammar definitions of structure types: *Therefore, studying academic English is necessary to a significant extent not only for global culture understanding but for studying abroad.* This sentence consists of one main clause in which the subject is a gerundial phrase and the predicate consists of a predicate adjective (*necessary*) which is modified by a compound adverbial *(not only for global culture understanding but [also] for studying abroad*). An additional adverbial (*to a significant extent*) adds to the syntactic complexity. Another sentence (sentence 5) shows a skillful use of a compound-complex sentence which has two dependent clauses as well – one noun clause and the other adverb clause. While this will be further substantiated in the analysis of the next research question, it is important to note here that the sample above suggests that the students seem to be using a wider variety of sentence structures after the intervention.

4.2.2   Inferences from the Analysis

An analysis of the descriptive data in *Table 4.6* and *Table 4.7* suggests a trend that the differences in the number of sentence types and clause types is rather small and not of any particular significance to this study. However, the data points to the fact that there was an increase in the use of subordination as is indicated by a higher number of complex sentences and a higher number of all types of dependent clauses in those complex sentences. Both groups used all types of sentences and dependent clauses although it can be inferred from the tables that the experiment groups made substantial improvement in their use of all sentence types and all dependent clause types. Thus it can be said that as far as use of sentence and clause variety is concerned, it is unclear whether the visual approach has a direct impact. However, the increased number of dependent clauses by the experimental groups may signify that their understanding of the clauses, their functions, and their contribution in increasing structural complexity had increased after the intervention. The visual approach may have helped in clearer conceptualization of subordination and its application in their writing. An analysis of each clause type and the impact of an increased use in a particular type of clause on the overall writing quality are beyond the scope of this study. However, it might be interesting to follow this up in another study because it appears that academic writing favours the use of noun clauses (often called *That*-clauses or relative clauses) over other clauses such as adjective or adverb clauses which are usually encouraged to be used in creative and descriptive writing.

In sum, it is difficult to state whether the visual approach had any impact on sentence variety at clause level. However, as was seen in the example text in *Table 4.8*, the student in the experiment group used all sentence types at both times and increased the variety of sentence structures as they increased the overall length of their texts, unlike the control group who wrote fewer sentences. Many students in the control groups produced texts comprised of only simple and

complex sentences. Very few of them attempted to write compound-complex sentences which require a higher level of grammatical control and clearer understanding of sentence structure. This trend may also indicate that the experiment group gained a better understanding of sentence types than did the control group because they attempted to use all structure types including compound-complex sentences. At the same time, the experiment groups made fewer errors in these sentences as was found during error analysis. It may be concluded that the experiment group seems to be managing better variety of sentence structures in their writing than the control group.

4.3 Syntactic Complexity in the Sentences

The next research question to be considered was: *Does a visual approach improve syntactic complexity of the sentences produced by students in their written texts?*

This question is closely related to the previous one, in that, both the questions required analysis of the sentence structures used in student texts. As explained earlier in the Methodology chapter (*Section 3.7.4*), syntactic complexity refers to the frequent and accurate use of verbals (gerunds, infinitives, and participles), prepositional phrases, and subordination (use of dependent clauses). In order to address this question, the writing samples were analysed to note the number of verbals, the number of prepositional phrases, and the number of dependent clauses that were used in each text.

4.3.1   Statistical Analysis

It is important to conduct a sophisticated statistical test that would also control the influence of the pre-existent differences in the groups at the starting point of the intervention. Therefore, once again, ANCOVA was conducted to evaluate the statistical differences within the

groups. After determining that the assumptions made by ANCOVA were not violated (See results of the tests of ANCOVA assumptions in *Appendix E*), the ANCOVA was conducted to analyse the data for syntactic complexity.

The Sig. level as shown in the Levene's test of equality of error variances for verbals was $p=.035$; for prepositional phrases $p=.357$; and for dependent clauses $p=.938$. The Levene's test of equality variance in most cases revealed a significance value that is greater than .05 which means that the variances were equal and the assumption was not violated. A summary of the findings from ANCOVA is provided below.

4.3.1.1   *Verbals*

ANCOVA results for a comparison in the use of verbals can be seen below:

Verbals	Type III sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pretest Verbals	66.361	1	66.361	4.095	.047*	.063
Group	153.568	1	153.568	9.476	.003*	.134
Error	988.560	61	16.206			
Total	7019.000	64				
Corrected Total	1223.984	63				

*$p < .05$

Table 4.9: A Summary of ANCOVA results for the comparison of the use of verbals in the post-intervention data

After adjusting for the number of verbals used in pre-intervention writing sample, it was found (as shown in *Table 4.9*) that there was a significant difference in the number of verbals used by both the groups in the post-intervention writing sample: $F(1, 61) = 9.47$, $p = .003$ (<.05), partial eta squared = .13. The Experiment groups used a higher number of verbals (Infinitives, gerunds, and participles) in their writing than did their peers in the control groups as is demonstrated by the *p* value: $p = .003$.

4.3.1.2   *Prepositional Phrases*

Next, ANCOVA was conducted to compare the use of prepositional phrases between the two groups while controlling for the pre-intervention numbers. A summary of the results can be seen below:

Prepositional Phrases	Type III sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pretest Prepositional Phrases	234.785	1	234.785	7.112	.010*	.104
Group	327.176	1	327.176	9.911	.003*	.140
Error	2013.690	61	33.011			
Total	30523.000	64				
Corrected Total	2675.734	63				

*p < .05

Table 4.10: A summary of ANCOVA results showing the comparison of prepositional phrases in the post-intervention samples

The summary in *Table 4.10* shows that there was a significant difference between the two groups on their use of prepositional phrases, F (1, 61) = 9.91, p = .003 (<.05), partial eta squared = .14. The data indicates a trend that there was an increase in the number of prepositional phrases used by the experiment group in their post intervention writing sample, thus indicating an effort to increase syntactic complexity by using more prepositional phrases in their writing.

4.3.1.3   *Dependent Clauses*

Apart from an increase in the number of verbals and prepositional phrases, an increase in the number of dependent clauses can also be seen:

Dependent Clauses	Type III sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pretest Dependent Clauses	17.612	1	17.612	2.327	.132	.037
Group	38.219	1	38.219	5.049	.028*	.076
Error	461.766	61	7.570			
Total	2556.000	64				
Corrected Total	553.437	63				

*p < .05

Table 4.11: A summary of ANCOVA showing the comparison of the number of dependent clauses between the two groups in the post-intervention writing samples

The ANCOVA in *Table 4.11* reveals a significant difference in the number of dependent clauses used by the Experiment groups in the post-intervention writing samples where *F* (1, 61) = 5.05, *p* = .028 (<.05), partial eta squared = .07.

4.3.2 Descriptive Analysis

In order to describe the data, the total, mean, minimum and maximum number of items that indicate syntactic complexity are presented in *Table 4.12* below.

Syntactic Complexity in the Sentences	Experiment N=33		Control N=31		% of improvement on the post-test by the Exp. Groups when compared with the Control Groups = $\frac{Post_{exp} - Post_{control}}{Post_{control}} * 100$
	Pre	Post	Pre	Post	
Total number of verbals	188	366	164	243	50.6 %
Mean	6	11	5	8	37.5 %
Min	1	1	0	1	0
Max	15	22	11	14	57.1 %
Total number of prepositional phrases	451	771	375	564	36.7 %
Mean	14	23	12	18	27.8 %
Min	5	9	6	8	12.5 %
Max	25	33	22	29	13.8 %
Total number of dependent clauses	190	219	113	139	57.6 %
Mean	6	7	4	4	75 %
Min	1	1	0	1	0
Max	11	12	9	12	0

Table 4.12: Syntactic complexity in terms of use of verbals, prepositional phrases and dependent clauses compared between the two research groups

It can be discerned from *Table 4.12* that while both the groups seem to have improved the syntactic complexity in their texts, the experimental groups seem to have employed a higher degree of structural complexity than the control groups. The descriptive statistics reveal that when compared with the post-intervention samples of the control groups, the experiment groups show an improvement of 57.6 % in their use of dependent clauses followed closely by verbals (50.6 %),

and then prepositional phrases (36.7 %). When looked closely, the control groups even reduced the number of some items such as gerunds, and participles (See *Figure 4.2* below).
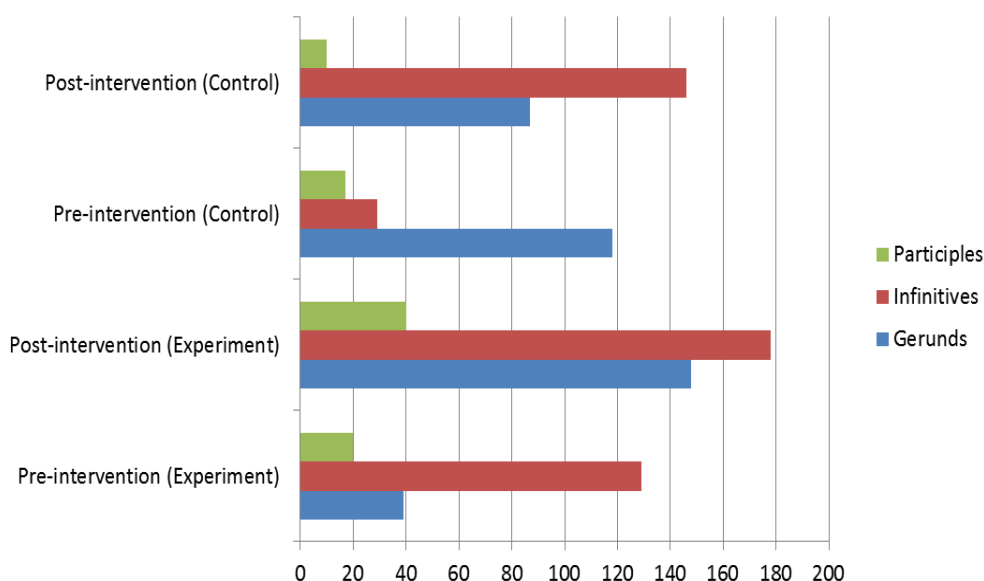
Figure 4.2: Comparison of different types of verbals used by the two research groups

It can be seen from the bar graph that the experiment groups increased their use of gerunds, infinitives, and participles; whereas, the control groups reduced the number of gerunds and participles in their post-intervention texts.

Figure 4.3 below shows that across the groups, the experiment groups show a big increase in their use of the verbals; however, when comparing within the groups, they used verbals almost double the number of times they had used in the pre-intervention texts; whereas, the control groups only slightly increased their use of verbals when comparing their own two texts.
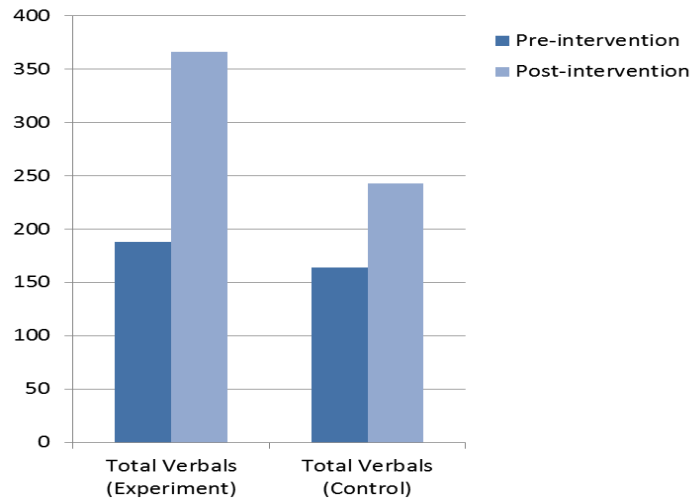
Figure 4.3: A comparison of the total number of verbals used by the two research groups

Similarly, the experiment groups show an improvement in the total number of prepositional phrases they used when compared with the control groups. A graphical representation in *Figure 4.4* shows a clear comparison of the two groups. However, within the groups, while the graph shows that both groups increased their use of prepositional phrases, quite clearly the experiment groups used a much higher number of prepositional phrases in their post-intervention texts when compared with their own pre-intervention texts.
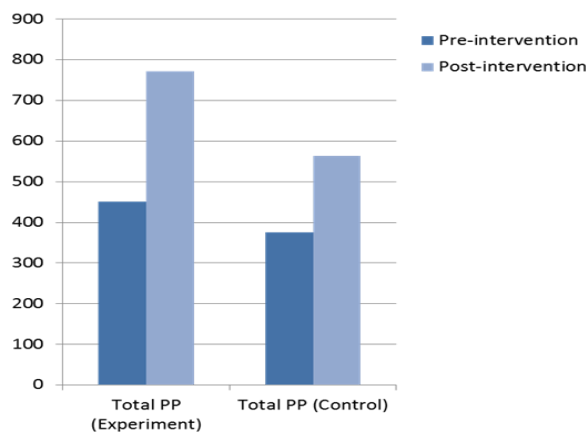
*Figure 4.4: A comparison of the total number of Prepositional Phrases
used by the two research groups*

However, the increase in the use of verbals and prepositional phrases may be considered with caution for both groups because the writing prompt itself included a gerund "studying' and a

number of prepositional phrases such as "in the first year," "at UNNC," and "for Chinese students." The prompt necessitated them to use these phrases in their answer, thus the use of these phrases was not on their own initiative although accurate usage might still be credited to the writers.

Considering the use of dependent clauses, as mentioned earlier, the experiment groups used more dependent clauses when compared to their own pre-intervention texts as well as to the control group post-intervention texts (*Figure 4.5*). The experiment groups used an average of 7 dependent clauses per text; whereas, the control groups used an average of 4 dependent clauses per text. This trend in the descriptive data suggests that although numerical differences are small, the experiment groups seem to be managing syntactic complexity in their writing more effectively than the control groups.
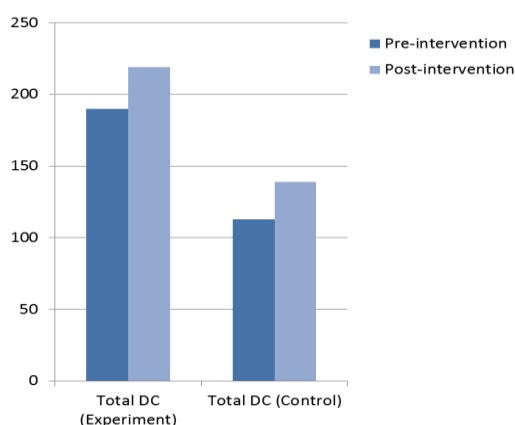
*Figure 4.5: A comparison of the total number of dependent clauses (DC)
used by the two research groups*

The data in the above tables and figures clearly indicate that the students who received instruction through a visual approach seem to have increased structural complexity in their writing when compared with their peers who received the same instruction through traditional methods. An illustration from the writing samples is provided below in *Table 4.13* to demonstrate syntactic complexity in the pre and post intervention texts produced by the same student:

Pre-intervention writing sample Prompt: Why is higher education important in modern society?	Post-intervention writing sample Prompt: 'Studying academic English in the first year at UNNC is necessary for Chinese students.' Do you agree with this statement? Give reasons and personal observations.
1. Higher education can be defined as collage or higher school courses	1. Many Chinese students come to UNNC to learn under a English-speaking atmosphere
2. The majority of educator believed that higher education has made a huge contribution to the development of society	2. Some people suggest that it is a waste of time to spend a whole year to learn academic English before relating to major
3. And arguably, higher education changed the world into what we enjoy now	3. However, educators as well as my observation claim that it is significant to learn academic English before approaching own major
4. This essay will focus on the reason of the importance of higher education	4. Chinese students have learnt under the Chinese education system for more than 10 years, and they are not familiar with what academic English is
5. First of all, higher education can decide the level of human resource	5. If there is not any courses to teach them, they cannot get used to study their major in English
6. People who receive higher education may get many skills and this has a positive impact on one's career	6. For example, they do not know how to write essay in academic English, and they have never heard about how to prepare their academic oral presentation
7. For example, almost every multinational corporation would like to employ staff who had received higher education	7. Therefore, it is necessary to learn academic English
8. Another reason for the importance of higher education is that the development of a nation depend on it	8. Having got used to academic English, Chinese students can do well in their major
9. It is no doubt and it has been raised by many great people that higher education makes stronger nation	9. However, some educator argue that students may be familiar with academic English by themselves under a fully English-speaking atmosphere
10. This result from the contribution which citizens who receive higher education make to economic	10. Although it is reasonable to some extent, it can waste more than a year for a student to get used to such an atmosphere
11. There is an evidence that after World War II, Japan grew quickly and became the second strongest nation	11. Studying academic English for a year is a best way for a student to lay a solid foundation before students approach their major
	12. In conclusion, studying academic English for a year can help Chinese students with academic essays as well as oral presentation and receiving better results
	13. Furthermore, it is the best way to get used to an academic English-learning atmosphere with contributing to their further major study
	14. Therefore, learning academic English is necessary for those new-coming Chinese students
Total verbals used: 1	**Total verbals used: 24**
Total prepositional phrases used: 20	**Total prepositional phrases used: 25**

| Total number of dependent clauses: 9 | Total number of dependent clauses: 9 |

Table 4.13: Comparison of the pre and post writing samples of a student demonstrating the use of verbals (in red), prepositional phrases (underlined) and dependent clauses (in blue)

As is shown in *Table 4.13*, this student used only one infinitive in the pre-intervention writing task, but was able to use 24 verbals of different types in the post-intervention task. Worthy to note is the students' use of a participle phrase in sentence 8, a structure that very few students attempted in their in-class timed writing. The student also uses participles such as *English-speaking atmosphere* and several gerunds such as *approaching, studying, receiving,* and so on. The samples also show that the student used a higher number of prepositional phrases which increased the length of the sentences. The number of dependent clauses remained the same, however; but these clauses appear longer in length and also more complex because of the presence of the other features within them such as the verbals and phrases.

4.3.3   Inferences from the Analysis

The trend in the data analysed by ANCOVA (*Table 4.9, Table 4.10,* and *Table 4.11*) to address research question 3 indicates that, although the numerical differences are small, the experiment groups may have gained a better grammatical control than the control groups and were writing texts that demonstrate increased syntactic complexity.

The findings in descriptive analysis also suggest that the visual approach seems to help the participants in this study to gain a better control over their sentence complexity and seem to improve their writing skills. Both the groups received the same content within the context of their writing. However, while the control groups received instruction through textual and verbal explanations alone, the experiment groups received instruction through visuals such as pictures, charts, sentence diagrams, and the use of visual imagery along with verbal and textual explanations.

However, because the sample size in this research was small, it is necessary to interpret this positive result while keeping in mind that a larger sample would have provided more reliable results, and, therefore, more studies need to be conducted at a larger scale to say confidently that visual approach has a positive influence in achieving higher syntactic complexity in the student texts which indicates an improvement in the writing skills.

4.4 Quality of the Texts

The fourth research question was: *Does a visual approach improve the quality of their writing?*

To address this question, the overall score awarded to each writing sample was compared between the two groups. The scores were awarded using the standard descriptor used by the department for marking all written assessment. For inter-rater reliability, see the explanation of the process used to establish reliability in the marking in *Section 3.9.1.1* of the Methodology Chapter.

4.4.1   Statistical Analysis

It was necessary to compare these results while controlling for the effect of the pre-intervention texts. Therefore, ANCOVA was conducted in order to compare the scores of the groups. The Leven's test indicates a Sig. value of above .05, that is, *p* = .938 which means that the variances were equal and that the assumption of equality of variances had not been violated. *Table 4.14* below gives us a summary of the main ANCOVA result:

Writing Scores	Type III sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pretest Scores	1172.821	1	1172.821	14.198	.000*	.189
Group	3222.337	1	3222.337	39.008	.000*	.390
Error	5039.036	61	82.607			
Total	223598.500	64				
Corrected Total	9229.500	63				

*p < .05

Table 4.14: A summary of ANCOVA results for the comparison of scores awarded to the writing samples indicating overall writing quality

An analysis of covariance between the two research groups, with the post-intervention writing scores as the dependent variable and the pre-intervention writing scores as the covariate, indicated that the groups differ significantly in the quality of their writing. The above table shows that the experimental group students scored significantly higher percentage of marks awarded to their writing samples compared to their control group peers F (1, 61) = 39, p = .00 (<.05). Eta Squared analysis indicated that 39% of the increase in the writing quality can be explained by the use of visual approach in the teaching of grammar as embedded into the writing instruction.

4.4.2   Descriptive Analysis

The details of the scores awarded to the sample texts pre and post-intervention are provided below in *Table 4.15.*

Scores Indicating Overall Quality of the Texts	Experiment Sample (*N=33*)		Control Sample (*N=31*)		% of improvement on the post-test by the Exp. Groups when compared with the Control Groups = $\frac{Post_{exp} - Post_{control}}{Post_{control}} * 100$
	Pre	Post	Pre	Post	
Mean	47.6	64.5	48.5	50.7	27.2 %
Min	30	50	32.5	40	25 %
Max	65	85	60.5	77.5	9.6 %

Table 4.15: The mean of the scores along with minimum and maximum scores awarded to the writing samples

The descriptive statistics in this table reveal that both research groups had scores very similar to each other in the pre-intervention writing samples. The average pre-test results of the two research groups did not differ significantly. We can therefore assume that the initial quality of writing is comparable between the two research groups of students. Nobody scored above 64.5 % in the pre-intervention writing sample. Similarly, nobody scored below 30% although 30 % is a failing score. All groups improved their scores in the post-intervention texts; however, the information from *Table 4.15* shows that the experiment groups scored 27.2 % higher on the mean than the control groups in their post-intervention texts. The number of scores awarded per band score level is given below:

Score Bands (Minimum Pass = Band 3)	Experiment Sample (*N*=33)		Control Sample (*N*=31)	
	Pre	Post	Pre	Post
Band 6 (70-100%) Excellent	0	14	0	1
Band 5 (60-69%) Above Average	3	6	2	3
Band 4 (50-59%) Average	16	13	15	14
Band 3 (40-49%) Below Average	6	0	10	13
Band 2 (30-39%) Poor	8	0	4	0
Band 1 (0-29%) Very Poor	0	0	0	0

Table 4.16: Number of Scripts Awarded Marks per Score Band

The average of the scores given by the two markers was grouped according to Band scores as described above in *Table 4.16*. It is clear from the table that 14 scripts from the experimental groups demonstrated excellent writing quality based on course descriptors; whereas, only 1 script reached that mark from the control groups. Similarly, while no one from the experimental groups scored below average (i.e. less than 50), 13 students received below 50. The descriptors helped evaluate the scripts on four major criteria: Task Fulfilment and Organization; Cohesion and Coherence; Grammatical Resources; and Lexical Resources (*See Appendix D*).

Below in *Figures 4.6 and 4.7* is a comparison of texts written by the same student and scored by two markers. The first text was produced before the intervention while the second one was produced after the intervention. The first text written at the beginning of the semester, before the intervention, scored a mark of 34 (Band Score 2) which was below the required minimum for a Pass (40 marks; Band Score 3). The text was rated as of poor quality, not only because of errors and lack of grammatical control, but also because the student seemed to be at a loss when trying to express ideas in English and also fails to draw the relevance of some sentences to the topic (*See Figure 4.6*):

Prompt: Why is higher education important in modern society?

> What is essential to the development of a modern society is is high-tech, which needs individuals who have the superior ability to use invent, use and improve the products of high-tech. As a consequence, so vital the higher education is that it is the source of the processing of modern society.
>
> Although higher education needs to spend more money, it is worthwhile that to high-tech. For instance, Not all human-beings can control spaceship comtemporary, only those who accepted higher education can be astronomists to drive spaceship, although nations need billions of dollars to bring up an astronomy astronomist.
>
> In addition, higher education is beneficial for the peace of modern society. It is widely acknowledged that those areas where economics is strong have lower rate of crime, which means higher education brings correct ideas to citizens, which can prevent them from the crime.

Marks Awarded: 34; Band Score: 2

Figure 4.6: Text produced by a student before the intervention

Prompt: 'Studying academic English in the first year at UNNC is necessary for Chinese students.' Do you agree with this statement? Give reasons and personal observations.

To a significant extant that studying academic English in the first year at UNNC is necessary for Chinese students. Primarily, it is common that different freshmen from different areas of China have different levels of English skill owing to the reason, that different areas in China have varies of edu levels of education. For instance, some areas do not need listening test in Gaokao like ShanXi Province, Hu Nan Province and so on. As a consequence, if students in the first year directly learn major class instead of learning English first. It may cause some problems that some students cannot fit for in English learning because they do not have enough ability to comprehend or communicate with others in English. Thus, it certainty will be a disaster for a pe an individual's career. Therefore, study academic English can help students to have a better studying career in the University. In addition, due to students in UNNC to must write essays in English so that some language studied (learned) from high school cannot be used. There is no doubt that high school dont do not teach students too much about academic English. As Hence, if there are is no such a course which study academic English, it may prevent the students' development because students cannot do not have the ability to describe or persuade their own ideas in a more convincing way. To sum up, in my own opinion, there are two main advantages which can support the arguement that studying academic English in the first year at UNNC is necessary for to a Chinese students. significant extent.

Marks Awarded: 70; Band Score: 6

Figure 4.7: Text produced after the intervention by the same student

160

Figure 4.7 displays the text written by the same student after the intervention. This is a longer essay when compared with the pre-intervention text, and also displays a linguistic maturity that was perhaps because of increased understanding of the grammatical concepts taught during the intervention. The student received a band score of 6 in this case (70 marks equivalent to an A-) in the post-intervention text. Although many factors may account for this improved performance, it is clear that the text written in the same amount of time (i.e. 30 minutes) and under similar timed conditions, and on topics of similar genre as well as on appropriate difficulty levels, is of superior quality than that produced in the pre-intervention task.

4.4.3   Inferences from the Analysis

Both statistical analysis and descriptive analysis points to the fact that there was a major difference between overall quality scores of the experiment and control groups. The experiment groups seem to have improved the quality of their texts as was apparent from

Table 4.15. Overall, there was 27.2% improvement on the scores by the group that went through the intervention when compared with the control group.

An overview of the performance of the groups in the post intervention texts would help make better judgement regarding the performance of the experiment groups when compared with the control groups. As usual, the last column displays the percentage of improvement made by the experiment groups in their post-intervention texts when compared with the control groups:

Post Intervention Texts	Experiment *Sample (N=33)*	Control *Sample (N=31)*	% improvement in Experiment Groups when compared with Control Groups
Total Number of Errors	231	345	33 % reduction of errors
Total Number of Complex Sentences	150	103	31 %
Total Number of Verbals	366	243	34 %
Total Number of Prepositional Phrases	771	564	27 %
Total Number of Dependent Clauses	219	139	37 %
Means of Overall Quality Score	64.5	50.7	21.3 %

Table 4.17: An overview of the performance of the groups in the post-intervention texts

As can be inferred from the table above, there is a consistent improvement on all counts in the post-intervention texts of the experimental groups. A point worth considering here is that a higher mean of the scores awarded on the texts (64.5%) is complimented with reduced number of errors (by 33%) and an increased level of syntactic complexity as demonstrated by the rest of the items in the table.

The table below shows two post-intervention writing samples from the experiment groups that were awarded the highest score of 85 per cent. The table also displays their performance in other areas of writing that were analysed:

Post-intervention text	Sample 10	Sample 18
Overall score *Max = 85; Min = 50*	85	85
Number of Errors *Max = 12; Min = 3*	5	3
Complex sentences *Max = 7; Min = 1*	4	5
Dependent Clauses *Max = 12; Min = 1*	7	10
Verbals *Max = 22; Min = 1*	14	8
Prepositional Phrases *Max = 33; Min = 9*	28	26

Table 4.18: Details of two texts that were awarded the highest overall score of 85%

This table shows the performance of two students in the post-intervention writing samples who received the highest score. It is clear from the data that the high scores correspond with lower number of errors and higher number of items that contribute to syntactic complexity. Therefore, it can be said that the intervention using a visual approach in the teaching of contextualized grammar seemed to be working for the experiment group whose texts revealed fewer syntactic errors, a larger variety of sentence and clause types, increased syntactic complexity in their writing, and improved overall quality of their texts.

4.5 Summary

The above section displays summaries from the outputs from SPSS that shows the results of ANCOVA tests conducted in order to investigate the differences between the pre and post intervention writing samples of the experiment and control groups. The comparisons were made in order to address the first four research questions that call for statistical analysis of the writing samples. The analysis was done to test the existent errors (RQ 1), the variety of sentences structures used (RQ 2), the syntactic complexity demonstrated by the writing samples by the use of verbals, prepositional phrases and dependent clauses (RQ 3), and the overall score awarded by independent markers indicating the quality of the texts (RQ 4). The results show that the visual

method had a positive impact on the development of the writing skills of these students as the experiment groups reduced the number of errors they had been making and this resulted in greater grammatical correctness in their sentence structure. The results also indicate that these students were using a variety of sentence structures and had increased the use of complex sentences that commonly feature in academic writing. Compared with the control groups, the experiment groups show an improvement in syntactic complexity in their sentences and their scores indicate that the overall quality of their texts had also increased.

The next chapter presents qualitative results that substantiate these statistical findings.

5. CHAPTER FIVE: Findings from the Interviews

The research design in this investigation involved mixed methods and, as such, the quantitative findings presented in the previous chapter seem to raise some questions such as how and why the intervention made a difference in the written performance. It has been discussed that an intervention using a visual approach in the context of writing instruction was conducted and the participants were divided into two types of groups: experiment and control. Each group consisted of two classes of approximately 17-18 students per class. The groups were taught some grammatical concepts in the context of their writing classes. This was distinct from all other classes in the Preliminary Year programme who were not given any lessons in grammar. The intervention consisted of a visual approach that was used to present relevant grammatical concepts to the two experiment groups, while the same concepts were presented in traditional format using printed hand-outs and verbal explanations by the instructors to the two control groups. A writing sample collected from each participant before and after the intervention revealed that the intervention seemed to work for the experiment group as was evident from the statistical analysis of the textual length, variety of sentences, structural complexity, and overall scores awarded to the post-intervention texts. The statistical analyses presented in the previous chapter confirm that the visual approach had a positive impact on the development of writing for these students; however, it was necessary to further embellish these findings with deeper insights into the influence of the intervention. For example, it was important to find out from the participants themselves their response to the visual approach and whether they thought the visuals had any impact on their writing development. To find this out, 20 students – 12 from the experiment groups and 8 from the control groups – were interviewed a week after the end of the intervention. The control groups were interviewed to gain an insight into their previous English learning experiences in high school

and also shed some light on what they thought about the traditional methods of teaching grammar. They were also introduced to the visual approach and given some short demonstrations of visuals that were used for the intervention groups. It was hoped that they would share the impression they had from the brief demonstration of the visual approach.

5.1 Themes, Codes, and Sub-codes

The qualitative analysis of the interview data identified six themes which related to their previous experiences with the study of grammar and their response to the visual approach. It was anticipated that in their responses to particular questions from the semi-structured interview schedule, the students would be referring to these broad themes. However, the interview data touched upon various ideas that were then categorized as sub-codes and clustered into six main codes which reflected the six major themes. As described in the Methodology Chapter (*Section 3.9.2*), a total of 22 sub-codes were created to record the comments on different themes. A step by step account of the procedure adopted for interview data analysis is provided in *Appendix J*. The themes and main codes are summarised in *Table 5.1* below.

Themes	Main Codes	Number of Comments*
1. Importance of Studying Grammar	**Importance of Grammar**	63
2. Studying Grammar in High School	**Studying Grammar in High School**	249
3. Relationship between Grammar and Writing	**Grammar and Writing**	37
4. Relationship between Sentence Structure and Writing	**Sentence Structure and Writing**	7
5. Contextualized Grammar	**Studying Grammar with Writing**	27
6. Visual Approach	**Visual Approach**	173

These include the number of comments for main codes and sub-codes

Table 5.1: A summary of the six themes and main codes including the total number of comments

The above themes and codes were derived at by carefully reading and rereading the interview scripts and identifying common ideas expressed by all the participants. Since the interviews were semi-structured, the questions were framed in such a way as to elicit responses that would help address the last two research questions. The responses from the participants helped in identifying themes closely related to the study of grammar in general, and to the intervention, in particular. The interview schedule was designed in such a way that all the participants in the interview were asked the first set of questions regarding their previous learning experiences and their opinions about the importance of studying grammar, the methods that were used to teach grammar and whether these affected their writing skills, the importance of *Gaokao*, and what they thought about instruction in grammar when contextualized to their writing classes. These responses were not categorized as being given by experiment or control groups. However, when it came to the section on visual approach, only the experiment groups were asked to respond to the specific questions on their experience with the visual approach. The eight students from the control groups were asked to give a very brief response if they so wished about their impression of the visual approach as demonstrated to them during the interview. These remarks were accounted for separately in the section that describes the findings about visual approach. The findings from the interviews are presented according to the six themes in this section. These will then be drawn up to address the last two research questions which are: RQ 5. *Does a visual approach help students in gaining better understanding of sentence structures?* And, RQ 6. *What are students' responses to the visual approach and do they think it helps them?*

5.2 Importance of Grammar

The first theme that emerged from the discussion with the students was importance of grammar. The code (Importance of grammar), one sub-code (reasons why it is important), and their

definitions are outlined below *in Table 5.2*. The last column called "Number of students" shows the number of participants that responded to the question related to this theme regardless of whether they belonged to the experiment or control groups. It was not deemed necessary to record their responses in the two categories because the research question for which we were seeking answers did not require a comparison of these comments between the groups. The data was to shed some light on what they as L2 learners thought about the need for the study of grammar. *Table 5.2* indicates that all 20 students responded to the question. A total of 63 remarks were made.

Theme 1: Importance of Grammar			
Codes and Sub-codes	**Definitions**	**Number of comments**	**Number of students**
Importance of grammar	Comments which refer to whether or not they thought that grammar is important	30	20
• *Reasons why it is important*	Comments which explain why they thought grammar was important	33	20

Table 5.2: Theme 1- Importance of Grammar-- Codes and Subcodes

As the literature reviewed in Chapter 2 of this thesis revealed, the importance of teaching and studying grammar has been a hotly debated issue for the last several decades. While some think that grammar is not necessary for language development and explicit teaching of it may even be detrimental to their writing development, others think quite the opposite. Therefore, I wanted to find out what Chinese students thought of the study of grammar and its importance in language learning. When asked, almost all students said that they thought grammar was absolutely necessary. Two students felt that grammar was not necessary to learn if they only wanted to use English for day-to-day communication. For example, one student said: "*For me English is just to communicate so I don't think it's quite a problem. I know how to use what kind of structure what kind of grammar I am using to communicate. But if I'm doing some research about the language of English then I have to know that.*" According to another student: "*…grammar is helpful for writing and academic English but I think we just spoken English in daily life we don't need so much*

grammar." The two students felt that grammar was not necessary to learn if they were to use English only for social communication, but when it came to writing, all the interviewees thought that learning grammar was "***very important***."

Some students stressed the ***importance of grammar*** especially when learning English as a second language. They saw a big difference in the need for learning grammar for L1 and L2 learners of English. For example, they felt "*that if you ignore the grammar it sounds so weird. We have to learn it. **It's important**."* For some students the study of grammar helped them to "*learn the second language in a logical way"* as they did not have the *"natural background"* in the language. The students thought that they needed *"to know the structure well"* so that they could *"use it correctly and directly."* This was important because according to the students, the greatest difference between a native speaker and a non-native speaker of English is that the natives *"speak English as a habit"* and even if *"they don't know why or what these sentences are made up of, they know how to use the sentences."* And therefore, as second language learners, they felt that they needed *"to know some rules."*

Clearly, the students felt that they needed to learn grammar because they were learning English as a second language, and learning a second language was not, in their opinion, the same as learning the native language. Apart from the fact that grammar was especially helpful in learning a second language, the students also felt that *"grammar leads to better understanding,"* and that it helps *"to convey the messages exactly."* It helps *"to make up sentences"* and avoid mistakes. As one student expressed: *"if you talk to someone in English and the sentences are all mistakes, that is really a funny thing."* It seems that the students were concerned about making mistakes and that it was embarrassing to make mistakes; therefore, they used grammar to use *"correct sentences"* and avoid making mistakes. Another mentioned that if one used *"wrong grammar,"* in particular when

using "*wrong tenses, some people may misunderstand us.*" This may link to the fact that the Chinese students hesitate to speak for the fear of making mistakes, as "saving face" is a cultural concern.

These comments indicate an awareness of the role of grammar in second language learning. Unusually, one student from one of the control groups, who received some of her high school education in another country, did not share the experience. She felt that reading in English helped her acquire grammar and even though she did *"not know grammar"* she was able to *"express myself what I want to say when I am writing."* But later in the interview she mentioned that, *"If I learned grammar when am in my high school maybe my English will be much better than now."*

Evidently, the students understood the ***importance*** of learning grammar and felt that when learning English as a second language they needed to study grammar in order to communicate accurately, especially in writing. It may have been that this idea of the importance of studying grammar was formed during their study in primary school and high school. Apparently, Chinese students start studying English in primary school and by the time they come to the end of their study in high school, their minds are saturated with the study of grammar. The experience of studying grammar in their high school was not a very pleasant experience for all the students. They mentioned the study of English, and of grammar, as related to the College Entrance Examination called ***Gaokao***. The next section present comments that relate to the study of English during high school and the years of preparation for ***Gaokao.***

5.3 Studying Grammar in High School

The second major theme that emerged from the data was the students' experience of studying grammar in high school. *Table 5.3* presents the main code and sub-codes along with the

number of comments for each code. This was the most talked about code and various ideas emerged that were connected to their study in high school. The sub-codes are ***highlighted*** (marked in bold italics) when commented upon.

Theme 2: Studying Grammar in High School			
Codes and Sub-codes	**Definitions**	**Number of comments**	**Number of students**
Studying grammar in high school	Comments which refer to their general views about their study of English, specifically grammar, in high school	26	14
• ***Enjoy grammar***	Comments which refer to whether they enjoyed studying grammar in high school	30	18
• ***Gaokao***	Comments which refer to the College Entrance Examination called Gaokao – types of questions, length, study for the test…	23	11
• ***Focus on marks and exams***	Comments which refer to the focus on marks and exam-centred learning in high school	20	11
• ***Memorization and Exercises***	Comments which refer to the requirement for memorizing rules and doing several exercises and drills in grammar	25	13
• ***Writing in high school***	Comments which refer to the teaching and development of writing in English in high school	16	12
• ***Study of Sentence Structure in high school***	Comments which refer to the study of sentence structure in high school with special reference to the four sentence structure types	20	14
• ***Methods teachers used in high school***	Comments which refer to the methods that teachers used in general to teach English in high school	37	18
• ***Errors***	Comments which refer to student errors and how these were corrected during their study in high school	12	7
• ***Chinese and English (Translation)***	Comments which refer to the use of Chinese (L1) in the study of English (L2)	15	7
• ***Confidence in Grammar and Writing***	Comments which refer to whether the student had confidence in their grammar and writing ability in high school	15	11
• ***Understand grammar in high school***	Comments which refer to whether they understood what they were studying in preparation for *Gaokao*, especially concerning grammar and writing	8	9
• ***Problems encountered in high school***	Comments which refer to problems they encountered in high school which may have influenced their learning	2	2

Table 5.3: Theme 2 - Studying Grammar in High School -- Codes and Sub codes

It is important to understand the previous experience of learning English in order to fully appreciate the strengths and weaknesses of the students in terms of grammatical proficiency. Several ideas emerged as we discussed the students' experience of studying English in high school.

5.3.1   Translation

The first major observation students made about their study of English in their high schools was that their teachers used *"Chinese to teach English."* As has been discussed earlier in the literature and theory section, in most schools in China, English is taught using ***Grammar-translation method***. All the students who were interviewed confirmed that this was the case, and although some of them found it helpful at the time, they realize that using Chinese to study English may have some shortcomings. Several students expressed that it is *"hard for us to **translate** to English."* They mentioned that their *"teachers used grammatical **terminology in Chinese"*** and when they came to this university, they could not equate the terms with the concepts in English. In high school they *"had English classes in Chinese"* and often *"the teacher used the [features] of the two languages to explain the differences."* One observation was that *"**English and Chinese** have lots of difference in their language so it's very hard for Chinese to accept the ways of their thinking."*

Clearly, while some students saw an advantage in being taught English using the ***translation*** method, they observed that lack of exposure to authentic use of English affected their proficiency in the use of English. One comment summarizes this succinctly:

- *I think language we should use it in our daily life. We learn English as a subject, we use English not like the Chinese. We talk in Chinese in daily life and we learn English in the class. We just learn maybe basic knowledge about English, but we don't use it. We just reading and then do some multiple choice… we don't use it in daily life. So, I think the application of English is not enough.*

Because it appeared to me that the teachers placed a lot of importance on the teaching of grammar in their high school classes, I wondered if the students ***enjoyed*** the lessons in grammar. 16 students responded to this question; 14 of them used the words *"boring," '"frustrating," "very hard," "very difficult," "repetitive,"* and *"complicated"* to describe their grammar lessons; one student *"didn't dislike"* it and, surprisingly, one student found grammar *"amazing."* It was obvious

in their words and in the manner with which they expressed them that they felt grammar study in their high school was not something that they **enjoyed**. Perhaps, they had lost their motivation to study grammar because of the pressure of attempting the all-important examination called **Gaokao**.

5.3.2   Exam-driven Study

The second major observation students made about their study of English in high school was about the focus on College Entrance Examination (CEE) commonly referred to as **Gaokao**. Much of the information and students' attitude towards this exam was unanticipated at the beginning of the study and thus the deep insights the data provided to the researcher may be considered a surprise finding of this study. It emerged from the interview data that the final three years in their high school were dedicated towards this *"most important"* event and preparing for the examination was a collective effort involving the students, the teachers, and the students' entire family. It appeared to be one goal that needed to be accomplished and the students', and in some cases the families', entire future depended upon the successful completion of **Gaokao**. Therefore, most part of the discussion regarding their previous experience in the study of English turned to the preparation for **Gaokao**. A short excerpt from one exchange given below demonstrates the focus on and preparation for this exam:

Interviewer:	*So, in preparation for this **Gaokao**, do you spend one year or more than one year?*
Student 7+8:	*More than one year.*
Interviewer:	*More than one year? Oh, ok. So, all through your senior high school you are actually preparing towards **Gaokao**?*
Student 7:	*Yes, it's the final goal - the most important goal.*
Interviewer:	*Ah, so, is it a very important exam?*
Student 7+8:	*Very, very, important.*

Regarding the subjects tested in this exam, a student revealed: "*They just divided into several subjects, for example, Chinese, English, Science or Math.*" Focusing on English, the students

revealed that the main types of questions asked in the exam were *"lots of multiple choice"* and cloze. Although *"grammar makes up large proportion in the English test,"* some regions tested their skills in *"listening"* and *"reading comprehension*." In the *"final part, we have to write a composition."* Many of the students explained the questions that involved filling of the blanks by using one of the four options provided. The students explained that although *"the pure grammar test was very short"* and resulted in *"only 10 points"* from a total of *"150 points,"* they needed knowledge of grammar to attempt all the questions in reading and listening sections.

From the above explanation, it can be gathered that the test comprised of multiple choice questions (which they found was *"too much"*), reading comprehension, and writing. A sample paper is attached as *Appendix G* for reader's reference. Regarding the testing of their **writing skills in Gaokao**, the interviewees explained that they were asked to write *"a paragraph of about 100 to 150 words"* or sometimes up to *"200 words."* Usually the paragraph was to *"write a letter to someone"* or *"to describe a picture."* Some students mentioned that they found this question *"very hard."* However, it also emerged from the discussion that there were some differences in the exam format and focus in difference provinces. For example, in some provinces the **Gaokao** did not include any listening comprehension, and in others the focus was more on grammar, not on writing, and therefore, *"the actual pressure of **Gaokao** is relatively different"* in different provinces. In order to prepare for this examination, the schools spent three years drilling the students using similar types of questions as exercises. One student mentioned that *"In my province it is harder to pass the **Gaokao** exam and go to college and in our province we just practice a lot."*

The data so far suggests that grammar was considered an important aspect that was tested in many ways, and that the main goal for the students in high school was to pass the **Gaokao**. All focus of teaching and learning was placed on preparing for the exam. In most cases, the students

felt it difficult to meet the expectations of teachers and their parents. Commenting on the after-effects of the tremendous pressure ***Gaokao*** places on students, one interviewee commented:

- *Because I think the traditional method is too practical too realistic for achieving a goal… if we do this exercise regularly, regularly, regularly… and in this learning period we… master this knowledge and we can manage to take exams, but after the exam happens, without pressure -- without the Gaokao pressure -- we almost learn nothing; nothing is left in our mind.*

This comment represents the views of several students who felt that all English study, the ***exercises and drills***, put them under a lot of pressure, and once the pressure was released, all that they had studied seems to be forgotten. As has been said so far, the high school education in China places an intense ***focus on marks***. The students admit that *"we just **focus on high marks**,"* and that *"**marks** is everything for Chinese senior high school."* The unfortunate thing about this is that *"the teachers did not think much about how to teach…"* but they *"help you to get a **higher mark**. This is how our parents think. This is what students also feel."* One comment described the frustration: *"…they don't care about how my grammar is or how my spoken English is… they don't care. They just **focus on the marks**."*

The students recognized that passing in ***Gaokao*** was very important for them as it would open up opportunities for further education in high ranking universities or even universities abroad. Therefore, they aimed to master the tricks that would help them to achieve a ***high score*** on the exam. They described that "learning grammar" would get them *"a **high score**… so we focus more on grammar."* Another student explained further that *"you can get **higher mark** by writing the compound sentence, complex sentence and such as that…"* They were also *"encouraged to try to use advanced words and the **marks score** will be high."* In writing, the students revealed, that they tried to write sentences *"that just look better and make the examiner think it's better,"* and tried to use *"difficult grammar in the writing and get **higher mark**."*

175

It is evident from this data that studying grammar was important to these students because grammatical accuracy resulted in **high marks** on the **Gaokao** exam. Next, we shall discover how the students studied English grammar in their high school.

5.3.3   Methods of Studying Grammar in High School

The interviewees talked about the way they studied grammar in their previous schools. First, they expressed their views about their textbooks. While some said that they *"didn't have a special textbook only for grammar,"* others said that they had traditional grammar textbooks that were full of *"words"* and *"exercises in grammar."* One grammar textbook which was on the table during the interview was considered by the students as *"one of the best Chinese grammar book,"* and that *"there are a lot worse than this. At least this one has some colours…"* The textbook had minimal explanation of the grammatical concepts, but it was full of **exercises** on given concepts that included hundreds of unrelated, decontextualized sentences given for practice. It is apparent that the students did not like their textbooks. Some comments about the books echoed these sentiments:

- *In high school my teacher forced us to read -- to finish -- at least one grammar book and do every **exercise** in the book and she will check. If you don't haven't do it -- finish it -- you will receive a punishment. So, in my experience I hate grammar book.*

- *Looking it this grammar book – when I read it I can't bear myself to finish it. I don't have too much time about it and also I can't bear.*

The students mentioned that they had different types of textbooks in different provinces and that some of them didn't have any textbooks; they only used exercises given as hand-outs to practice. Some of the textbooks, as some students explained, used an integrated skills approach. This could have been effective to a certain extent if there wasn't much emphasis on **memorizing** and testing of skills. The grammar lessons in school comprised of some explanation followed by

176

several exercises: "*In our first two years we have learned three years' things. So you can understand we have one year left to prepare, so in our first two years we have regularly **practiced** and learnt some grammar.*" One student expressed his inability to comprehend some things he was learning in school: "*In middle or primary school, we have read some poem, we **don't understand** what's the meaning -- didn't know, but now I can understand.*" Several remarks were made about the frustration with the method of drills and **exercises**: "*I have **practiced** a lot and I think I have finished the grammar.*" Most of the study time was spent in grammar exercises:

- *Too much in the final year of our senior high school almost every day every English class every self-study with English -- we spent almost I think more than 80% of time study English is for grammar.*

One student brought a textbook to the interview to demonstrate what the grammar exercises involved. I noted that the book consisted of grammatical concepts such as the four types of sentence structures, defined some terms, and presented several exercises of about 40-50 sentences per exercise for practice such as identifying the types of sentences. The decontextualized exercises provided them practice in specific forms and did not require them to create their own sentences. Practicing different sentence beginnings, combining sentences, transforming tenses, etc. was included in the exercises. Many expressed the enormity of the assigned tasks:

- *They focus more on grammar and when we learn a new grammar uh they provide us with maybe **100s of practice** and we will do that in maybe in one day or two days.*

- *The first thing they will teach you is to use which, that, who, whom… like that. And actually firstly the teacher give us some papers that incudes **100s of maybe 200s of practice**. …and we do that. …we make a lot of **mistakes** and the teacher just explain each sentence and try to explain what's the function of this …and we all remember this and after that they again give us another 200 **practice** and then we will then do it in two days… I can… firstly in the first time I made **mistake** in maybe 40% of the **practice exercise** then in the second time I will just make **mistakes** 10 % and this 10% I will try to **remember** them because they are unusual… maybe use some special words… and I will **remember** them and then I can do well in the **exam**.*

Other comments indicate that the exercises involved a lot of ***memorizing***. Most students used the word ***"reciting"*** and mentioned how they spent hours reciting passages in English. One student described a scenario:

- *Actually the most thing I cannot bear is – er -- in one unit we have two contexts -- well may be 1000 words -- and we have to **memorize** it and maybe without book come to the office and try to…**recite** and talk, talk, and **memorize** it and **repeat** that… and actually when the deadline is coming and lots and lots of students are waiting outside the office room and the teacher says 'ok, you have finished, and next one, next one and next one' – it's very interesting, I think. I would spend maybe two days to **memorize** all things and try to **repeat**.*

Another aspect the interviewees touched upon was the ***mistakes*** they often made and how these were dealt with. In most cases, the teachers pointed out and explained their ***errors***: "*[The teacher] will explain to us this multiple choice is **wrong**, why, and if you choose 'A' why you are wrong if you choose 'B' why you are **wrong** and then, 'ok this class is over' and then **practice**.*" Another explained that "*if we have **poor mistakes**, he just correct it. If it's a big **problem** and most of us will make **mistake**s, he just reemphasized it."* One student had a teacher who made special efforts to address the ***errors***:

- *Each unit we have grammar exercise, but in our last year our teacher also do some his special methods to help us. He asked us to buy this kind of material and everyone have this [exercise sheets]. He spend some time apart from regular teaching and he puts assignment to us and we need to finish it before the class and in the class he will spend about 10-15 minutes to correct it.*

The above comments show that much focus was on accuracy in grammar and the teachers often spent time in "correcting" the students' ***mistakes***. The study of grammar involved ***memorization*** of sentences and passages. This may be useful for students as they usually used these ***memorized*** sentences in the writing part of the exam.

Since writing skills were also tested in ***Gaokao***, I wanted to investigate how the students developed their writing skills. The following section presents the students' views about the development of their writing skills in high school.

5.3.4   Development of Writing Skills

The code recorded the students' comments about the study of various sentence structures and how their skillful use of certain types of structures would lead to a ***higher score***. They revealed that if they wrote *"more complex* (actually, complicated structures, not necessary complex sentences) ***sentence structures,"*** they would *"get a **higher mark**."*

The students also discussed the limitations they encountered while learning how to write. One mentioned lack of vocabulary*: "I think now our vocabulary is very limited we cannot express what we think actually."* Another compared her texts with the sentences she was writing at university: *"the sentences we learned in our high school seems a little simple."* Several other comments reflect the view that in high school, they learnt how to write different ***structures***, but these could not be considered *"academic"* writing:

- *I just know what is a complex sentence, and can write some simple complex sentences. When I have make this in academic way, always it will be wrong -- make so many errors.*
- *In our high school maybe some phrases and vocabulary are not so academic.*
- *We just write some very simple sentence.*

Interestingly, one student compared the level of their written texts in English in high school with what they wrote in Chinese in primary school: *"This kind of paragraph they ask us to write is just like -- students in primary school will write this in Chinese."* Most students mentioned that the longest piece of text they had written in school was about 150-200 words. One student said that *"in*

our teacher's standard 120 words is best -- more is not good." Some students mentioned the strategies they used in order to get a **higher score** in their written tests:

- *I remember in our high school there is a special area for grammar but it is only two or three sentences. Maybe this is a complex sentence -- they don't say it is a complex sentence. They just say it's a sentence. We have to copy it a lot of times for homework. And you just **remember** that. And in your writing exam you change some words and use the same **structure** just like that.*

- *And I realized that most of my classmates whose grammar is not so good when they prepare for the test, they will **memorize** the **form** of the compound sentence -- may be just **memorize** sample sentence, and then they replace some words and use it. That's the way they use it.*

The students felt that this method of learning, of **memorizing sentences**, *"just help us to get* **higher marks in examination**. *Not helpful in improving our* **writing skills**.*"* The teachers helped them *"to remember it then you can have* **good marks in the examination**; *you can* **understand sentence's structure**. *You don't have to know why."* One student said that some of her friends *"**recite** the dictionary."*

The data recorded above reveals that the students did minimal writing practice and were asked to produce a short paragraph in their exam. Most students **memorized** sentences and reproduced these sentences with some modification in order to write grammatically accurate sentences. They realized that these methods helped them to get a high score in **Gaokao,** but did not help them develop their writing skills.

5.3.5   Methods Used by Teachers in Schools

It was the aim of the current study to evaluate the impact of a teaching method that made use of the visual media. It was important to first find out about the methods of teaching and learning the students had already experienced in their previous education and to get an idea of

whether these methods worked for them and whether they enjoyed their second language learning experience. The previous sections have already established that the students studied in a traditional teacher-centered environment where the only ***method of learning*** was for students to complete ***grammar exercises*** and to ***memorize*** various rules and well-formed sentences. In this section the role of the teacher in their learning of grammar will be highlighted.

The role of the teacher in most cases was to teach grammar explicitly through presentation of prescriptive rules and verbal explanation. The students reiterated that their teachers taught ***grammar in Chinese*** using ***Chinese terminology***. These terms were often ***translated*** and teachers used the *"blackboard"* to write explanations. The students were required to *"take a lot of notes"* and *"**memorize** them"* because they were tested on it in the class. The teachers often provided printed ***exercises*** which the student had to complete as both classwork and homework. The teachers used *"one or two whole classes to teach them foreign things in grammar"* and provide *"**exercises** of multiple choice"* to practise the concepts. The students were not encouraged to question the rules, they were asked to ***"just memorize"***:

- *The teacher just told us this is the rule and you have to do that we don't know why. You have to use this format and we don't know why. We just **recite** it.*

Some comments implied that they were *"forced to learn grammar in our high school"* but many students mastered the skills of using their intuition or *"feeling to fill the blanks… so the result is good."* The teachers lay down one rule: *"'Just **remember** it': this is the rule."* They *"let us to remember, so I **can't understand** it better."* In their opinion, the teachers did not explain grammatical concepts much because they themselves were not very sure of them and so they told them only *"to **memorize** what the book says."* One student remarked:

- *They will combine the parts to one papers and we should choose who is the best one. Sometimes teachers explain choice not very briefly and sometimes confuse students. Teachers can't understand the two grammars very well so the students will confused. Suggestion: 'be confused'. This is a quote so I have not made grammar correction here.*

It is quite evident that the student did not always find this experience of studying grammar pleasant or even helpful. One student described the method in these terms:

- *They use the devil method… we call it the devil method in high school. They force you and give you lot of pressure about learning so much about hardship so that you will get **high marks** in the **exam**.*

The above comments give us a clue as to how the grammar lessons were taught in the students' previous learning experience. While the teachers tried to explain certain concepts and provided ample opportunity to practise, it is important to find out how much of what was taught and practised in high school was, in fact, understood. The students revealed that they ***did not understand*** much of what they were studying. Several comments echoed these sentiments: "*No, I think, I just recite it, and **don't understand** really."* Another referred to the multiple choices and said that they ***did not know why*** certain answers were correct. In her opinion, "*They don't always **practise** in writing. Yeah. And they just **practise** in multiple choice and they just **remember** the answers, and **don't know why** they chose it."*

As the above data explains, high schools in China place much emphasis on the study of English, particularly on grammar; however, they focus on teaching students to pass the College Entrance Examination. A major part of the exam consists of grammar, reading comprehension, and writing in English. Most questions are multiple choice questions. Examinees are required to write a short paragraph as well. Passing this examination is a major goal for every Chinese student. In order to succeed in high school, and ***pass Gaokao***, the students study grammar extensively through drills and ***practices***, and are taught basic sentence-level traditional grammar. The students are taught

different sentence structures and focus is more on accuracy rather than fluency. In the written part, students are taught ***sentence patterns*** which they ***memorize*** and reproduce, substituting some words to meet the required context in question. The ***methods*** teachers used were verbal explanations, traditional grammar textbooks, printed exercises sheets, and tests. The students learned the language by ***memorizing, practising***, and reproducing what they had ***memorized***. This is the traditional method of studying English, using traditional grammar. This is important to take note of because this investigation used a visual method which was taught in the context of their writing classes, and therefore, seems to be quite the opposite of what was traditionally the method. This might raise some concerns because accepting something that goes against the tradition is very difficult.

The next two themes that emerged from the interviews were concerned with the relationship between grammar and writing, and more specifically, the relationship between sentence structure and writing. The codes and number of comments per code are described below in *Table 5.4*:

Theme 3: Relationship between Grammar and Writing			
Codes	**Definitions**	**Number of comments**	**Number of students**
Grammar and Writing	Comments which refer to the relationship between the knowledge of grammar and the development of writing skills	37	16
Theme 4: Relationship between Sentence Structure and Writing			
Sentence structure and writing	Comments which refer to the relationship between the study of sentence structure and their writing skills	7	6

Table 5.4: Codes for Themes 3 and 4

5.4 Relationship between Grammar and Writing

The focus of this study is to find an effective way to develop the students' writing skills. The earlier sections revealed that the emphasis in their previous learning experience was more on grammar than on writing. I wanted to find out whether they thought there was any **relationship between grammar and writing**. All the participants in the interviews agreed that grammar plays a **very important role** in the development of their writing skills. However, one student explained that grammar helped them in other skills as well, such as reading comprehension: "*I think it can improve our writing skills and it can let our article look like more better. And I think for me, I studied grammar is benefit for the reading because some articles have maybe so long sentence. Before I study grammar, may be, I cannot understand it well, after I studied grammar I can understand better."* However, in writing academic essays, the students found the role of grammar even more important. One comment below distinguishes the informal language taught previously from the formal language used in academic writing and the role grammar plays:

- *In the past we learn English, our use is informal. We write sentence in not academic. For example, use "it's" instead of "it is" and other informal structure. And we make some errors. Maybe it doesn't matter in our paragraphs. In the reading, some grammar -- we can make mistakes, but in writing a paragraph… it does matter.*

It also emerged from the data that the students understood that there were more aspects to consider when writing essays than grammar, but that grammar played **a major role**. One student stated that "*[Writing] is one of the main aspect we need grammar. Also we need vocabulary and logical thinking to make sure our essay is in logical way."* Another student explained: *Maybe you studied grammar well and you can't write a sentence well. Maybe not. But if you cannot study grammar well, then you must cannot write a sentence well.*

Interestingly, one comment differentiates between the importance of accuracy in written English than in spoken:

- *I think, when you speak, grammar is less important than when you write something. When you speak if people don't understand you - you can explain more, but when you write, if you write it in a wrong way, people will misunderstand it, and you don't have a chance to explain what you really want to say. So I think it is **very important for writing***.

This sentiment is echoed by others too:

- *If a writer doesn't write in correct grammar the reader don't know what he wants to express -- it seems like no meaning.*

- *In writing, I think the most important thing is our explanation. Our ideas may be some new ideas. I think the grammar is a tool -- it's a tool to help you write help your explanation more clear.*

- *If you know better grammar you can write the right sentence… no mistakes.*

Some other reasons why the students thought grammar was ***important in writing*** included getting a *high score* on the tests. For example, one comment states: *"… if we use some difficult grammar in our writing maybe we can get higher mark. For example, subordinate clause."* When asked what they thought was the best way to study such an important area of language learning, the general idea was: *"the best way to learn grammar is to do exercises and to remember what you have done."*

It is clear that the students felt grammar was ***very important*** in the development of their writing skills. They felt that there was ***a strong connection*** between the study of grammar and writing. When talking about grammar, the general notion was that we were referring to grammar at the sentence level. As the focus of this study was on sentence level grammar, and in particular on ***sentence structures***, I now proceed to analyze the students' comment about the ***relationship between sentence structure and writing***.

185

5.5 Relationship between Sentence Structure and Writing

Few interviewees commented specifically on the study of *sentence structures*. Most of them generalized their views to the study of *grammar and its relationship to the development of writing*. In their discussion about writing development, the students had stated that a variety in the use of sentence structures was appreciated and that it was the aim of the students to write *"complex"* structures. Although writing was not emphasized much in their high school, the students were aware that a variety of *sentence structures* which were *"advanced"* and had *"advanced vocabulary"* were awarded higher marks in the *Gaokao*. The interviewees remarked that *"sentence structure is important for writing because you can't use only one kind of structure all the time, it looks like primary school student homework."* They also seemed to *understand* the concept of using a variety of *sentence structures*: *"I think in exam writing you should change your sentence structure."* The students' concept of subordination and sentence embedding was not fully developed as they mentioned that they usually *"wrote simple sentences"* but understood that more *"complex"* sentences were required of them. One student remarked that she tried *"the combination of sentence in sentence… because writing is a whole reading it is not only one sentence, we should combine them very well. That is another skill."* One of the benefits of studying *sentence structure* was that they *"can understand other's essays"* and *"we can learn some skills from their essays to improve our academic essays so it is beneficial."* In other words, the students could *understand* what they were reading better because of the knowledge of *sentence structure*, and would also be able to *improve their own writing* by learning from the readings.

As was confirmed earlier by what the interviewees revealed about their study in high school, grammar was usually taught as an isolated subject with several decontextualized sentences used to demonstrate grammatical concepts. The practice exercises consisted of sentences that had no links

with the writing tasks they were engaged in and it seemed as if grammar was separate from writing.

I considered asking the students what they thought about grammar lessons being taught as part of

writing lessons. The idea was to find out whether or not they appreciated the teaching of grammar

as embedded into their writing instruction so that they could see the links between what they were

learning in grammar and what they were actually writing. The next theme reveals their opinions.

5.6 Contextualized Grammar

Theme 5: Contextualized Grammar			
Codes and Sub-codes	**Definition**	**Number of comments**	**Number of students**
Studying Grammar with Writing	Comments which refer to their views regarding contextualized grammar, and whether or not they thought that combining grammar and writing instruction would influence their writing skills	27	18

Table 5.5: Theme 5 – Contextualized grammar

One of the theories that underpin this research is the theory of grammar instruction that is

embedded into the teaching of writing skills. A discussion about the theory is presented in the

literature review in Chapter 2. Based on this theoretical construct, I explained to the students the

idea of combining the teaching of grammar to the teaching of writing, and using their own written

texts to learn grammatical concepts. The majority of students who commented on this aspect were

of the opinion that **combining grammar with writing** would be better. They thought that apart

from *"understanding the concepts better,"* learning grammar could be *"more fun."* More

importantly, the students realized that when *"we learn some concepts about grammar, we can*

apply then into our writing – so effective and also interesting." Several students implied that

contextualized grammar instruction to their writing would be advantageous because *"if **combined***

***with writing** class, when the tutor told you something, you can practise it in your writing."* Some

voices were very emphatic in stating their preference: *"It's no doubt that **grammar should be***

combined with writing class." Another reason that came to light was that in separate grammar lessons, the first 30 minutes or so were tolerable, but *"after this point we soon get frustrated and boring and we cannot concentrate on it and it is useless."* The direct impact of **contextualized grammar** instruction, in the students' opinion, was on their own writing skills *"because I can apply what I learn from class to my writing… Learn from my mistakes, and improve my grammar and writing skills."* Other comments reflected on this idea further. While some preferred this way because after instruction on a particular concept, *"I would see it immediately"* and also by actually using the concept in writing would mean that *"you have really learned it."* The students also seemed to understand the futility of decontextualized study of grammar:

- *If teacher only teach us the grammar and we don't apply it in our writing, it is useless.*

As can be discerned from the above comments, the students understood the advantages **contextualized teaching of grammar** would offer them and they even seemed enthusiastic about learning grammar **within the context of their writing**. It is clear that they felt the need for applying the grammatical concepts into their writing and using their own texts to understand the new grammar concepts. However, a few of the interviewees had some doubts about the usefulness of such a method in China. While one student "*didn't know*" what the best way was, another found contextualized grammar "*more interesting but hard to say which one is better way now, because we're used to the traditional way in our high school."* As pointed out earlier, any suggestion of moving away what was being done traditionally was met with resistance. Another student stated: *"I think the way in High school may be good for Chinese students because there are so many students in one classroom so we first do this exercise and them we meet problem the teacher talks about that. It's not the most effective, but useful in China."*

Other comments and suggestions that showed some doubts about the usefulness of **contextualized** study were the difficulties of *"writing when learning a new language"* and the *"difficulty to really focus on grammar,"* because they felt that *"grammar is a system of things and you can finish it and then you can have a real writing class. Maybe you can study grammar first and then study the whole things together to make a writing class. I don't know."*

The above views reveal that the students were concerned about the logistics of how the teaching of grammar and writing could be combined in their relatively large classes, and their system being more *"traditional."* However, the idea of contextualized teaching did appeal to almost all of them.

It is evident from the comments on the five themes presented above that the students thought the study of grammar was important and that grammar had a direct relationship to writing. However, their writing skills were not developed adequately because they did not write much during their study of English, and that all their study was based on the exam format which involved very little writing and much of objective type questions such as multiple choices. It also emerged from the data that they thought teaching of grammar when contextualized to their immediate writing tasks would be beneficial. Using this information to lead us into the discussion of the impact of the visual approach, I now present the sixth theme that emerged from the qualitative data of this study.

5.7 Visual Approach

The main code of visual data was formed by clustering several sub-codes which are displayed on the next page in *Table 5.6*:

Theme 6: The Visual Approach					
Codes and Sub-codes	Definitions	Number of comments	Number of students		
			Experiment	Control	Total
Visual approach	Comments which refer to comparison between visual and traditional approach and response to the visuals in general	24	11	3	14
• *Preference for the visual approach*	Comments which refer to their preference for the visual approach	53	10	4	14
• *Visual Imagery*	Comments which refer to the use of visual imagery	20	8	5	13
• *Sentence diagrams*	Comments which refer to the use of sentence diagrams	27	8	3	11
• *Charts and other visuals*	Comments which refer to the use of charts and other visuals	7	5	1	6
• *Suggestions for Modification of visuals*	Comments which refer to the modification of some visuals to improve their efficacy	23	9	1	10
• *Problems with the visual approach*	Comments which refer to some problems with the visual approach they foresee if/when used in China	16	8	2	10
• *Confidence in Grammar*	Comments which refer to whether they had gained any confidence in their knowledge and understanding of grammar after the intervention	5	3	1	4
• *Improvement in Writing Skills*	Comments which refer to whether they find that their writing had improved because of the increased understanding of grammatical concepts due to the visual approach	30	10	5	15
• *Handouts*	Comments which refer to the use of hand-outs as part of the traditional approach used for the control groups	2		1	1

Table 5.6: Theme 6 – Visual Approach, Codes and Number of comments from each Research Group

A visual approach was used as the method of presenting grammatical concepts to the students in the intervention groups. It was expected that being surrounded by visual technology, the students would be receptive to such an approach. The concept of sentence structure types, using variety of structure in writing, trying to make sentences syntactically more complex, etc. was not new to them. They had studied these before in their high school and had intensively practised the various forms and structures as they prepared for *Gaokao*. However, as also was evident from the comments in the above sections, the students did not understand much of what they were

studying; their English acquisition was based on memorizing of certain forms, learning the tricks of answering multiple choice questions, and reproducing memorized sentences in their written exam.

As an alternative to these traditional methods, the visual method, along with contextualized instruction, was used in the intervention to present relevant grammatical concepts. The control groups received the same lessons through traditional methods using hand-outs and verbal explanation. They too received this instruction in the context of writing instruction. Therefore, it was in the interest of this research to find out from the students whether or not their understanding of the grammatical concepts increased due to the visuals that were used in the writing classes. The question about the impact of visual approach was mainly addressed to the 12 students from the experiment groups who had received instruction through the visual approach, but the 8 students from the control groups were also invited to present their reaction after a brief verbal explanation and demonstration of the methods.

I began by asking the experiment groups what their **preference** would be if given a choice between the two methods: traditional or visual. All 12 students from the experiment groups said that they **preferred the visual method**. Some students explained their **preference** by stating that this method encouraged them to *"think by ourself, not remember something."* This indicates that the students disliked memorizing and reproducing sentences, and would **prefer** a method which would help them understand the concepts more independently. They felt that comparatively, *"in the traditional method, one topic will be full of too many practices or too many explanations and we sometimes don't have much time to read or to do the practice, but this method would help us."* The students seem to view this method as a welcome relief from the many practice exercises they were required to do in high school. Some said that they **preferred the visuals** over words as they attracted *"more interest in grammar."* Moreover, many comments reflected the idea that the

visuals offered them less verbal explanation and therefore saved them much time. Another reason was that the visual method *"used short [brief] words and some pictures to let me understand better."* One of the important distinctions they made between traditional and visual methods was that in the visual methods *"we can clearly know the relationship and the difference between something."* This was the expected outcome of some of the charts and sentence diagrams.

A few students did express some ***problems with the use of the visual approach***. One student thought that the method *"suitable for [her], but maybe it's not suitable for others."* Another student expressed the desire to have *"more time to learn this method"* and so *"[wasn't] sure of its usefulness in the traditional method"* of learning. Another student referred to the fact that their system was exam-oriented and implied that there was no time to digress from the normal method: *"Without time limitation or without actually the pressure of Gaokao, I will choose [the visual] method."*

Based on their views regarding the visual approach, the responses are broadly divided into two parts that correspond to the two qualitative research questions:

1. The role of the visual approach in increasing understanding of the sentence structures; and

2. The overall response to the visual approach.

5.7.1   A Better Understanding of Sentence Structures

As indicated earlier, the students from the experiment groups ***preferred*** the visual approach over traditional methods that they had used in their previous English learning experience. The first research question in this study that called for qualitative analysis was RQ 5: *Does a visual approach help students in gaining better understanding of sentence structures?*

According to the interviewees, the visual approach increased their **understanding of sentence structures**. First, the students mentioned that the visual approach helped them in their reading comprehension and was useful in explaining their ideas; second, it helped them analyze their sentences better and faster; and third, and most importantly, it helped them **improve their writing skills**.

First, the experiment groups thought that the approach helped them in improving their reading comprehension. Reading in the target language is an important learning activity for L2 learners. Many students expressed their concern during the interviews that they found academic texts very difficult to **understand** as the sentences were usually very long and had complex structures. Therefore, it was not out of the ordinary that these students from the intervention groups mentioned the impact of the visual method on their reading comprehension. As one of them remarked, *"It help for us to read the articles to understand articles, and I also think it's useful when we are writing."* For another student the visuals *"really helped to **understand** the grammar."* One student recalled that they had *"read some poems in primary school, but we **don't understand** what's the meaning -- didn't know. But now I can **understand**."* Another response from several students was that the *visual approach "can save our time…   So, I think if you use some charts, it helps to **understand better** and quickly and you can do exercise more. I don't think it is a waste of time."* During their previous studies, the students spent a lot of time in **translating** English sentences into Chinese for a better understanding of the ideas they read. But, in **response to the visual approach**, they mentioned that *"I fully understand and… I don't need to **transform the language from English to Chinese**: I think like English do."*

193

According to the data, the visuals were also helpful when teachers used them to explain grammatical concepts. One remark represents several others: During *"reading some sentences is real difficult to **understand** -- I think that our students can select some difficult sentences and ask teachers and tutors [to] use this method to explain to us."* One student wished that the *"textbooks would use the visual ways just like the chart or diagram to make us more clear about the grammar points."* It is possible that these students appreciated the visual methods because the visuals such as the charts contained precise information that explained the concepts concisely and clearly.

The second way in which the students felt that the visual approach helped them gain a better understanding of ***sentence structure*** was through sentence analysis. One of the important activities in grammar classes is analyzing sentences as it helps to deconstruct the sentences, especially, long, complex sentences, and view the parts in relationship to the whole. Several students preferred the visual methods because they thought that this method *"saves time. We can analyze it very, very quickly."* ***Sentence diagrams***, in particular, were used to help the experiment groups to analyze the sentences that they read in order to ***understand*** the ***sentence structure***. It was also helpful to the students to identify their own structural errors and revise the sentences in their essay drafts. One student mentioned that such an analysis helped ***understand*** *"what the authors say"* when reading academic articles. Thus, studying ***sentence structures*** became a "meaning-making" activity.

Thirdly, the visual approach helped gain better ***understanding*** of the ***sentence structure*** which had a positive impact on their ***writing development***. Most students expressed that *"after I went in this university my **writing skills did improve** a lot."* Some admitted that *"Now I have realized the importance of the **sentence structure** in study…"* One student showed that he was now more

confident in his knowledge of **sentence structure**: *"I know the four basic types of sentences and in my coursework essay I try to use the some types of sentences in it."* One comment explains the impact of the visual approach on the writing skills in these words:

- *I think [my **writing skills**] actually improved. Now I have very clear idea… to write these sentences, very clear. Because I am always very confused about the end, and I don't know how to use them to combine two sentences especially to another end to connect with two nouns or… my **sentence structure** is actually **improved.***

With specific reference to sentence structures in their writing, comments were made to the effect that *"we have made progress. At least we **understand** some rules and we can make simple sentences complex and we might use some verbals and make it more academic and we know we should use a variety of sentences. Surely it has **improved**."* One of the visuals proved to have a direct influence on the writing: *"**Sentence diagrams** helped for me in **writing skills** when you can imagine which structure which one is missing."*

Some students commented about how their writing now seemed to be more "natural":

- *I think it is **improved** because I write some sentences very naturally. Maybe some sentences I will think about how to write or how to make someone to understand me but some kind of sentences I will write it very naturally.*
- *"I would say yes my **writing has improved**… now I can join the academic words and complex structure to make sure it's more natural, not on purpose."*
- *I don't [spend] lot of time thinking about it too.*

Other comments concerned the actual construction of the sentences by using **sentence diagrams** or other visuals. For example, one student mentioned that he used *"a **sentence diagram** to fill some components in it and make up a whole sentence."* This was one of the uses of **sentence diagrams** and the students picked up on how to take best advantage of the **diagrams**. Concerning sentence variety in their writing, several students commented about how the visual helped them to

195

be conscious about sentence variety: *"When at first I write the essay I will not consider about the variety of the **sentence structure**. When I will revise the whole essay I will adjust some **structures** to make the whole essay have the diversity of it."*

From the above comments we can conclude that for these students the visual approach worked well and helped them to gain a better ***understanding of sentence structure*** both in reading and writing. The answer to the fifth research question: *Does a visual approach help students in gaining better understanding of sentence structures?* seems to be in the affirmative. The next step is to establish what exactly, or which types of visuals, helped them ***improve their understanding*** of the ***sentence structure***. Below are presented their views on the three main types of visuals used in the intervention: visual imagery, sentence diagrams, and charts and pictures.

5.7.2   Visual Imagery

One of the most important ideas in the use of the visual approach was not just to use visual aids as a supplementary material to explain concepts; rather, to create a ***mental imagery*** that would help the students to internalize the concepts and recall the imagery when using the concepts. The aim of the visual approach was to help students create ***mental visualizations*** of the grammatical concepts that they were learning and implement them when constructing a text. One of the aspects of grammar learning where this mental imagery was employed was in the presentation of the four different types of sentence structures. The ***visual imagery*** was created by using pictures to represent the different structures. The picture of a single adult represented a simple sentence, two adults joining hands represented a compound sentence, an adult with a baby represented a complex sentence, and a couple with a baby – a family – represented a compound-complex sentence (*see Section 3.7.5, Figure 3.3*). During instruction, many references were made to

further expand on this ***imagery*** and the students were asked to mentally ***imagine the pictures*** that they created in their texts. It was desirable, for instance, as in the actual world, to have a mix of all types of sentences in their texts just like the real social structures: single people, married people, single parents, and families.

The control group, on the other hand, received the same description of the different types of sentences in a printed hand-out and their instructor explained the differences in the structures. The instructors also encouraged them to use a variety of structures in their essays. The interview data reveals the students' response to the two methods. Students in the control groups stated that their instructors *"explained the ideas in the class."* The students did not think much of it and after about a month *"the **hand-outs** were thrown away."* Perhaps, the students did not see the significance of the lesson on sentence structures, and did not use the concept consciously in their writing.

The students who had received instruction using visual imagery had a different perspective. The common response was: *"I never heard about this before. We just know a simple sentence. I don't know how to describe it. Just it's simple and is a very short sentence. But now... it is interesting – it's human and it's very **easy to understand** it."* In one student's words, the ***visual imagery*** made an impact on the subconscious. To him,

- *It has much impact but I think it is unconscious impact so when we are asked to write an essay or timed writing I don't think that I need a topic sentence that is a relative clause or a complex sentence or compound sentence. I don't aim to do this; I just write it unconsciously. But how can I get this unconscious action? It is partly from your grammar exercise [the visual imagery] to strength the impact, strength in my mind to do this. I didn't do it on purpose -- I just do it unconsciously.*

This observation is important, in that, it explains how the visual approach was used to create mental models and used the students' visual cognition for improved understanding. The role of ***visual imagery*** was to help student visualise the various structures as they composed their texts, thus bridging the gap between receptive skills (learning the concepts) and productive skills (implementing the learned knowledge into active writing). Another student echoed this idea: *"I think this visual method first creates some **pictures** in my mind and every time I use grammar I will think I will remember the **pictures or images** and relate it to the grammar so it's easy for me to use and I think it will attract more my attention."*

One important function of the lesson on sentence structure types was to help students improve the variety of sentence structures in their writing. In the pre-intervention writing samples, it was noted that students had used mostly simple sentences. They did the same in other coursework essays as well. However, as their understanding of sentence structures increased, they improved the sentence variety in their texts. One student explained that *"these **pictures** will remind me to think about other sentence structures not only the simple sentences. So I will change some sentence structure."* Another commented that *"in my mind I always remember the **image** first and then I know what type of sentence it is."*

The ***visual imagery*** drew the students' attention because they found it *"interesting"* and *"easy to remember."* Several remarks reflected the idea that ***visual imagery*** helped them to remember the concept for a long time. A student said that *"Now when I think about complex sentence, I remember that picture about a woman and baby… this thing really helps."* Some wished that *"we studied this earlier in primary school."*

The above comments were made by the representatives from the experiment groups who had received visual instruction over the semester. However, the students from the control groups were also given an opportunity to comment on ***visual imagery***. After a brief explanation of the concept of different sentence structures and the use of ***imagery***, the students were shown the chart with pictures representing the different structure types. They were then asked whether the visual imagery had an impact on their understanding of sentence structures. One of their responses was that: *"**imagery** can help me review a long time, and I can't forget it because it's a **picture** and we can see the relationship directly and firstly."* Another student explained his opinion in these words: *"As you know image is more powerful than words and with the combination of words and image -- and image is more powerful -- it leaves impression on our mind."* When asked whether such visuals would help students in their understanding of this concept of different sentence structures, one student responded that the ***imagery*** *"really can help because these images do make sense and… it impressed us."*

Obviously, these remarks from the control groups can only be taken as their first impression based on a brief demonstration of the visuals that were used in the intervention groups. The purpose for this was to find out from the control groups what their reaction would be if they too were offered the opportunity to learn grammar using the visual approach. It was also valuable to find out what they thought of the visuals in the first instance and whether they made any sense to them considering the fact that it was the first time they saw them.

The data suggests that ***visual imagery*** as used in this lesson had made a positive impact on the students. ***Sentence diagrams*** were the other types of visuals used in the intervention that attracted many students' attention. Next, their response to the ***sentence diagrams*** are analyzed.

5.7.3   Sentence Diagrams

During the intervention, Read-Kellogg diagrams (*see Section 3. In the Methodology chapter for more details*) were used to help visualize the structure of particular sentences. ***Diagrams*** were used to analyze the relationship of different parts of a sentence with each other, and it was hoped that they would be helpful in understanding the different types of dependent clauses and their functions in a sentence. The ***diagrams*** were also used to understand the functions of verbals and prepositional phrases in different sentences. By being able to identify the different parts and their functions in the sentence, it was hoped that the students would be able to increase sentence complexity in their own texts by using these features more frequently and accurately. The ***diagrams*** were also used to find structural problems in student-written sentences and were used to make error correction. It was aimed, as in the ***visual imagery***, that the students would reach a point where they would ***mentally picture a diagram of a sentence*** (instead of physically drawing it on paper), and check for the rate of complexity or accuracy in the sentences they produced. As such, it was aimed to be useful in revision of their drafts. Below are comments that reflect students' opinions about the use of ***sentence diagrams***.

One of the most common remarks was that the ***diagrams*** *"can define whether this is a whole sentence."* This is especially meaningful because the students often made errors of missing subjects, or missing verbs in their sentences. Many of their sentences seemed incomplete. For them, it was a good method to recognize the missing elements and *"to correct the grammar. If there is something missing, you can draw a **diagram** and find out which part is missing; which one is correct, which one is not. It can be used to check your grammar."*

Apart from checking for errors, the students mentioned that the ***sentence diagrams*** helped them in writing as well: *"because you know the **diagram** of each type of the sentence so you can also write any type of sentence using the **diagram**."* Another useful feature of ***sentence diagrams*** was that these saved them time in analyzing sentences: *"We just see sentences and draw **diagram** and **understand** it quickly instead of doing a lot of exercise." **Diagrams** also "help us to learn more about the components of a sentence."*

One important remark was that making ***sentence diagrams*** was an engaging activity: *"Draw some **diagrams** makes you really participate in learning. And just don't recite things. You really draw something and do something. Just use your hand and use your head to remember something. I think it's much better than just to read or recite it."* As pairs, or in groups, students diagrammed each other's sentences, and sometimes even engaged in a competition. One student saw ***sentence diagrams*** as a weapon: *We can use this but I think it's seldom, not always, because I think this **sentence diagram** is like our -- we have lot of weapons in my hand -- it's the final weapon, it's the most effective weapon… It's just used for some complex questions so when we read a really, really difficult sentence, nothing we can do but to build a **sentence diagram**."* Overall, the comments about ***sentence diagrams*** reflected the general opinion that these could be very effective in analysing sentences. The role of the ***diagrams*** in motivating students to study grammar may be expressed in the following comment:

- *I think -- I think -- maybe 80% of the students have poor grammar and they feel English is so, so difficult just because of their program… because the grammar lesson is boring maybe, and it's difficult to -- so many, so many steps to analyze the sentence using the traditional method. If they use this diagram, it is clear to see the structure and can easily to analyze it. They will maybe more efficient to learn grammar and then they will have better feeling about learning English.*

When demonstrated to the students in the control groups, it was evident that they found the ***sentence diagrams*** to be very complicated and needed time to understand its use: "*Yes, it will be helpful but it looks so complicated.*" However, one of them saw their effectiveness as well: "*I think this will be quite effective because I know many Chinese students have problem in analyzing the structure sometimes they can't identify where is the clause and where is the subject of the sentence.*" In general, the control groups shared their impressions of sentence diagrams stating that "*having some visual aids is good for us to improve the interest to learn grammar.*" One student from the control groups who compared the ***visual imagery*** with ***sentence diagrams*** found that*: "If I want to learn the whole grammar it is very difficult to find the **pictures** that can so fit in this kind of situation so I think this kind of branch [diagram] can help us to... learn more about the components of the sentence.*"

In the experiment groups also, some students found ***sentence diagrams*** very complicated and felt that they needed more time to learn the concept. Some of the comments to this effect are listed below:

- *I did think that **diagram** is a little <u>complicated</u> even I still have confusion of fully how to use **diagram** to fully develop my sentence or to evaluate the other sentence and sometimes in mind I think I do not need to fully evaluate using these **diagrams** because <u>time is limited</u> and it's not needed.*

- *I think for us to draw these **diagrams** I think may be a <u>waste of time</u>. I put the sentences into -- in front of me to line the subject, verb, object-- it make the sentence much clear in my mind, so I think.*

- *It <u>could be more useful</u> but I didn't form this habit.*

- *This... In the beginning I think it's <u>boring</u>... I can't understand it in the beginning I don't like it. But if I practice some sentences in this way I will understand it.*

- *I think this is good but many words in each part may be some very makes the whole **image** a little <u>complex</u> maybe we can put all adjectives in one these are all adjectives*

- *But maybe the **diagram** may be a little-- maybe in China it's <u>not suitable</u>*

The issues the students had with ***sentence diagrams*** were related to their being complicated. This may be considered a useful revelation and helpful in planning their use in class in future studies. It may be necessary to demonstrate the concept step-by-step and introduce one concept at a time.

The next type of visuals that seemed to have had an impact on the students was ***charts and pictures***.

5.7.4   Charts and Other Visuals

Charts were used in the intervention to introduce different grammatical concepts. For example, charts were used to introduce the major types of sentences, types of verbals, and types of dependent clauses. These were used to present the bigger picture as such, and were used to introduce each type in comparison with the other types. The ***charts*** were presented as ***MS PowerPoint presentations*** and also were reproduced as ***wall posters*** that served as constant reminders of the "whole" at the time when the "parts" were being discussed in class. The students responded to these ***charts, pictures***, and other visuals by explaining the ways in which these were helpful to them. For many students the ***PowerPoint presentations*** that included many ***pictures and graphic organizers*** were very beneficial: *"If we have to learn the whole part of grammar I prefer the **ppt** because although this chart will compare several structures in one paper, it is very briefly, but I think grammar should be learnt as the whole part. Sometimes we should know how it is made up and it from where -- where is the origin."* Others preferred the charts because they were useful to *"compare several structures."* One student explained how they used the ***charts*** in their writing: *"I prefer this charts because it compare each part so it makes me better to identify each part of the*

sentence and I can try to use them in writing." For another student the **charts** helped because: *"in writing, some **charts or pictures** will occur in my mind to remind that you can make this mistakes, and these sentences how to write these sentences – adjective clauses noun clauses…"* When comparing with text books, a student mentioned that **charts** were preferable because *"when I write my essay I only prepare from some papers that you have gave us like this **chart**. So sometimes when I think about my essay I will consider if this four structure I used or not but if I put the book on the desk I should look into the books and I think it's too boring."*

Although very few students commented on the **charts** as effective types of visuals, they agreed that these were helpful in presenting whole concepts and show the relationship of the parts to the whole. For example, one chart introduced the three types of dependent clauses. It was easy to see the differences between the functions of each type of clause in relationship to the main clause. Examples were provided on the **chart** to fully understand the concept. The **chart** was displayed on the classroom wall and the students had easy access to the explanation as they constructed their own essays.

5.8 Student Response to the Visual Approach

The second major aspect regarding the visual approach was the overall impact it had on the students. This aspect addresses the sixth and last research question: *What are students' responses to the visual approach and do they think it helps them?*

While much that has been said before helps answer this question to a certain extent, it is important to take note of other aspects of the visual approach that created an impact on the students. Their response to the visual approach from the experiment groups was mostly positive,

but there were some remarks that need to be considered for careful reflection. On a positive note, the students thought that the visual approach is more interesting and easy to remember. Some students thought that it helps to remember longer because it has a lasting impression on us. One student compared the visual approach to the traditional methods:

- *[After Gaokao] for me now the only thing may be not left is English but almost everything--Mathematics, physics, Chemistry, Biology almost forget -- I didn't remember anything. But from your method, you used vivid pictures or used the diagrams to help us to, I think, further understand the grammar. And also we need practice. With the combination of practice I think for me I can remember much longer than traditional methods.*

Another point was that the visual approach was a more efficient method when compared to traditional textbooks as stated below:

- *I think this visual method is useful because sometimes you use you only one paper to [explain] the four structures of sentences, so I think this method will be more efficient than use one book. Because if we forgot something, we should look into the book and we can't find the right place immediately.*

Another student expressed her view that "*if we know it continuously, we can apply this method very well -- drop the traditional method and then we won't be confused anymore about the grammar.*" "*Maybe I'll learn English better*," added another student. One of them mentioned that this was a method in which they could study independently. This meant that they did not need to rely on their teacher for an explanation; it was easy enough for them to understand by themselves.

Several students also indicated that this method could be very useful in their high school. Some felt that it would be motivational and *"Chinese English teachers should use this instead of like this book and the teacher also will feel more feel easier to teach the grammar."* It appeared that students empathized with their teachers because they thought that grammar was very difficult for their teachers as well. This was expressed by many students and is represented in this comment: *"I*

205

think we don't learn too much grammar in primary school because the teacher thinks it's too hard."

However, after being exposed to the visual approach, the students felt that *"if we use this structure and use the visuals I think in primary school we can start to learn grammar."* This was mainly because they felt that the grammar books that were being used in their schools were not student-friendly. One comment says it all: *"Looking at this grammar book – when I read it I can't bear myself to finish it; I don't have too much time about it and also I can't bear."*

One of the important responses to the visual approach was that the students gained **confidence** in their knowledge of grammar. They felt that they had become more **confident** in grammar and had improved their writing skills because of this **confidence**. One reason for this was the fact that the students found themselves in an all-English environment and had developed better understanding of grammar concepts. The following comment represents several others who had similar opinions:

- *I think because we studied in English environment and we must to -- all our books are in English so I think I can read many things and I can learn some grammar from this. I think my reading skills have improved very well -- not think -- it has improved very well and so when I am writing something I can remember what I have read. I have formed a habit to use some grammar -- it is different from high school study.*

Some students felt that the visual method was unusual and therefore was helpful in maintaining the students' attention in class. One comment suggested that : "*…because in our generation -- in our 19th [sic] generation-- we use lot of visual aids such as **digitals, pictures**, we face the information more with visual aids, so it is better to catch our attention."* Another acknowledged that *"it will help a lot maybe because it's a new way of thinking and writing*." One student who hated grammar in high school (and said so in the interview) described that he had changed his attitude towards the learning of grammar after the intervention: *"I started to get used to grammar learning. For two reasons: one reason is that there isn't any special examination about*

grammar and so the teacher don't force us to do that -- that's a reason. The second reason is this kind of new method. It can made clear about sentence structure and tell some verbals. And in this semester I have learned this kind of graphs or diagrams..."

As is evident from the data above, the students who had received instruction through the visual approach found it very useful in their understanding of grammatical concepts and in their writing development.

However, some students raised some concerns regarding the usefulness of this approach in Chinese educational system. First of all, some expressed their concern that even though the visual approach was very effective, they were very used to the traditional methods, and so it was difficult for them to get used to a new approach: *"If I didn't learn the grammar I will prefer to learn this from the very start because it's simple and easy and it is more clear and I can remember it longer. But I learnt grammar in the traditional way, and natural I have the basis of grammar, naturally I know this method of grammar. I cannot get used to this new method."* Another concern was that a new method would mean a lot of time spent on learning new things. This, in their opinion, would distract them for studying for *Gaokao*. This can be seen from this comment: *"I think it's a good way to give some deep impression, but we don't have so much time because we need to practice for Gaokao. So actually we should do a lot of exam papers so…."* This was true to some extent as the main goal for students in high school was to pass the *Gaokao*. If the students did not spend time in practicing the traditional ways, they feared that their competitors would get an upper hand. This was made evident from comments such as this: *"In China, if we cannot change the Gaokao system, this education system, I think it's hard because time is limited and without much much more practice… because if you do this and another people do a lot of practice, er, it can be really obvious that you didn't -- you cannot do that."*

Moreover, the students felt that the school management would not accept a new approach easily. One student explained:

- *"I think senior high school will feel it is a challenge because I don't think that senior high school will completely they will try first and they will maybe one class to try to use it. They think tons of practice will be more useful and efficient but uh if you try to persuade them to use that they will try but not it succeed if it is success then they will use it but if the Chinese high school didn't see any improvement in the in exam they will give up. Actually the marks is everything for Chinese senior high school."*

The second concern regarding the applicability of the visual approach came from the students' limited understanding of the approach. They felt that the visual approach could be used only after the students had some basic knowledge of grammar. This comments states:

- *"This kind is a lack of some very detail samples and sometimes makes me confused because maybe the aim is to know the structure, but the premise is that you actually know one simple sentence and how it can be and how it works and then you will know the next sentence structure types. But if you know nothing about even a simple sentence and then you -- I think it makes no sense. If we had English background, we can know this better."*

Contrary to what the comment expressed, the visuals could be used to present the very basic concepts that would lay the foundation for building up grammar knowledge in young children. However, the stages at which the types of visuals should be introduced is a matter for further investigation.

The negative response to the visual approach comes from the realization that they need time to get used to something new, as is human nature, and that the strict traditional educational system would not easily accept a new method as the need for exam-oriented practice was considered of great importance in high school. This has been repeatedly mentioned in earlier sections and is an important issue to contend with. An interesting anecdote was presented by a student about a native English speaker who established an "English Corner" in their high school and

invited all students to come there to practice their spoken English. The school management found this as a big distraction and dismissed the English teacher. The incident raises doubts on whether a new method would be easily acceptable in the educational system.

A few students thought that the visuals could be distractive: *"I think there is no such experiences in our high school because teachers just write lots of information on the blackboard so I think maybe too many graphs and charts will be distracted, I think so but I am not sure."* Rightly so, as the cognitive overload theory suggests, the visuals need to be used judiciously and creatively. This is discussed further in the next chapter.

However, as a compromise, some interviewees suggested a combination of the two methods: One suggested that *"For a young boy or young girl in school, the visual method will be much better. But for us, a combination of the visual method and the [traditional] would be more useful."* Another added to this: *"I think this way will attract [a child's] attention… And then we can teach them what we learn in high school and combine the two of these."*

These responses were from the students who had received instruction using the visual approach in the experiment groups. In addition to these suggestions, they were invited to make comments about how the visuals could be **modified** to be more effective. The next section presents their suggestions.

5.9 Suggestions

The students were asked to make **suggestions** as to how these visuals could be **modified**. All the participants found that the visuals were good in themselves as they were. However, some

useful ***suggestions*** were made to combine the visuals with one another or to add some other visuals to make it more appealing. For example, one student suggested:

- *If there is any advice I think that maybe the sentence diagrams -- you can combine the sentence diagrams with more pictures. Students will combine this imagery and sentence diagrams together. Both will have effective and interesting way.*

Another student ***suggested*** the use of audio or video clips as part of the visuals. While another student commented that this would distract the students' attention from learning the actual concepts, more ideas came aboard regarding the use of movies and even comic strips to teach sentence structure. In one exchange, a student insisted that famous movies could be used very creatively in class:

- *I think in the class the teachers use lyrics or lines from movies as example sentences. You can show which one is wrong. Maybe it's a commercial and you can say this is a complex sentence. We can analyze it. It's much interesting people can use lines from use Titanic and analyze the sentences and also show parts of the movie and say this is a complex sentence and you draw a diagram about that.*

A student objected to this and thought that "*because we have to learn academic sentences, all examples have to be academic. It does not have sentences in business, economics, and politics.*" The reply to this was*: "You can learn classic sentences from old movies, for example, 'Pride and Prejudice'. There is some sentence that are a little bit academic… Another one that is academic is 'The Big Bang Theory'. It's useful for Architecture or Engineering students. It can be useful to teach them."*

Some other ***suggestions*** included addition of games and other fun-filled activities. An enthusiastic discussion was held regarding a diagramming competition where the class was divided into two teams. Each team first constructed a sentence and asked the other team to diagram it in 3 minutes. At the end of the activity, the teacher checked for accuracy and discussed the errors, if

any. The team that diagrammed a sentence without any error and in the given time was declared the winning team. The students appreciated this idea and one commented:

- *I think for student maybe if you make this grammar lesson like a match maybe students will pay more attention to this because they want to win and they can this thing gets interesting and challenging so maybe they can understand this better.*

With these ***suggestions***, it can be concluded that the students seemed to be enthusiastic about the visual approach and seemed to be more interested in studying grammar as part of language learning.

5.10 Inferences from the Analysis

It was evident from the interview data that the experiment groups thought that the visual approach increased their understanding of the grammatical concepts, especially sentence structure. Perhaps, this increased understanding helped students to apply their grammatical knowledge in their writing, sometimes through sentence analysis during revision, or through imagining the sentence diagrams to check for errors, or through visual imagery to understand and create variety in their syntactic structures. This explains the statistical information presented in the previous chapter that shows an improved performance in the post-intervention writing samples. As described in their comments, the clearer understanding of the concepts led the students to write syntactically more complex sentences and improve the quality of their writing. This is likely so because visual learning has been said by researchers to have a deeper impact on concept development (see literature reviewed on visual approach in Chapter 2).

Although there were some concerns about the unlikelihood of introducing the visual approach in the Chinese high school education system, the students felt that the method was effective and would be helpful in motivating the learners and getting them interested in the study

of grammar. A contextualized study of grammar would also help them to directly apply into their writing the selected grammatical concepts as they learned them.

The control groups also improved their writing to a certain extent, perhaps because some grammar points were explicitly brought to their attention within the context of their writing. As the statistics revealed, they also improved the quality of their writing. However, some improvement was to be expected as the students progressed through the semester in their education. When the visuals were presented to them during the interviews, they also commented that the visual approach would be very useful to them. The students who were taught using the visual method seemed to have performed better than the control groups in their second writing samples and the only factor that could have made the difference would be the use of the visual approach. It is true that perhaps the 'teacher' factor may have had some influence on their appreciation of the visual approach. It may be that if different teachers were using the visual approach to the two experiment groups, this effect would have been addressed. However, it was not possible to have two different teachers use this approach due to time constraints and lack of time and opportunity for training in the use of visual approach (*See* Methodolgy Chapter, *Section 3.7*). Another factor that could be considered is the issues of novelty of the method. It is possible that at the beginning of the intervention the experiment groups enjoyed the new approach and therefore were more enthusiastic about it. But with the passage of days and weeks, it was expected that the effect of the novelty of the method would wear out and therefore the participants' responses to the visual approach would not be influenced by the novelty of it all. As was apparent from the conversations, the students mentioned that some of the visuals could be perceived as a source of distraction; but, overall their learning was influenced because of the approach in their perception over the semester.

5.11 Summary

The above chapter presented the data from the interviews conducted with 12 students from the experiment groups and 8 students from the control groups. Except for the references to the visual approach used in the intervention, the other findings from the interview data was gathered from both the groups and have been presented as combined data. This was because it was not necessary to consider the differences in the views of the two groups because this was not required by the Research questions. The questions concerning the perceptions of students regarding the need for and the methods used in the teaching of grammar were designed to throw some light on what they thought in relation to the on-going controversy regarding the teaching of grammar to L2 learners. Many scholars and teachers are of the view that grammar is not necessary and has no direct impact on the writing skills of students (See the reviewed literature on this in Chapter 2). However, the intervention involved explicit teaching of some grammar points, suggesting that the proposed method using visuals and visualization subscribes to the theory that both explicit and implicit teaching of grammatical concepts is necessary. The students apparently confirmed that to them grammar teaching was indeed necessary. However, in their view, their previous experience of studying grammar explicitly in high school did not help them develop their writing skills. To address this problem, the students were asked whether grammar teaching when combined with their writing classes and contextualized to what they were writing would make more sense to them. This was because the intervention was conducted in the context of writing instruction in the belief that contextualized teaching of grammar, especially when it brought direct connection to what and how they were writing, would make grammar learning more meaningful to them. The interview data seems to confirm that the students felt that they had benefitted from contextualized grammar teaching and said that if given a choice they would prefer to be taught grammar when combined

with writing. Moreover, the experiment groups that experienced visual teaching of grammar felt that the concepts became much clearer to them because of the visuals and they mentioned that visual imagery made a very important and positive difference in their understanding of the concepts. They revealed that the visual imagery made a lasting impression on them and that it would be hard for them to forget the lessons that they had learnt about grammar during the intervention.

The next chapter brings the statistical and qualitative findings together and demonstrate how these relate to the theories that underpinned this investigation and some emergent issues concerned with the visual approach.

6. CHAPTER SIX: The Findings Combined

The previous two chapters presented the quantitative and qualitative findings suggesting that a visual approach used in the teaching of sentence-level grammar and embedded into writing instruction improves students' writing. The investigation was carried out after extensive search of related literature; pinning on theories that shaped six investigative questions that the study specifically addressed (*see Section 1.6 The Research Questions*). These theories are broadly associated with the teaching and learning of grammar and its impact on writing development; and, the theories of visual learning as part of multimodal learning. This chapter presents both quantitative and qualitative findings corresponding to the theories outlined above and explains how the data support or extend these theories while addressing the main research questions.

6.1 Grammar Teaching to L2 Learners

Descriptive data of the texts gathered before and after the intervention revealed that before the intervention students in all the groups wrote short, mostly one paragraph long sentences. Using mostly short and simple sentences, the texts displayed little syntactic complexity and were mostly awarded scores just after a pass. The mean scores before the intervention were 47.6 for the experiment groups and 48.5 for the control groups. After the intervention the experiment groups wrote lengthier texts with a higher degree of syntactic complexity and were awarded higher scores (mean 64.5) while the control group, although improved slightly, were given a mean score of 50.7 – a very small increase. After being taught using the visual approach, the students were able to write longer and more sophisticated passages and received higher scores on overall quality of writing (see *Table 4.17* and *Table 4.18*). These numerical differences may not be

considered big; however, the tendency apparent in the statistical analysis is that the experiment groups seem to be writing better texts after the lessons using visual approach.

As apparent from the literature reviewed, grammar teaching had been abandoned for several years in L1 contexts and this was also influencing the L2 contexts without taking into consideration the differences in the L2 acquisition between L1 and L2 learners. Influenced by the Communicative Language Teaching approach, emphasis on the teaching of grammar was withdrawn and implicit learning of language was encouraged. However, in China, it was noted that CLT had its own problems and because of the demands of national college entrance examination (*Gaokao*), explicit teaching of grammar was carried out in the traditional ways. The interview data revealed the students' perception of the teaching of grammar that they had experienced in their previous schooling. Grammar, according to them, was important and considered the main area of knowledge to be learned in order to acquire knowledge of the L2. They were taught grammar in the traditional ways, and according to them, this was not a pleasant experience as it required laborious learning of rules, memorization, and drill and kill exercises.

The intervention focused on both explicit and implicit learning as one of the theories this study was based on was the necessity of both explicit and implicit teaching of grammar to L2 learners (Batstone & Ellis, 2009). The interview data revealed that the visual approach that made use of both explicit and implicit teaching of grammatical concepts seemed to have helped the experiment groups perform better than the control groups as was shown by the statistical analysis. Therefore, both qualitative and quantitative findings reveal that both explicit and implicit instruction in grammar is useful and is valued by learners, but the traditional methods of teaching grammar that include endless practice and rote learning aimed towards achieving a high score on

the exams has no impact on the development of their writing skills. The findings reveal that teaching the concepts using a visual approach within the context of writing instruction seems to have made some difference to the learners in their development of writing skills. Next, the findings will be contextualized to the theory of contextualized grammar instruction.

6.2 Contextualized vs. Decontextualized Grammar Instruction

One of the theories that underpinned this research is the theory of teaching grammar when embedded into writing instruction. The theory suggests that scaffolding the use of grammar during the writing process produces the most long-lasting results, for both writers and their writing (Weaver, 2010). It has been purported that writing is a social practice and that writers should be able to make connections with their linguistic experiences as readers, listeners, speakers, and writers and make connections between what they write and how they write it (Myhill, 2005). This theory is in sharp contrast to the methods of isolated grammar teaching that the students under study had previously experienced in the years of their schooling. As the interview data revealed, to them, grammar was taught separately, although some of their textbooks consisted of integrated skills approach. Much emphasis was placed on grammar, and students were required to memorize terms and rules and do exercises that were in no connection to what they were writing. Their writing was formulaic, drained of any creativity. As the students revealed during the interviews, they were required to memorize rules and sentences and were asked to recite them in class. Grammar was tested through multiple choice questions in their exam. This passive learning led them to believe that the study of grammar was very *"boring"* and *"frustrating."*

Different from this method, during the intervention, only grammatical concepts that were relevant or important to help develop their writing were taught using visuals in the context of the

writing instruction. The sentences used for demonstration of these grammatical concepts were on the topics of discussion in class and were taken either from their reading texts or from their own essay drafts. This seemed to help them to make connections between what they were learning with their own language skills, thus making instruction in grammar more meaningful.

The statistical findings indicate that there was an improvement in the writing skills of the students which was made apparent by the improved overall quality of the texts they produced. Because the students were able to connect grammar with their whole language learning experience, and could apply the learned concepts immediately to their own written communication, grammar seemed to make more sense to them. From the interview data it can be explained that the idea of contextualized teaching of grammar was appreciated by a majority of the students and if given a choice between the two methods, they would opt for studying grammar when linked with their writing. In their responses, the students mentioned that their understanding of sentence structure had increased because they were able to apply the grammatical concepts directly and immediately into their writing. To some extent, this may serve as an explanation to the questions raised at the beginning of this research: why the Chinese students, who had studied English for several years in their primary and high school, were not able to construct grammatically accurate sentences in their writing. Part of the answer lies in the theory that isolated teaching of grammar does not have a positive impact on writing development (Andrews et al., 2006), and that contextualized teaching of grammar has some benefits over that (Andrews, 2010; Myhill, 2010). The results of this study provide evidence that in the case of these students, the traditional methods of studying grammar did not have much influence on their writing as evidenced by the low quality of texts they produced before the intervention; but after the intervention which involved contextualized teaching of grammar using a visual approach, the quality of the texts improved significantly. These results are

in line with the results of a recent study by Myhill, et al. (2012) which provides robust evidence for the first time of the benefits of teaching grammar in the context of writing instruction. It is interesting to note, however, that for the control groups in this study, the impact was not as much although they were also taught the grammar points in the context of writing instruction. Both the experiment and control groups were taught similar concepts in grammar within the context of their writing; however, the visual groups seemed to have improved their writing skills more than the control groups. Therefore, while this study emphasizes that visual approach may have had a positive impact on the development of writing for these students, it may have worked the way it did only because the instruction was contextualized to their writing classes. Another way of looking at this is that while both experiment and control groups were taught grammar when contextualized to writing instruction, it was potentially the visual approach that made the difference in their writing development. It appears that the visual approach and contextualization were interdependent in this study. The ways in which grammar instruction influenced students writing are discussed more at length in the following section.

6.3 Grammar and Writing Development

The main aim of this study was to find out whether a visual approach has an impact on the writing development. Four main areas were considered in order to test whether the teaching of grammar using the visual approach had an impact on the grammatical correctness of sentences, use of sentence variety, syntactic complexity, and overall writing scores. Focus on these four areas helped find the answers to the first four research questions by conducting a statistical analysis of the student texts produced before and after the intervention.

6.3.1   Grammatical Correctness

The writing samples collected before the intervention displayed a high number of structural errors, as well as other errors which were not identified because they were not a part of this study. The main reason for making many errors in their texts was perhaps to do with the fact that in their previous English learning experience, according to the students in the interviews, they had not been presented with situations in which they could actually use English and apply the grammatical knowledge they were learning into active communication.

In order to see whether a visual approach would improve *grammatical correctness* (RQ 1) in their sentences, the pre and post intervention writing samples were statistically analysed and compared for errors using a code which was developed based on a theory of errors in SLA (Ellis, 1994). References are often made of Corder (1967, 1974), who explored the idea of the usefulness of errors made by the learners during language instruction, and employed error matrices to identify, classify, and explain the types of errors made. The current investigation did not consider the types and sources of errors as this was not the main aim of the study; rather, it focused on identifying the number of structural errors such as missing elements, sentence fragments, run-on sentences, misplaced modifiers, clausal errors, agreement errors and lexical choices that interfered with making grammatical meaning.

The statistical analysis of *grammatical correctness* in student writing revealed that the participants made such errors in both pre and post intervention texts; however, the experiment groups reduced the number of errors in their post-intervention samples by 33% (see *Table 4.3*) when compared with the control groups. It is possible that these types of errors reflect the

developmental stage that the learners were at, according to the theory put forth by Ellis (1994), but this is a matter for future investigation.

One of the reasons for this improvement, as suggested by some students in the interviews, could be that they were better able to analyse the sentence structures using visuals such as sentence diagrams. For example, the diagrams helped them identify missing elements in their sentences and they were able to correct errors such as missing elements, sentence fragments, and run-on sentences during revision. The students also used visual imagery to analyse sentence structures and were able to distinguish between clauses and phrases and use of clause markers, thus avoiding errors at clause level. Therefore, the quantitative as well as qualitative findings regarding the first research question confirm that the visual approach used to teach grammar when contextualized to writing helped these students to improve grammatical correctness as shown by the reduced number of errors. Reduced errors, however, does not always equate to high-quality writing. Therefore, turning to the next theoretical construct, I shall discuss the impact of grammar teaching on the production of variety in sentences and syntactic complexity.

6.3.2   Sentence Variety and Syntactic Complexity

Quantitative findings of the second and third research questions were directly related to the construction of a *variety of sentence structures* that also had a certain measure *of syntactic complexity*. A descriptive analysis of the types of sentence structures used in the texts revealed that it was not clear whether the visual approach had a direct impact on sentence variety in their writing as the writing samples demonstrated that the students used all sentence structure types in both the pre and post intervention writing tasks. Moreover, it is unclear whether they were aware of this fact and consciously employed a variety of structures, as the interview data revealed that they did

not fully understand the differences in the sentence structures during their study in high school, which was just before they enrolled in this university. Much of what they learned in high school was beyond their understanding, and most often they simply memorized sentences and reproduced them in their writing. It is possible, that they used some fixed expressions such as the constructions with "not only-but also" and "this means that…" which resulted in compound or complex sentences.

However, when considering syntactic complexity in the sentences, it is clear that the teaching of relevant grammar points had some impact on their understanding and application of the features that were thought to increase syntactic complexity. Development of language proficiency is usually measured by the learners' complexity, accuracy, and fluency (CAF) in the use of target language (Kuiken et al., 2005). In this regard, syntactic complexity which includes quantification of the length of production unit, amount of embedding, range of structural types, and sophistication of the particular structures deployed in production is an indicator of linguistic maturity (Norris & Ortega, 2009). As stated earlier in the review of related literature, measures of syntactic complexity are often used to evaluate the effects of a pedagogical intervention on the development of grammar, writing ability, or both.

According to these measures, although on average the students were able to use all types of sentence structures, they increased the use of complex sentences, thus employing a variety of structures along with a greater degree of subordination. ANCOVA results indicated that the post-intervention texts also displayed an increased use of verbals, and prepositional phrases (see *Table 4.9, Table 4.10,* and *Table 4.11*). It can be said that the intervention helped the students to write texts with a greater degree of syntactic complexity when compared with the control groups as shown in *Table 4.12*.

This could be explained further by the qualitative findings which suggested that the visual approach helped increase their understanding of sentence structures and the features that build linguistic complexity. With special reference to visual imagery, the students revealed that they had now internalized the concept presented in imagery and were able to visualize sentence structures that they read or created. It was implied by their responses that their understanding of the different verbals and their functions, the use of prepositional phrases, and of the different types of dependent clauses and their functions had improved. Because they clearly understood these features and could see their relationship with different parts of the sentence as shown in sentence diagrams and charts, they were better able to apply these features in their writing. This was evident by the longer, grammatically more accurate, and more syntactically complex texts they wrote after the intervention when compared to the ones produced by the control groups.

6.3.3   Overall Writing Quality

Although the quality of written texts does not always depend on syntactic complexity (Beers & Nagy, 2009), in this case, it seemed that the scores of the students had improved after the intervention. The increased syntactic complexity, as well as a higher score awarded to the post-intervention texts, suggests that syntactic complexity can be an indicator of higher quality and thus higher linguistic proficiency. As mentioned at the beginning of this chapter, in the pre-intervention texts, the overall quality of the written texts was below average (score band 3). The maximum length of texts they had written for *Gaokao*, and in their writing practice, was 150-200 words (Refer to *Section 5.3.4* for further details), and as such, they were not accustomed to expressing their thoughts and ideas in writing. Therefore, while their scores on average were almost the same in the pre-intervention texts, there was around 27% improvement in the scores on the post-intervention samples of the experiment groups when compared with the control groups (see *Table*

4.15). In their own perception, the students also felt that their writing had improved considerably after the intervention and in their interviews they mentioned that because they were able to understand the concepts better, and were able to easily recall the visual imagery that helped them to construct more correct sentence structures, they found that they were more confident in their writing skills.

Along with qualitative data that described how in their own perception the students' understanding of the relevant grammatical concepts had increased, the ANCOVA results presented the evidence that without any other influence that might have been existent, there seemed to have been a significant increase in grammatical correctness, syntactic complexity, and writing quality (For a summary of their performance in the post-intervention texts, refer back to *Table 4.17*).

The idea of explicit grammar teaching using the visuals with an aim for developing implicit knowledge of the grammatical concepts is worth investigating further, and more research perhaps using true randomized control trials might shed more light into its effectiveness. As for now, the visual approach and its impact on student writing will be considered next.

6.4 The Impact of the Visual Approach on Student Writing

The idea of using a visual approach came from the theory of multimodal learning in modern educational setting. Visual culture in which the students find themselves dictates the use of a variety of visual modes and the cognitive theory of multimedia learning has shown that learning improves when visual combined with verbal modes are used for presentation of concepts (Mayer et al., 2001). Multimodal instruction includes both verbal or textual and visual modes. The cognitive theory of multimedia learning contends that ''multimedia presentations have the potential to result

in deeper learning and understanding than do presentations that are presented solely in one format'' (Mayer et al., 2001, p. 68). Moreover, the theory of external and internal visual representations as explained by Gilbert (2010) differentiates between visuals used as external aids and those that help to create mental models that seem to have a greater impact on learning. This is manifested in the outcome of the intervention which involved the use of both external and internal visual representations. The statistical findings have shown that the visualization that results in the creation of internal or mental models seems to have had a positive impact on the understanding of grammatical concepts at sentence level and which in turn helped the students to create more effective texts. This can be evidenced by their post-intervention texts that demonstrate higher level of grammatical correctness, syntactic complexity, and higher scores (See *Table 4.17* and *Table 4.18*).

Qualitatively, the students confirmed that the visuals had a positive impact on their writing. Most of them implied that both external and internal visual representations, such as the charts and pictures, had helped them in their conceptualization of major grammatical concepts. However, it was the internal visual representations that had drawn their attention. Almost all the students mentioned that visual imagery had played an important role in increasing their understanding of sentence structures. This, they said, did not only help them in understanding what they read, but also helped them in constructing sentences of different structures bringing in more variety to their writing. As far as sentence diagrams were concerned, the students seemed to understand the dual role they played as external visuals as well as an aid to internal visualization of the structures. After a certain period of time when students got accustomed to physically diagramming sentences, they used the diagrams to check their sentences in their essays during revision. The aim of such an activity was to lead the students to a point when they would visualize or mentally draw a sentence diagram to understand the grammatical structure of the sentence that they read or wrote. This was

225

encouraged only when they failed to understand a complex sentence, or when they were not sure whether a particular sentence that they had written was structurally complete or correct. This was done in the context of the writing that they were producing and so the grammatical concepts made sense to them and they could apply the learned concepts with immediate effect.

Accordingly, the students implied in their responses that when they reached the point where they could mentally visualize a sentence diagram, they did not need to physically draw a diagram to analyse it. This helped alleviate the problem of "wasting time in the drawing of diagrams" (Reed & Kellogg, 1896), due to which in the past this activity had been considered a pedagogically useless activity. It is true that some students found sentence diagrams rather complex or difficult to process; however, this could be a result of their lack of knowledge of basic grammatical concepts. Sentence analysis assumes an understanding of basic concepts of sentence structure, such as identifying the two main parts of a sentence – subject and predicate. Most students had acquired this basic knowledge and during the intervention they appeared to understand better the relationship between parts of a simple sentence, or between the main and subordinate clauses in a complex sentence.

Thus, in keeping with the cognitive theory of multimedia learning, the visual approach that included some text, visuals, and visual imagery seems to have improved these students' writing skills. As implied in their reflections, I believe that the visual approach improved their understanding of sentence structures, and their response to the visual approach on the whole was positive. The findings in this study support the theory of multimedia learning which was developed based on research in the fields of science and technology and extend these ideas to language learning. In sum, we can see that the mixed methods helped to arrive at a deeper understanding of

why and how the visual approach seems to have assisted the students in improving their writing skills. While considering these findings critically, we can identify certain emergent issues.

6.5 Emergent Issues

Some of the issues that emerge from the findings of this study are as follows:

1.   It is important to consider what kinds of visuals have a better impact on the conceptual understanding of ideas. A difference between external and internal visualization helps to understand why certain types of visuals seemed to be more helpful than others. A critical analysis of the idea of external visualization leading to internal visualization is crucial to consider when making pedagogical decisions regarding the types of visuals to be used to correspond with the goals to be achieved. The next chapter will throw more light on this discussion point.

2.   While the findings focus on the use of visuals in grammar teaching, it is important to consider the disparity among researchers regarding the explicit and implicit teaching of grammar. The opinions differ regarding the impact of explicit teaching of grammar and more often emphasis is placed on communicative language teaching which focuses on implicit learning of grammar as all the other language skills. Some SLA theories indicate that there is a place for both explicit and implicit learning, and that implicit learning is often the goal of explicit teaching of grammatical concepts especially in second language learning. The findings indicate that the participants had been taught grammar explicitly in their primary and high schools, but that had not helped them in their writing development. Yet, the proposed visual method uses both explicit and implicit teaching of certain grammatical concepts. The crucial point here may have been the use of visualization in contextualized instruction. This needs careful analysis which will be carried out in the next chapter.

3.   Lastly, based on the idea that writing development is often influenced by socio-cultural phenomena. *Gaokao* based learning in Chinese high schools would not permit any deviation from traditionally established methods of teaching and learning. Because it is necessary to introduce a visual approach early in the process of second language acquisition, it might be more useful to employ the method in high school rather than at university level. However, it seems very unlikely that the current practices in high schools which aim toward passing the *Gaokao* would allow for such a method. For the visual approach to be effective at university, it would mean beginning at a very basic level – an idea that may not be welcomed. In essence, the study calls for a shift in the methods of teaching and the aims of teaching grammar in Chinese high schools, which then could be carried forward in the first year preparatory programme for higher education in English.

These points are necessary to be considered critically and more in depth in order to understand the implications of the findings that have been reported here.

7. CHAPTER SEVEN: Discussion

This study used a visual approach as the intervention method with a hope that a visual method of presenting selected grammatical concepts in the context of writing instruction will benefit writing development. As explained in the previous chapters, the theories of multi-modal instruction, SLA theories of explicit and implicit teaching of grammar, and the theory of contextualized grammar instruction formed the theoretical framework for this research. Some issues arising from the findings were briefly mentioned towards the end of the findings chapters. These important ideas that emerge from the study include the use of visuals in second language learning, differences between external and internal visualization, types of visuals, the role of explicit and implicit grammar instruction, and the impact of exam-oriented education on English learning. Much extensive discussion could be made on each of the above points; however, the space in this chapter would only permit a brief analysis of the theories and past research that would trigger issues of concern in the light of the findings of this study.

7.1 Use of Visuals

Visuals were used in this study to present selected grammatical concepts along with writing instruction. This was based on my observation that the modern generation of students understands and extensively uses this mode in their social as well as educational contexts. Theoretically, it has been suggested by several researchers that multi-modal learning, which generally means a combination of verbal and non-verbal modes, helps in better conceptualization of ideas and has longer lasting positive effects on learning. Researchers (such as Darts, 2004; Felten, 2008; George, 2002; McDougall, 2007; Sabau, 2008; Semali, 2003 and several others) have all acknowledged that there is an ever-increasing need for integrating visuals in all teaching and learning because our

students are born in an image-rich culture and that this "visual generation" demands media rich environments for learning. This call for changes in the methods for teaching and learning has a tone of urgency and many argue that it is the responsibility of educators today to move away from traditional methods of teaching a second language which is mostly mono modal (print media) to multimodal which is especially rich in visuals and uses various technological tools of learning. However, any such pedagogical changes need to be based on evidence on learning and thinking, not simply on the ubiquity of visual modes. Researchers like Ramadas (2009), for example, urge the educators of this digital generation to draw on the science of cognition for making informed and intelligent decisions as there is a plethora of technological choices available to the modern teacher.

The use of the visuals is of special significance in the study of a second language. Past research in this area has been limited to the use of the visuals in scientific studies; however, a growing need for visual teaching has been noted with the emergence of visual learners. Visuals are especially useful in making connections between linguistic input and linguistic output of the learners. A theory of SLA is an attempt to show how input, internal processing and linguistic output are related (Ellis, 1985). In this study, by input I mean the teaching of grammatical concepts, by internal processing I mean internal conceptualizing of the grammatical structures, and by linguistic output I mean the application of those grammatical structures in actual writing. According to Ellis (1985), the linguistic output is the main source of information of how a learner acquires a second language. He stated elsewhere (2006) that learners do not always acquire what they have been taught and that for grammar instruction to be effective it needs to take account of how learners develop their inter-language. It is also found that one's understanding of language -- even one's own -- normally far exceeds one's ability to speak it (Davies, 1976). This means that there is a

difference in what one knows about a language and what use of that language one makes in actual communication.

In the same vein, SLA studies in the past have suggested that better comprehension does not necessarily result in better writing. For example, Ortega (2003) mentions the use of complex sentence structures as part of the measurement of good writing. However, he warns that "more complex" does not mean "better." Although it is obvious that one cannot successfully create complex sentence structures in L2 unless one understands well the concept of what makes a sentence complex, it is also true that the person may not be able to translate that understanding into actual writing. Moreover, grammatically correct complex sentences are not necessarily semantically or communicatively effective. It is also not necessary that use of certain structures in one's writing equates to better understanding of the concepts. Ellis (2006) terms these as the second language learner's explicit and implicit knowledge where explicit knowledge refers to learning language concepts and implicit knowledge refers to internalizing those concepts so as to be able to use them in communication. Gaining implicit knowledge is the goal of explicit teaching, according to Ellis, and most SLA researchers agree that competence in an L2 is primarily a matter of implicit knowledge (Ellis, 2006). This distinction of explicit and implicit learning will be discussed in a later section with reference to the present study; for the moment; however, let us return here to the use of visuals in bridging the gap between explicit and implicit knowledge which I have referred to in simple terms as teaching methods that help in conceptualizing of the ideas and implementing these in actual linguistic output in writing.

Pavio's Dual Code Theory (DCT) (1986) postulates that the human brain has two separate memory channels that process verbal and nonverbal stimuli in different ways, and that these are

able to cross link with each other. In other words, the brain has two processing systems, the linguistic system and the visual system (Sadoski and Pavio, 2001, pp. 42-66). Generally, in the teaching of languages, we exercise the linguistic system more than the visual system (Murr and Williams, 1988). This seems to suggest that mono modal language teaching is missing out an important brain resource. The visual system seems to remain underutilized which is not the case in other educational subjects such as Science which makes extensive use of the visuals in their lessons (such as diagrams, films, experiments, etc.).

Drawing on Pavio's theory, Mayer's cognitive theory of multimedia learning (2001) suggests that the presence of the visual along with the verbal or textual modes enhances cognition. This theory of multimedia learning was developed as part of the science of learning, not necessarily the learning of languages. However, picking up on this concept, the present research attempted to use the dual mode (visual and verbal/textual) in a language learning environment. The results take the existing research slightly further by suggesting that the use of visual along with textual or verbal modes may have positive outcomes in the teaching and learning of grammar which, as suggested by some SLA theorists (for example, Nassaji & Fotos, 2004), has a direct bearing on the development of a second language, especially on the writing skills. It was assumed in this study that the visual mode would activate the already present grammatical knowledge that the students have developed over the years during their previous learning experience and facilitate its use in student writing.

It was an aim of this study to see if a link could be established between conceptualization and application of these concepts into writing (between input, internal processing and output) that can be established by making grammar more meaningful with the use of visuals. The findings of this

study do suggest that the writing skills of students had improved because they understood the concepts better and could identify these concepts as more "human" as one student put it. This has been made evident by a number of comments that seem to suggest that the students were better able to understand the already familiar grammatical concepts (such as the use of dependent clauses in order to increase structural complexity); and, therefore, were better able to translate this understanding into their writing as evidenced by the quantitative findings. This study, therefore, supports the view that deeper conceptualization facilitates active implementation of the concepts into writing, and that visuals help in internalizing the concepts which in turn assist linguistic output. Taking again the example of dependent clauses, although the subjects in the study were familiar with the term "dependent clauses" and had studied clauses in their high school grammar lessons, they had not fully understood the use of dependent clauses in relation to the main clause in the sentences. It was no surprise then that in their first semester of study, many students used sentences beginning with "because" and "while" not realizing that these were dependent clauses and could not be used as complete sentences. As revealed in the interviews, the students used to memorize complex sentences and used them in their writing substituting only some words. However, in the post intervention writing samples, there was increased use of complex sentences and other features that led to higher syntactic complexity in their writing. Importantly, texts that demonstrated higher syntactic complexity were also awarded higher band score for overall quality (See *Table 4.17* and *Table 4.18*).

Seemingly, deeper understanding of particular concepts gave students the much needed confidence to apply the learned concepts into their writing. Better understanding also led to fewer errors, an achievement which, in certain cultures such as the Chinese culture, is of vital importance due to the issues of "saving face."

It has been implied in the above discussion that the visual mode of teaching grammar helped in better conceptualization of relevant grammar points. It must be recognized that there is a difference between the use of visuals as merely a teaching aid and as a means for internal visualization that comes as a result of mental modals that the visuals help to create and which lead to deeper understanding of the concepts. By deeper understanding it is implied that the participants in this experiment had internalized the concepts. Internalization of the concepts was the direct benefit of internal visualization of those concepts. Had the visuals been used merely as an aid for external representation of ideas, it is possible that they would not be as effective as when they were used to create internal representation of learned concepts, or mental modals. It also must be noted that although emphasis has been placed on visuals presented to the students using multimedia, it is not the use of technology or the means of presentation of these visuals that is of importance. In fact, merely using advanced technology to present materials visually may not have any positive impact on the development of writing. This was evidenced by a recent study on the impact of interactive whiteboard technology, which is considered to be highly effective, on medical students' achievement in ESL essay writing in Egypt by Albaaly and Higgins (2012) indicated that though the students' essay-writing skills improved in both groups, the use of the interactive whiteboard had no additional beneficial impact on the experimental group's achievement. Based on the conclusions drawn in this study, it appears that the pedagogical approaches to support learning are more significant than the technology itself (Albaaly & Higgins, 2012). The point to be noted here with regards to the current study is that it is not just the use of visuals through modern technological tools that is being hailed as the answer to the problem being addressed. The technological tools may be referred to as tools to present external visuals. The aim is to use these external visuals to help learners internalize the concepts. The following section helps distinguish between external and internal visualization.

7.2 External and Internal Visualization

References have been made in the previous section of external and internal visualization. It is important to differentiate between the two in order to fully understand the implications of the findings. This distinction is often linked to memory. Atkinson and Shiffrin (1968) proposed a model of memory based on two types of memory, short-term memory and long-term memory. Although long-term memory contains almost unlimited capacity and is believed to be more permanent, passing information into long-term memory is a big challenge (Chen, 2004). According to Paivio (1990), images and words have different cognitive representations, therefore, the brain uses separate memory systems for different types of information: verbal memory and image memory. Verbal memory is related to language systems, while image memory includes graphics, sounds, tastes, and nonverbal thoughts. Pavio indicated that when verbal information is acquired from sensory memory, it moves to verbal processors. Likewise, when visual information is acquired, it moves from sensory memory to visual processors. The crucial point occurs when information in either processor can activate the information in the other processor. It is likely that visual information is processed faster and is retained in the long term memory and therefore is easier to recall than the verbal information. However, in the teaching of grammar, very little use of visual information is made.

Richard Mayer's multimedia theory draws on Paivio's Dual Code Theory (1986) and Sweller's Cognitive Load Theory (1994). Mayer and his associate Mareno (2000) have shown that learners learn better when corresponding verbal and visual information are held together because it makes learning more meaningful. Ideally, verbal and visual information are linked and assist each other; therefore, when receiving verbal information and images simultaneously, the learner processes different modes of information all at once (Chen, 2004). More details of this theory can be found in

the Literature Review chapter of this thesis. As suggested by the theory, a visual approach that includes both verbal or textual and visual information seems to facilitate the integration of the two modes in order to make learning more meaningful. Thus, visual explanations, as well as textual or verbal explanations of grammatical concepts seemed to have made learning of grammatical concepts more meaningful. This also means that presenting students with a written text accompanied by graphics, as opposed to just written text alone, allows readers to activate and integrate both the visual and the linguistic systems, and this interconnection helps readers generate inferences about the text (Sadoski & Paivio, 2001). Multimedia presentations allow learners to hold verbal and pictorial representations at the same time, thus increasing the chances that learners will be able to build mental connections between them. Building connections between verbal and pictorial mental models is an important step in conceptual understanding (Koehler et al., 2011).

Larkin and Simon's (1987) seminal paper about mental representations and the cognitive uses of different classes of representations, is arguably the seed around which much of this research area in cognitive science has crystallized. The authors provide critical insights into the potential benefits of diagrammatic representations over propositional or sentential representations. Drawing on these insights, Rapp and Kurby (2008) present an introduction to current and contemporary work on mental representations. They state that "visualization can be thought of as the mental outcome of a visual display that depicts an object or event." They refer to Science-based 'visualizations' in particular as having become ubiquitous in classrooms. According to Gilbert (2006), the term "visualizations" is also used to describe internal mental constructs, i.e., mental models, thought to be in the mind's eye, and used in mental imagery and to solve problems whereby people read off their mental model.

Psychological investigations of learning and memory can provide useful suggestions as to when and how 'visualizations' might function as effective learning tools. However, all recent research that explores the relationship between internal and external visualizations and the implications of this relationship for education and training is for scientific, engineering and medical professions. Nonetheless, for purposes of understanding the two aspects of visualization, it is beneficial to consider research in science visualization.

Distinguishing the two types of visualizations – internal and external – Rapp and Kurby (2008) use the term representations which is defined as a likeness or simulation of some idea, concept, or object. An external representation, according to the authors, is one that is available in the environment and often corresponds to additional concepts or notions (Rapp & Kurby, 2008). A variety of external representations have been developed specifically to convey particular ideas, and in many situations, to specifically help individuals learn. Internal representations are not available in the environment, but are instead held in the viewer or learner's mind (Rapp & Kurby, 2008). The traditional term in cognitive science for an internal representation is a mental representation, which designates it as part of our private thoughts, derived through mental activity. In sciences, according to Hegarty (2004), an external visualization is an artifact printed on paper or shown on a computer monitor that can be viewed by an individual and an internal visualization is a representation in the mind of an individual. Gilbert (2010) explains that external representations are open to inspection by others and internal representations comprise of personal mental constructions of an individual otherwise known as mental images.

In recent history, technology has significantly improved our ability to create external visualizations and much of the current research on the role of visualization in thinking focuses on

external visualizations (Hegarty, 2004). External visualizations are seen as important ways of augmenting human cognition. Schnotz and Kürschner (2008) review different research aspects concerning with multiple representations. According to their study, multiple external representations such as texts, pictures, graphs etc. can complement each other by providing complementary information or by supporting complementary processes. They can constrain each other with regard to their possible interpretation as well as support the construction of deeper understanding when learners abstract from these representations by identifying shared relevant features (Schnotz & Kürschner, 2008). Multiple external representations interact with internal (mental) multiple representations not only in the acquisition of knowledge, but also in using of the acquired knowledge, when an individual can rely on his/her own internal mental representations as well as on other external representations in order to solve specific tasks at hand (Schnotz & Kürschner, 2008).

There has also been an important tradition of research in cognitive science on internal visualization, that is, our ability to internally represent objects, events and more abstract phenomena as mental images, and our ability to infer new information by transforming these images (Hegarty, 2004). Studies of internal visualization, have examined people's ability to construct, inspect and transform mental images. Both forms of visualization play important roles in scientific and mathematical problem solving (Cohen & Hegarty, 2007).

The dichotomy between external and internal representations is both theoretically and practically interesting because these two types of representations necessarily interact throughout our daily experiences in a variety of ways. Many scientists report to use an internal mental representation or mental imagery to help them solve problems and reason (Trafton & Trickett,

2012). In their study, Trafton and Trickett (2012) discovered that when scientists compared an external visualization to their mental representation, they were attempting to align the two representations. We suggest that this alignment process is how scientists connect internal and external representations. In the context of information visualization, External visualizations are internalized as mental models. Given a problem, people can construct and simulate mental models in reasoning (Liu & Stasko, 2010).

As Rapp and Kurby (2008) explain, often we convert our mental representations *into* external presentations. Communication, and specifically language, is the best example of this conversion process. When we sit down to write a scientific paper, compose an e-mail, or prepare a grocery list, we are retrieving our internal representations and attempting to reproduce them in some external form. We also continually attempt to develop mental representations *from* external presentations. Readers studying textbook explanations, perusing their e-mail inboxes, and carefully double-checking their shopping lists are transducing external stimuli into mental representations (Rapp & Kurby, 2008). A detailed description of how these mental representations or mental models are created and processed is given by Schnotz and Kürschner (2008). They conclude that from a practical point of view, the form of visualization –external and internal -- requires careful consideration in the development of learning environments, because the visualization affects the structure of mental models acquired during learning.

For science visualizations, designers and instructors use cues to help students to develop a deeper conceptual understanding of scientific principles. These cues can be used to help individuals understand the causal and associative relationships between elements of a 'visualization'

239

presentation along with the concepts that underlie their activity, as necessary for comprehending complex explanations and processes in science.

However, Rapp and Kurby (2008) warn that it is important to consider that mental representations are not as complete as one might suspect. Evidence has convincingly demonstrated that, in general, human memory is hardly infallible. What this means is that a student with some knowledge of a concept, like how lightning forms, does not simply retrieve a holistic mental replica of that knowledge from memory (e.g., the text they read or the lecture they attended). Instead, the student retrieves elements of the partial representation he or she has stored of that material, and those fragmented sets of memories must be reassembled in some form. That partial representation, only partially retrieved, is reconstructed during problem solving tasks.

Moreover, when we think of a concept, we conduct mental simulation that reactivates the brain systems recruited during actual perception (Rapp & Kurby, 2008). These simulations are mental reenactments of the perceptual experiences associated with some concept or experience. When representations from different perceptual sources are combined, which is nontrivial since different representations presumably have different perceptual codes, they potentially become multimodal. However, Rapp and Kurby mention that this does not mean that multimedia presentations are a panacea; certainly a poorly designed multimedia presentation is going to have little positive impact on a student's acquisition of knowledge. But the nature of memory is such that, with appropriate design, careful organization of material, and a consideration of the content that would be best presented in a visual or verbal format, we might expect educational methodologies to potentially benefit from multimedia experiences (Rapp & Kurby, 2008).

This shows that internal visualizations may be quite useful for dealing with novel situations. By designing 'visualizations' that better match how humans represent the world, we may be able to facilitate a student's ability to mentally manipulate that information (e.g., via imagery). This, then, may enhance a student's ability to recognize when the concept learned during the visualization process is relevant to other situations (Rapp & Kurby, 2008). Hegarty (2004) also agrees that there is interplay between internal visualization processes and comprehension of external visualizations, or that insight or learning is based on a combination of internal visualizations and perception of external visualizations. Therefore, it is important to take account of internal visualizations in designing external visualizations.

Educational studies too need to be concerned with the development of student's internal visualization abilities, as well as being concerned with the development of the most effective visualizations. According to Gilbert's (2006) advice, scaffolding is needed particularly in the absence of prior knowledge to support students' knowledge acquisition of and deep understanding of visual representations. If scaffolding is not provided, the affordances of the representation may be wasted as students become either confused or overwhelmed trying to figure out what is being depicted in the visualization or students may not engage in any deep processing of the visualization. Keeping these views in mind, the concept of external and internal visualization can be adapted to the area of language education.

More recently, Koning and Schoot (2013) presented a contemporary collection of visualization strategies to improve reading comprehension. They opined that visualizing the events described in a text is crucial for constructing a rich and coherent visuospatial mental representation of the text and that this visualization can be used to encourage readers to build non-linguistic

representations of text that will result in deeper understanding of the texts. In keeping with the research cited so far, it was found in the current study that visualizations --external leading to internal and then again to external in terms of written expression – were beneficial to writing development. However, as literature on the subject has suggested, internal visualization is related to a person's long term memory and therefore may be partial or fallible. Much thought needs to be put into the development and use of visualizations in the teaching of grammar concepts. Importantly, the design of visualizations, and of instruction about how to use visualizations, should also take account of students' internal visualization skills, as the research reviewed above suggests that the optimal form of instruction will be conditional on these.

This description of the connection between external and internal visualizations has been made in order to fully explore the assumptions made in the present study. The visual approach used to teach grammatical concepts in this study involved both external and internal representations with the hope that external visuals would help in the internal visualization of concepts and this internal visualization would in turn assist in better understanding and then lead to better output in terms of student writing. The aim being internal visualization, external visuals were used to present grammatical concepts in such a way as to facilitate internal visualization. To illustrate this, an example of a chart that included textual as well as visual information to present information about sentence structure types may be considered. The chart presented a brief description of the four major sentence structure types along with corresponding images. A mental visual imagery was created using a single adult to represent a simple sentence; two adults joining hands to represent a compound sentence; an adult with a baby to represent a complex sentence; and a family of two adults and a child to represent compound-complex sentence (see *Figure 3.3).* Once the visual imagery was presented, it was easy for students to process the information and

perhaps commit into long-term memory. During interviews, students stated that this imagery made a lasting impact on them because they not only understood (and internalized) the four different sentence structures and the relationship between main and dependent clauses, but also made a meaningful connection between what they were learning and their social world. This imagery was taken further to suggest that their writing could reflect a mixture of sentence types to correspond with the real social structure of their community, and in the process learn to identify and produce different sentence structures in their writing. It is interesting to note that often the writers talked in terms of creating more babies without adults to take care of them, in fact suggesting that their writing consisted of dependent clauses pretending to be independent or main clauses; and linking this to the social phenomena of orphans on the streets. Thus, learning became more meaningful to them as they were able to internalize the concepts and link them with their social reality while also applying them to their writing.

In this way, the findings seem to suggest that internal visualization may have had a deeper impact on their conceptualization and played an important role in transferring those concepts into their writing. This further supports the point made in the previous section that the use of visual approach seems to bridge the gap between linguistic input (the teaching of grammar) and linguistic output (the application of those learned grammatical concepts into writing) that seemed to have been the problem in SLA as pointed out in the first few paragraphs of this chapter. It also seems to suggest that using external visuals do aid comprehension, but it is the desired goal to use internal visualization to be able to comprehend, internalize, and subsequently put to use the learned concepts. However, the crucial point is that only certain visuals may be useful to achieve internal visualization.

7.3 Types of Visuals

The interview data in this study suggests that certain visuals, as the students perceived them, were more beneficial not only because they appealed to their visual sense, but also because they helped in better comprehension because of internal visualization. The choice of certain visuals seemed to have helped the students more than other visuals and this exemplifies the idea that external visual representations alone do not make much impact on learning. For learning to take place, seemingly the external visual representations must lead to internal visualization.

One of the types of visuals used in the intervention were the pictures that accompanied texts in PowerPoint presentations of ideas, and also some charts. As students saw it, the charts helped them to see the bigger picture and make links between concepts by comparing and contrasting one with the other. This can be better understood in the light of gestalt theory. One of the three principles of perception forwarded by multimodal theory is gestalt perceptions. A commonly held definition of gestalt is *the whole is greater than the sum of its parts*. When instructional designers optimize gestalt in instruction, they are helping learners to see the big picture (Chen, 2004). Citing Ashcraft (2002), Carifio and Perla (2009, p. 406) observe that Gestalt psychology and cognitive theory have convincingly demonstrated that "visuals depict, show, and establish relationships and that all learning is the learning of relationships." This is what was hoped to be accomplished by external visual representations such as charts, pictures, and power point presentations that included pictures and texts as well as diagrams. However, although they may help to create mental models to a certain extent and aid comprehension, it seems that they may not have made much of an impact on their learning. Although this helped them to understand ideas to a certain extent, the data reveals that they did not make a lasting impression on them as did some other visuals. The visuals that students perceived as ones that helped them were the images

that helped create mental images (such as the one demonstrated in the above section about four sentence structure types), and sentence diagrams which also were intended to create mental images.

This study used Reed and Kellogg sentence diagrams based on traditional grammar. Initially it was intended to use tree diagrams based on descriptive grammar, specifically Chomsky's idea of transformations between the surface structure and deep structure. However, this idea was aborted during the planning stages because it was found that the students had never encountered the terminology and concepts proposed by this grammar in their previous experience. Because the students were more familiar with traditional grammar, line diagrams as proposed by Reed and Kellogg were used in the intervention. This was despite the facts that, as the literature review in chapter two had revealed, the idea of using diagrams had been abandoned by educators several years ago. It was considered a meaningless activity that had no impact on students learning. Sentence diagramming is now considered an activity limited to linguists and seemingly not of any pedagogic value. In fact, many scholars opined that diagramming sentences was a useless activity and all it did was teach students how to make diagrams (Reed & Kellogg, 1896). Other scholars, such as Juffs and Harrington (1995), also opine that sentence parsing presents more difficulty to students to process sentences rather than their grammatical competency. However, it is illuminating to see that modern computing has links with sentence diagramming. The principles that are used in diagramming sentences are the same principles used in the visual techniques in computer programming (Frankel, 2011). Frankel mentions that sentence diagramming, a tool for training students in English grammar, has 'regrettably' fallen to disuse; and that the skills of precision and analysis used in diagramming sentences can be directly linked to the skills required in computer programming.

Because this study made use of sentence diagrams as visuals that can lead to internal visualization of sentence structures, it supports the ideas presented by Reed and (1896) in their defence of the use of diagrams. They describe their usefulness in showing relationships between parts and the whole and in teaching "the pupil to look through the literary order and discover the logical order." In contrast, some have pointed out that too much diagramming may distract the learners. In their reply, the authors suggest that when the ordinary constructions have been made clear, diagrams should be used only for the more difficult sentences, or, if the sentences are long, only for the more difficult parts of them. When the diagram has served its purpose, it should be dropped.

Although this advice was taken into consideration during the intervention, it seems that the students found making diagrams quite a demanding activity. Some of them found the diagrams very complex and thought that these would be useful with more practice. Apparently, the students needed more time and systematic introduction to each step in diagramming sentences. These views seem to concur with what research had already mentioned about the use of diagramming. However, if looked at the data carefully, it was not the drawing of the diagrams that was difficult. It was the identifying of the function of each part of the sentence and analysing the relationship of each part with the whole that was proving difficult. This became apparent during the intervention itself and then later during the interviews. The diagram was a useful way of understanding where exactly the problem lay. During the interviews, students realized that only memorizing the terms and phrases that looked "beautiful" as they had learnt to do in high school did not make their writing impressive. Getting the diagrams right was in fact a test of some sort of their understanding of sentence structure and the relationships within the parts of a sentence. Therefore, while

diagramming was appreciated by many students in the study, it seems that the diagrams were perceived by a few students as very complex.

It may well be that it was the lack of understanding of basic grammatical features that made it difficult for some students to process the diagrams. It was assumed that a certain level of grammatical proficiency was acquired before more difficult concepts were introduced through sentence diagrams. Incidentally, it is the diagrams that helped them realize that understanding the grammatical concepts was important for them in order to correctly apply those concepts in their own writing. Once they realized this, the diagrams were often used to study and learn from the readings, and to check for errors while implementing the use of learned structures into their writing. The interviewees revealed that the activity of sentence diagramming presumed that unless a certain level of grammatical knowledge had already been acquired, sentence diagramming would be a waste of time. Although this is the view of few interviewees, it is an important point to consider when planning activities using diagrams.

The activity of diagramming sentences seemed not only to help the learners to see for themselves the relationships between different sentence parts, it also helped them to *visualize* the sentence structure while constructing their own sentences. It is assumed that when student reach a point in their use of diagrams to analyse sentence structures and use their analysis to produce well-formed sentences, they can then make mental diagrams to achieve the same goal.

In sum, sentence diagrams of different types are now used only in linguistic descriptions and debates but hardly recognized as a useful pedagogic activity. Contrary to this belief, the findings of the present research indicate that when used strategically and as part of contextualized teaching of grammar, sentence diagramming can be a useful activity. As pointed out in the literature review,

247

sentence diagramming is still used and appreciated in many places and teachers as well as students have found these to be valuable exercises (Landecker, 2009; Lister, 2006). This study offers a new meaning to the use of this old method of analysing sentences and suggests that with careful consideration and planning, sentence diagramming can help in the internalisation of certain concepts associated with sentence structures. Sentence diagrams, when used along with other visual and multimodal channels, can be used to help learners internally visualize and create mental models and also recall the structural relationships when constructing or modifying their own sentences. This study suggests that diagramming be revisited by researchers for it might be possible that diagramming helps not only in greater understanding of the concepts but also in the 'internal visualization' of certain concepts. When used in activities such as identifying errors, employing structural variety by better cognition of sentence structure with the aid of mental sentence diagrams, and bringing creativity (e.g. in gaming, competition, and peer review), sentence diagramming can be a powerful tool in the writing classroom.

To conclude the discussion on types of visuals, it might be said that the findings of this study indicate that external representations in the form of visual aids do not have much impact on the writing development unless these visuals lead to internal visualization of the concepts thus increasing the possibility of the students internalizing and using the concepts in their writing.

7.4 Explicit and Implicit Teaching of Grammar

Another vital distinction that has been made in the study of grammar is in the explicit and implicit methods. In China, as in some other countries, due to differing views regarding traditional methods of teaching grammar in the L1 contexts and the rise of communicative methodology in the late 1970s, the role of grammar instruction was downplayed and research reports that suggested

the teaching grammar to be detrimental to the development of writing had a strong influence on English education. However, in a study done by Furuhata (1999) in Japan, it was found that the communicative activities in these new approaches may be unfamiliar and uncomfortable to students from other teaching traditions. This was found to be the case because educational systems in these countries emphasize 'rule learning, translation, and reading aloud, and to the students from large classes, limited resources, and teacher's low proficiency in English' (Furey, 1986 qtd. in Furuhata, 1999). Many ESL students have never experienced role-playing, group problem-solving tasks, story retelling exercises, or class discussion (Furuhata, 1999). Moreover, Furuhata (1999) mentions that there is resistance to using these approaches in the class because of the idea that these approaches and the corresponding classroom practices were developed by people with a Western cultural perspective. A review of literature pertaining to English study in China also suggests that Communicative Language Teaching which draws on implicit language learning also seems to have not met teachers' expectations. Although more emphasis is being placed on the communicative approach of language teaching (Xiao-fei & Tian, 2008), it is not without some setbacks. In fact, it is a commonly held view that the role of grammar has "suffered in favour of communicative approaches" (Meiring & Norman, 2001). Another researcher states that the recent emphasis on the communicative approach is "confronted with resurgence of grammar because it has failed to instil grammatical competence" (Oka, 2004). Therefore, traditional methods of explicit grammar instruction have been held in high esteem. In Ellis's (2006) view, explicit knowledge consists of the facts that speakers of a language have learned. These facts are often not clearly understood and may be in conflict with each other. They concern different aspects of language including grammar. In contrast, Ellis (2006) states, implicit knowledge is procedural, is held unconsciously, and can only be verbalized if it is made explicit. It is accessed rapidly and easily and thus is available for use in rapid, fluent communication. Most SLA researchers agree that

competence in an L2 is primarily a matter of implicit knowledge and therefore implicit knowledge of English has been the goal of explicit instruction of that language.

It has been argued that over the years one of the explicit methods of language instruction, the grammar translation method has had a remarkable success. Millions of people have successfully learnt foreign languages to a high degree of proficiency and, in numerous cases, without any contact whatsoever with native speakers of the language (as was the case in the former Soviet Union, for example) (Bowen, n.d.). According to Bowen there are certain types of learners who respond very positively to a grammatical syllabus as it can give them both a set of clear objectives and a clear sense of achievement. Other learners need the security of the mother tongue and the opportunity to relate grammatical structures to mother tongue equivalents. Above all, this type of approach can give learners a basic foundation upon which they can then build their communicative skills (Bowen, n.d.). This may be one reason why the Chinese educators prefer explicit grammar instruction in their schools. However, as has been discussed earlier, when this instruction is decontextualized and uses traditional methods of rote learning it may not be very effective. These emerging ideas regarding the ineffectiveness of communicative language teaching in some ESL contexts, the seeming usefulness of traditional methods such as the grammar-translation method, and recent research such as that of Nassaji and Fotos (2004) which emphasize the need for formal grammar instruction, lead to the conclusion in favour of both explicit and implicit instruction.

However, the interview data in this study reveals that grammar translation seemed to be more of a hindrance than help to their learning to these students. They mentioned factors such as lack of exposure to authentic use of language in their high school; focus on memorizing of rules without fully understanding the concepts; and the use of Chinese terminology to refer to

grammatical concepts in English was perceived to be a major setback in their acquisition of English. This seems to suggest that in their view their previous experience of explicit instruction in grammar was not of any benefit to them. During this experimental study, the students were able to note the pedagogical differences between the explicit grammar instruction in their high school and explicit grammar instruction they were experiencing now. The difference may be linked to the statement that although in SLA grammar takes the central role in language pedagogy and has practical and theoretical motivation, the effectiveness of formal instruction depends on the expected outcome and goals of the instruction (Ellis, 1994).

Ellis (2006) differentiates between what is difficult to learn as explicit knowledge and as implicit knowledge. For example, most learners have no difficulty in grasping the rule for English third person-s but they have enormous difficulty in internalizing this structure so they can use it accurately. These two senses of learning difficulty have not always been clearly distinguished in language pedagogy, with the result that even when the stated goal is the development of implicit knowledge, it is the anticipated difficulty students will have in understanding a feature that guides the selection and grading of grammatical structure.

As mentioned in the literature review, Nassaji and Fotos (2004) briefly outline four reasons for re-evaluation of grammar as a necessary component of language instruction: first, awareness of form in the target language plays an important role in language learning; second, L2 learners pass through developmental sequences and grammar instruction could be advantageous depending on learner readiness; third, a large body of research has pointed out the inadequacies of language instruction which focuses on communicative aspects neglecting the teaching of grammar; and

fourth, the evidence provided by classroom-based studies of the positive effects of grammar instruction.

According to the interview data reported in this study, it appears that the students had been given explicit grammar instruction in their high school, but this explicit instruction did not seem to have an impact on their writing development. The goal for that explicit instruction had been to help students "pass *Gaokao*" and gain an entry into higher education. The goal for explicit instruction was not to help gain implicit knowledge as was indicated by the research findings.

Although this tension between the usefulness of explicit and implicit teaching of grammar keeps appearing in research literature, there is nonetheless a clear conviction that a traditional approach to teaching grammar based on explicit explanations and drill-like practice is unlikely to result in the acquisition of the implicit knowledge that is needed for fluent and accurate communication. However, as Ellis (2006) concludes, there continues to be disagreement regarding what should replace this. While proponents of each side present convincing reasons for their convictions, it has been generally agreed that without explicit and form-focused instruction, extensive exposure to meaning-based input does not lead to the development of syntactic and lexical accuracy in a second language (Hinkel, 2006). This has been reemphasized by the findings of the present study in which explicit instruction had been given to the subjects in their previous learning experience in high school, but it was realised that their writing did not meet the required levels of syntactic and lexical accuracy that was expected when they began university studies.

Several studies (for example, Fengjuan, 2010; Juan & Jing, 2010) have indicated that explicit instruction in grammar for Chinese learners is necessary, and that when presented in the context of their learning, there are greater chances of them achieving grammatical proficiency and developing

writing skills. However, explicit instruction alone as decontextualized activity may not have any impact on the development of writing skills. As the interview data of this study indicate, the general view was that though the students received explicit instruction in grammar in their high school experience it did not necessarily benefit them. However, they felt that the study of grammar was extremely important and beneficial in the learning of the language. Grammar instruction was considered a necessary evil by the students as well as teachers. What made the difference in this study was the use of a visual approach given in the context of writing instruction where the students were able to make connections between their writing and grammar, and this became a meaning-making process.

It is important, however, to think critically about this issue. For the Chinese students in this study, it may be true that in their previous learning experience, explicit teaching did not benefit their writing, according to the way students perceived it, but it did help them pass *Gaokao* and achieve their goals of getting a place in higher education. The goal not being proficiency in writing skills, success in *Gaokao* meant that explicit instruction in grammar helped them acquire the basic knowledge that was considered important to answer objective type questions. From this perspective, it may be easier to see that explicit or implicit learning of a particular aspect of language is entirely dependent on the goals that have been set out for that aspect. It may be suggested here that if the goal is to pass an objective test of the knowledge of grammar, then explicit teaching of grammar to that end, even in isolation, might be sufficient. However, if the goal is to achieve a certain level of proficiency in writing at university level, then isolated explicit instruction may not be useful as was indicated by previous research reviewed in Chapter 2. There is, thus, a tension between the assessment demands of *Gaokao* and its power as a gatekeeper to

higher education and what might be more effective language learning which equips students to cope with the language demands of higher education.

As suggested by Xiao-fei and Tian (2008) the acquisition of an L2 often relies on both implicit learning and explicit learning. Based on the theories presented above, two broad types of grammar teaching activities can be distinguished – those that treat grammar as an object to be studied and analysed and those that treat it as a tool for engaging in effective communication. It is agreeable that, as Batstone and Ellis' (2009) state, both types of activity are needed – and, indeed, that the former can serve to guide learner performance in the latter. The current study supports this view and designed the intervention in a way that both explicit and implicit learning of grammatical concepts occurred in the writing class. It reemphasizes that both explicit and implicit learning of grammar is necessary in second language learning and that shifting the goals for teaching may help the instructors and writing course developers to design it in such a way that all grammar learning is done within the context of writing, using visual media to help internalize the relevant grammatical concepts.

7.5 *Gaokao* and the Traditional Education Methods

The proposed shift in goals for teaching grammar raises the question of cultural educational practices and their role in the way second languages are taught and learned in different cultural or social contexts. Ur (2011) represents the views of several researchers who argue that the practice of a second language teaching involves not only SLA processes but also things like students' socio-cultural background, relationships, personalities; motivation; their expectations, learning styles and preferences; the influence of stakeholders such as parents, ministries of education, school principals; aspects of lesson design and planning; time available for preparation and correction of

notebooks; classroom management and discipline; upcoming exams ... to mention but a few. Such features often actually have more influence on how grammar is taught, and whether it is successfully learnt, than any of those dealt with in research (Ur, 2011). In accordance with Ur's ideas, it is crucial to consider the educational system that the Chinese students in the current study have gone through and the impact it has had on the teaching and learning of grammar and writing in their experiences in high school. It cannot be overemphasized that the socio-cultural background of these students and the educational system in China, play an important role in what is being reported here as the outcome of exam-oriented teaching and learning. Thus, although unanticipated at the beginning of the research, it is recognized that the educational system under which the research participants had received their primary and high school education has a direct bearing on the findings, as well as the recommendations, of this study. The information and deep insights that the interview data provided regarding the student attitude and experiences of the Gaokao might be considered as a surprise finding of this study that emerged as the interviews progressed.

One practice that occupies a prominent place in Chinese education and socio-political situation is that of the importance of *Gaokao* which has been referred to in the section above. Educational practices in China might be reflected in the following quotation from *China Daily:*

'The incompetence of many graduates from high schools or even colleges and universities to communicate effectively in spoken and written English is related to the teaching methods in China. Students are usually spoon-fed, listening and taking notes with teachers standing at the front and doing most of the talking.'(Hai, Qiang, & Wolff, 2004)

The *Gaokao* (or, High Test) is considered by the BBC as the world's toughest exam (Sudworth, 2012). Passing this exam grants a student the opportunity to enter into higher education and eventually well-paid employment. For the one who does not successfully pass the

exam, apparently the doors to a prosperous life seem to be shut. For the government dealing with a large number of students seeking entry into universities, the *Gaokao* serves as an important gatekeeper that mercilessly filters out the not-so-worthy of higher education.

Sudworth (2012) talks about the critics of *Gaokao,* who say that for most students *Gaokao* is the culmination of a year of cramming, of repeating past papers, and in large part, of learning by rote. In fact, as Sudworth says, almost everyone - students, parents, teachers and policymakers - seems to accept that the system is squeezing creativity out of students. But despite the criticism, China's exam machine just keeps on squeezing, and more horror stories emerge each year. Most recently, photographs emerged of a classroom in Hubei province, showing students taking energy-boosting amino acids from intravenous drips hung from the ceiling (Sudworth, 2012). Education policy chiefs have long admitted the shortcomings of the *Gaokao* but have taken limited steps to try to introduce a more balanced and rounded education.

Although the exam remains the fairest way to give qualified candidates their best shot at higher education, a shifting of attitudes has been noted in the last several years. According to Beijing (2012), Gaokao had been suspended during the "cultural revolution" for 11 years. Deng Xiaoping's proposal to resume the test in 1977 was a turning point in the fate of many young people of the era (Beijing, 2012). The test has been resumed with a shift in attitude towards it. For example, some top universities are observing more autonomy in selecting students. Simultaneously, failing the *Gaokao* is no longer perceived as inevitably resulting in the candidate being consigned to a gloomy life of servitude (Beijing, 2012).

But in recent years, those who can afford it are eschewing the *Gaokao* and going abroad. Many Chinese students go to Hong Kong and Singapore to take the SAT - formerly called the

Scholastic Assessment Test - required for admission to American universities (Ho, 2013). It is acknowledged by relevant authorities that China's *Gaokao* needs "repairs" otherwise China may have to "grapple with more disputes over who gets a slice of the higher education pie, and problems of a growing brain drain and students who can ace examinations but not create" (Ho, 2013). The problems pointed by Ho seem to be true.

Despite the expansion of university education, the widespread view is that the *Gaokao* system breeds inequality (Ho, 2013). Apart from the fact that universities and education officials decide each year how many places to give to each province, city or region, it is common knowledge that Beijing and Shanghai get the lion's share of places, in part because together they have the most universities, some of which are funded by local governments. Besides inequality, another problem is *Gaokao*'s narrow focus on grades, which percolates down to all levels of schooling in China and has created a culture of studying just for the sake of exams (Ho, 2013). Due to the importance placed on this exam, there has been strong pressure to keep the processes transparent and corruption-free. The government's efforts have not been entirely satisfactory. Leaking of exam content, bribery, and other abuses are still being constantly exposed (Xing, 2004).

Some suggestions have been made such as the one that G*aokao* should be standardised across the country, not made up of different papers by province, as it is now. This would have the advantage of being fair and transparent (Ho, 2013). Another way would be to decrease its weight in university admissions. These suggestions may result in more positive attitude towards the exam in the country; however, the fact that the educational culture would still be exam-oriented would not solve the problem of lack of creativity among students. The participants in this research also lamented the fact that all their energies in high school were spent in preparation for *Gaokao*. This

257

had a direct impact on the methods adopted in the teaching and learning of English. Their goal for learning English was far from the goals proposed by SLA theories such as for better communication.

The findings of this research indicate the need for a shift in not only the goals of learning English as a second language, but also more broadly, in the methods of teaching and learning English, even if the goal were to pass a standardized test. Keeping in view the necessity for having a standardized test, it might be more useful to consider the type of questions involved in *Gaokao* and the methods adopted for preparation for it. Although the number of exam-takers is in millions each year due to which the educators resign to making objective-type questions for the ease of marking and grading, efforts could be made to include questions that call for creative and critical thinking especially in their writing. This may prove to be a difficult task for teachers who grade the papers in a limited timescale; however, if the change in examination format is carried through, the whole approach to teaching would change too, and so will the future generation of exam-takers.

The visual approach could be used not only for teaching but also for testing students' understanding and their language proficiency more efficiently. Graphic organizers or sentence diagrams could be used for testing knowledge and comprehension; and written compositions could include photo-compositions or even comic strips. Such methods of testing would call for a shift in the methods of teaching which would include an increased use of the visuals.

Similarly, this shift in attitude and methods would also signal a shift in the general educational system in the country. It has been noted in the interview data of this study that even if a visual approach is found to be more beneficial than the usual traditional approach, there is bound to be much resistance from the school authorities who train their students to pass the *Gaokao*. They do not encourage experimentation, and fear that any diversion from the usual set practices

would taint their standing in the ranks. This thinking is also reflected in some research. For example, one study concludes that some of the tradition-oriented leadership and some English department staff would not be enthralled with new methodology, either fearing its failure or perceiving it as a threat to their established ways of doing things which have provided their personal comfort zone (Hai et al., 2004).

The interviewees in the study had reflected on their teachers' attitude and methods of teaching in their high schools which was completely exam-oriented. All English teaching involved drills and exercises and rote learning was a required activity. The teachers introduced the concepts in a typical traditional way by writing on chalkboards, asking students to copy everything they wrote on the board and memorize it all for home work. Several exercises for each new grammar concept were provided and it was expected that students would memorize the correct forms. As far as writing was concerned, students were expected to memorize well-formed sentences and use these in their own writing. Writing practice, if any, involved writing a short paragraph. Most exercises reflected the objective type questions that would be part of their exam. At home too, parents did everything they could to provide as little distraction as possible from the stressful studies of their children. As revealed by the interviewees, the main focus was on the preparation for the exam and no deviations were tolerated. It seems from their perspective that unless the system of *Gaokao* was done away with, it would be difficult to experiment with different methods that would risk their success in the exams. They also mentioned that in some school the management was very strict and would not tolerate any "distractions." Thus for schools to move away from traditional methods seems almost impossible unless there is a total shift in the educational system. The findings also indicate that the students are willing to embrace that shift because it not only symbolizes their growth in the face of globalization by becoming competitive

thinkers and creators of knowledge, but also by willing to participate in the much needed revamping of the traditional methods of teaching and learning of English as a second language. The findings in this research, therefore, suggest two things in relation to *Gaokao* in China: First, that the effectiveness of visual methods in developing conceptual understanding is not relevant if the testing system values rote learning; and second, that the teaching approach underpinning visual methods are currently incompatible with the dominant practices in schools in China. It is may be possible that the responsibility of addressing any gaps in the writing development would be on the institutions of higher learning and therefore the changes in teaching methodology as proposed by this study may need to be applied in the university level. Higher education institutions may need to use more creative ways using the concept of visual learning to address any gaps in the writing development of these students.

8. CHAPTER EIGHT: Conclusion

Several ideas have emerged in the light of the findings as reported in this study. Firstly, the use of visuals seems to have a positive impact on learning among the Chinese students who were involved in this study. Secondly, a difference between external visualization and internal visualization has been considered of crucial importance because only when the visuals go beyond their use as external representations of ideas and lead to internal visualization, do they have any pedagogical benefit. It has been emphasized in the findings that internal visualization, or creating of mental modals, effectively assisted the students in their conceptual understanding of grammatical features which seem to lead to better use of those features in their writing and also helped them in achieving a higher level of grammatical correctness and syntactic complexity in their sentences. Thirdly, with reference to the previous point, only certain visuals that led to creating mental visualizations of ideas, such as visual imagery and sentence diagramming, were considered more valuable. Although external visuals have their value in pedagogical use, such as charts that were used for providing an overview of concepts, visuals that helped create mental modals seemed to be more beneficial to these students in their writing development. It is, therefore, important for teachers to select visuals carefully as some visuals that help in achieving internal representations are valued above those that do not lead to internalization of concepts. Visual imagery is thought to have made a deeper impact on student learning and it helped them to bridge the gap between input of grammatical concepts and output of these concepts in the form of their written expression. The experiment in this study demonstrated the use of images to represent ideas, and also the use of diagrams to explain relationships and carry out analysis. These may have been effective because they seem to aid in better comprehension of abstract concepts. Finally, both explicit and implicit grammar instruction, with the use of visual approach within the context of writing instruction, have

been proposed as the best option for the teachers to ensure better development of the writing

skills among students of second language. This is because explicit instruction helps achieve implicit

knowledge which is the goal of second language instruction.

In sum, the findings of this research contribute to the existing knowledge in the area of

grammar instruction in the following ways:

1.   The study extends the use of visual teaching and learning to the study of grammar in

second language development. Several studies on multimodal learning have been conducted in the

past in specific fields such as science and engineering, but none have been conducted so far in the

teaching of grammar in the context of writing development.

2.   The study concurs with research that promotes the use of visuals in the teaching of

second language. It contradicts the view that teachers should focus on learning styles of the

learners and create activities that suit the needs of all types of learners. Instead, the study purports

that whatever the learning style of the students, visuals are effective in the teaching of grammatical

concepts because the dominant mode of communication today is visual and all learners find

themselves immersed in an image-rich culture. Therefore, it is necessary for second language

educators to make use of available visual technology to present lessons in grammar in the context

of students' writing development.

3.   The study adds to existing research which states that there is a difference between

internal and external visualization. It adds that the aim for using visuals should be to help create

internal visualization. Again, the existing research was based on studies in the sciences. The present

study extends the concept of internal visualization to the study of grammar and writing and

demonstrates that the use of mental modals helps in conceptual understanding of grammatical

features. The study also adds to the writing research by stating that internal visualization is a useful tool that can be used effectively in writing development.

4.   The study supports the view that explicit as well as implicit teaching of grammar is necessary in second language writing development. The study used an intervention that called for explicit teaching of certain grammatical features and found that this explicit teaching with the use of visuals had a positive impact on their writing. The study therefore contradicts the view that explicit teaching of grammar has no benefit to writing development; rather, it emphasizes that explicit teaching leads to implicit learning of grammatical concepts which is useful in bridging the gap between input and linguistic output. In essence, it disagrees with the purely communicative language teaching approach that uses no explicit teaching of grammatical features.

5.   The study contradicts the view that sentence diagrams have no pedagogical value. In the light of this study, it was found that sentence diagrams can be used to create mental images of sentence structures that help students visually conceptualize the relationships between sentence parts and understand the functions of the parts in relation to the whole. When used strategically in the context of students' own writing, sentence diagrams can be useful tools during editing and rewriting of drafts. When used in interesting ways such as gaming and competitions, sentence diagrams can motivate students to learn grammar that is directly applicable to their writing. Therefore, the study proposes the reintroduction of sentence diagramming to teach sentence structure in the context of writing instruction.

6.   The study supports the theory of contextualized teaching of grammar and emphasizes that isolated teaching of grammar has no beneficial results on writing development. This became apparent from the information from the interview data regarding the methods of grammar teaching that these students were exposed to in their high school, and the inadequacy they felt in meeting the writing requirements at university. In this way, the study holds the view

that the traditional method of teaching grammar that includes rote learning has no benefits to the learner. Instead, the study proposes the use of visual teaching in the context of writing instruction.

7.   Lastly, the study reveals that exam-oriented study of language does not prepare the student to meet the demands of higher education in an English environment. Specifically, in terms of grammar, the students acquire grammar knowledge as they study for their exams, but are ill-prepared to use that knowledge in their linguistic output as was demonstrated by the texts they wrote before the intervention. Considering the fact that they wrote this pre-intervention text after having studied at university for one semester, it was significant that these students had not acquired the sophistication required in their writing at university level. Therefore, this study emphasizes that although explicit teaching of grammar is necessary, it does not work when the goal of grammar instruction is to pass an exam rather than to use it in actual communication. A visual grammar instruction in the context of writing instruction seems to have worked for the Chinese students in this study; however, it is implied that a major shift in the educational system is needed and the proposed visual method is not compatible with the current exam-oriented educational practices in China.

These findings have both practical and theoretical implications. The practical implications lie in the integration of a visual approach to teach grammar using a variety of visuals and visual imagery within writing courses for these research groups. The use of visual approach in this study encouraged students to implement new and previously known concepts in grammar to their writing tasks in class. The visuals encouraged students to increase their understanding of the sentence structure and use a variety of these in their writing along with increasing syntactic complexity and quality. The visual approach also provided the much-needed motivation to study grammar. Thus, it may be of significant value to consider introducing a visual approach in Chinese high schools, and

for higher education institutions to develop a curriculum for first year students at English-medium universities that would include explicit instruction in Grammar using a visual approach, and integrate it into their writing curriculum.

This study holds theoretical implications as well. It contributes to the growing body of knowledge on the use of multi-media, especially the visual media, for teaching and learning grammar and making an impact on their writing development by contextualizing grammar to their writing classes. It also contributes to the knowledge about first year university students' conceptual understanding and their motivation to learn grammar. However, it must be reiterated that due to a small sample size, these results may be used as the starting point for further investigations and may provide a window to see the research possibilities arising from these findings. Moreover, because the texts are fairly short, the sentence as a unit of analysis is quite large, and it may be that more differences or similarities between the intervention or control group would be evident with a larger sample, ideally producing longer texts.

References

AbiSamra, N. (2003). *An Analysis of Errors in Arabic Speakers' English Writings*. American University of Beirut. Retrieved from http://www.nadasisland.com/languageacq-erroranalysis.html

Albaaly, E., & Higgins, S. (2012). The Impact of Interactive Whiteboard Technology on Medical Students' Achievement in ESL Essay Writing: An Early Study in Egypt. *The Language Learning Journal*, *40*(2), 207–222.

Alderson, J., Clapham, C., & Wall, D. (2001). *Language Test Construction and Evaluation*. Cambridge: Cambridge University Press.

Andrews, R. (2005). Knowledge about the Teaching of [Sentence] Grammar: The State of Play. *English Teaching: Practice & Critique*, *4*(3), 69–76.

Andrews, R. (2010). Teaching Sentence-Level Grammar for Writing: The Evidence so Far. In Terry Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on Developing Language Knowledge in the English/Literacy Classroom* (pp. 91–108). New York: Routledge.

Andrews, R., Torgerson, C., Beverton, S., Freeman, A., Locke, T., Low, G., … Zhu, D. (2006). The Effect of Grammar Teaching on Writing Development. *British Educational Research Journal*, *32*(1), 39–55.

Ashcraft, M. (2002). *Cognition* (3rd ed.). New Jersey: Prentice Hall.

Atkinson, R. L., & Shiffrin, R. M. (1968). Human Memory: A Proposed System and its Control Processes. In D. W. Spence & J. T. Spence (Eds.), *The Psychology of Learning and Motivation: Advances in Research and Theory* (Vol. 2). New York: Academic Press.

Aylward, G. (2010). Visual Formative Assessments: The Use of Images to Quickly Assess and Record Student Learning. *Science Scope*, *33*(6), 41–45.

Bamford, A. (2003). The Visual Literacy White Paper. Adobe Systems Pty Litd, Australia.

Barbousas, J. (2009). The Visual Education Movement: The Emergence of Visual Technology in Education. *The International Journal of Learning*, *16*(10), 169–180.

Batstone, R., & Ellis, R. (2009). Principled Grammar Teaching. *System*, *37*, 194–204.

Bayne, S. (2008). Higher Education as a Visual Practice: Seeing through the Virtual Learning Environment. *Teaching in Higher Education*, *13*(4), 395–410.

Beers, S., & Nagy, W. (2009). Syntactic Complexity as a Predictor of Adolescent Writing Quality: Which Measures? Which Genre? *Reading and Writing*, *22*(2), 185–200.

Behrmann, M. (2000). The Mind's Eye Mapped onto the Brain's Matter. *Current Directions in Psychological Science*, *9*(2), 50–54.

Beijing, Z. (2012, November 23). The Gaokao: Still Life's Most Important Test? *China Daily USA*, p. 19.

BERA. (2004). *Revised Ethical Guidelines for Educational Research*. Notts: British Educational Research Association.

Berent, G. P., Kelly, R. R., Schmitz, K. L., & Kenney, P. (2009). Visual Input Enhancement via Essay Coding Results in Deaf Learners' Long-Term Retention of Improved English Grammatical Knowledge. *Journal of Deaf Studies and Deaf Education*, *14*(2), 190 –204.

Berrent, G. P. (1988). An Assessment of Syntactic Capabilities. In M. Strong (Ed.), *Language Learning and Deafness*. Cambridge: Cambridge University Press.

Bleed, R. (2005). Visual Literacy in Higher Education. *Educause Learning Initiative: Explorations*, *1*.

Bowen, T. (n.d.). Teaching Approaches: The Grammar-Translation Method. *Onestopenglish*. Retrieved March 3, 2013, from http://www.onestopenglish.com/support/ methodology/teaching-approaches/teaching-approaches-the-grammar-translation-method/146493.article

Braddock, R., Lloyd-Jones, R., & Schoer, L. (1963). *Research in Written Composition*. Champaign, IL: NCTE.

Branch, R. M., Brill, J. M., & Dohun Kim. (2007). Visual Literacy Defined - The Results of a Delphi Study: Can IVLA (Operationally) Define Visual Literacy. *Journal of Visual Literacy*, *27*(1), 47– 60.

Brannen, J. (2005). Mixing Methods: The Entry of Qualitative and Quantitative Approaches into the Research Process. *International Journal of Social Research Methodology*, *8*(3), 173–184.

Brannen, J. (n.d.). Mixed Methods Research: A Discussion Paper. London: ESRC National Centre for Research Methods.

Bryman, A. (2004). Multimethod Research. In (M. Lewis-Beck, A. Bryman, & T. Liao, Eds.)*Encyclopedia of Social Science Research Methods*. Thousand Oaks, CA: Sage Publications.

Bryman, A. (2008). *Social Research Methods*. Oxford: Oxford University Press.

CAEL Assessment. (n.d.). *CAEL Assessment*. Retrieved November 21, 2012, from http://www.cael.ca/edu/testuserguide.shtml

Cakir, I. (2006). The Use of Video as an Audio-visual Material in Foreign Language Teaching Classroom. *The Turkish Online Journal of Educational Technology*, *5*(4), 67–72.

Cambridge Advanced Learner's Dictionary. (2008) (Third.). Cambridge: Cambridge University Press.

Canning-Wilson, C. (2001, February). Visuals & Language Learning: Is There A Connection? *ELT Newsletter*. Retrieved from http://www.eltnewsletter.com/ back/Feb2001/ art482001.htm

Carifio, J., & Perla, R. (2009). A Critique of the Theoretical and Empirical Literature of the Use of Diagrams, Graphs, and Other Visual Aids in the Learning of Scientific-Technical Content from Expository Texts and Instruction. *Interchange*, *40*(4), 403–436.

Carroll, J., Wilson, E., & Forlini, G. (2001). *Prentice Hall Writing and Grammar: Communication in Action*. New Jersey: Prentice Hall.

269

Cavanaugh, C. (2009). In Support of a Visual Approach for Teaching "My Ántonia." *Rocky Mountain Review*, *63*(2), 241–252.

Cecil, K. (2009). Under Construction: Using Visual Patterns to Examine and Create Text. *California English*, *14*(4), 6–8.

Chandler, P., & Sweller, J. (1991). Cognitive Load Theory and the Format of Instruction. *Cognition and Instruction*, *8*(4), 293–332.

Chen, E. (2004). A Review of Learning Theories from Visual Literacy. *Journal of Educational Computing, Design, & Online Learning*, *5*, 1–8.

Chmela-Jones, K. A., Buys, C., & Gaede, R. J. (2007). Visual Learning and Graphic Design: A Cooperative Strategy. *South African Journal of Higher Education*, *21*(4), 628–639.

Chomsky, N. (1957). *Syntactic Structures*. The Hague/Paris: Mouton.

Chomsky, N. (1965). *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.

Choo, S. S. (2010). Writing through Visual Acts of Reading: Incorporating Visual Aesthetics in Integrated Writing and Reading Tasks. *The High School Journal*, *93*(4), 166–176.

Clark, C. (2009). Don't Diss Blogs and Social Networking Sites: Young People's Writing and Technology. *Literacy Today*, (61), 28–29.

Clark, U. (2010). The Problematics of Prescribing Grammatical Knowledge: The Case in England. In Terry Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on*

270

Developing Language Knowledge in the English/Literacy Classroom (pp. 38–54). New York: Routledge.

Clausing, G. (1975). On the Visualization of German Grammar. *Die Unterrichtspraxis / Teaching German*, *8*(2), 104–110.

Cohen, C. A., & Hegarty, M. (2007). Individual differences in use of external visualisations to perform an internal visualisation task. *Applied Cognitive Psychology*, *21*(6), 701–711.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education*. London: Routledge.

Coleman, J. M., & Goldston, M. J. "Dee." (2011). What Do You See? *Science & Children*, *49*(1), 42–47.

Collins, K., & O'Cathain, A. (2009). Introduction: Ten Points about Mixed Methods Research to be Considered by the Novice Researcher. *International Journal of Multiple Research Approaches*, *3*(1), 2–7.

Cook, V. J. (2003). *The Effects of the Second Language on the First*. Multilingual Matters.

Copperman, E., Beeri, C., & Ben-Zvi, N. (2007). Visual Modelling of Learning Processes. *Innovations in Education and Teaching International*, *44*(3), 257–272.

Corder, S. P. (1963). A Theory of Visual Aids in Language Teaching. *ELT Journal*, *XVII*(2), 82–87.

Corder, S. P. (1967). The Significance of Learner's Errors. *International Review of Applied Linguistics in Language Teaching*, *5*(4), 161–170.

Corder, S. P. (1974). *Error Analysis*. Oxford: Oxford University Press.

Coughlan, S. (2011, March 2). Graduates - The New Measure of Power. *BBC*. Retrieved from http://www.bbc.co.uk/news/business-12597811

Creswell, J. W. (1995). *Research Design: Quantitative and Qualitative Approaches*. Thousand Oaks, CA: Sage.

Creswell, J. W. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. London: Sage Publications.

Creswell, J. W., & Clark, V. L. P. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage.

Crowhurst, M. (1983). Syntactic Complexity and Writing Quality: A Review. *Canadian Journal of Education*, *8*, 1–16.

Crystal, D. (2005). *The Story of English*. London: Penguin Books.

Cunningham, A., & Redmond, M. L. (2008). Instructional Design and Early Language Learning: Cognition, Creativity, and Technology. *Hispania*, *91*(2), 435–445.

Darts, D. (2004). Visual Culture Jam: Art, Pedagogy, and Creative Resistance. *Studies in Art Education*, *45*(4), 313–327.

Darus, S., & Ching, K. H. (2009). Common Errors in Written English Essays of Form One Chinese Students: A Case Study. *European Journal of Social Sciences*, *10*(2), 242–253.

Davies, N. F. (1976). Receptive versus Productive Skills in Foreign Language Learning. *The Modern Language Journal*, *60*(8), 440–443.

Devet, B. (2002). Welcoming Grammar Back into the Writing Classroom. *Teaching English in the Two Year College*, *30*(1), 8–17.

Ellis, R. (1985). *Understanding Second Language Acquisition*. Oxford: Pergamon Institute of English.

Ellis, R. (1994). *The Study of Second Language Acquisition*. Oxford University Press.

Ellis, R. (1997). *SLA Research and Language Teaching*. Oxford: Oxford University Press.

Ellis, R. (2006). Current Issues in the Teaching of Grammar: An SLA Perspective. *TESOL Quarterly*, *40*(1), 83–107.

Entry Requirements. (n.d.). *University of Nottingham Ningbo China*. Retrieved from http://www.nottingham.edu.cn/en/admissions/ug/thedomesticundergraduateadmissionsprocess.aspx

Felten, P. (2008). Visual Literacy. *Change*, *40*(6), 60–64.

Fengjuan, W. (2010). The Necessity of Grammar Teaching. *English Language Teaching*, *3*(2), 78–81.

Finney, M. A. (2005). Perception of Errors in Second Language Syntax: Acquisition or Processing Difficulties? In *ISB4: Proceedings of the 4th International Symposium on Bilingualism* (pp. 751–767). Somerville, MA: Cascadilla Press.

Frankel, D. S. (2011). Semantic Interoperability for SOA. *MDA Journal*, 1–10.

Furuhata, H. (1999). Traditional, Natural and TPR Approaches to ESL: A Study of Japanese Students. *Language, Culture and Curriculum*, *12*(2), 128–142.

Ganis, G., & Schendan, H. E. (2011). Visual Imagery. *Wiley Interdisciplinary Reviews: Cognitive Science*, *2*(3), 239–252.

Gardner, H. (1983). *Frames of Mind: The Theory of Multiple Intelligences*. New York: Basic Books.

Gass, S. M., & Selinker, L. (1994). *Second Language Acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Gelderen, A. V. (2010). Does Explicit Teaching of Grammar Help Students to Become Better Writers? Insights from Empirical Research. In Terry Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on Developing Language Knowledge in the English/Literacy Classroom* (pp. 109–118). New York: Routledge.

George, D. (2002). From Analysis to Design: Visual Communication in the Teaching if Writing. *College Composition and Communication*, *54*(1), 11–39.

Gilbert, J. K. (2006). *Visualization in Science Education*. Springer.

Gilbert, J. K. (2010). The Role of Visual Representations in the Learning and Teaching of Science: An introduction. *Asia-Pacific Forum on Science Learning & Teaching*, *11*(1), 1–19.

Gillett, A. J. (1989). Designing an EAP Syllabus: English Language Support for Further and Higher Education. *Journal of Further and Higher Education*, *13*(2), 92–104.

Gillett, A. J. (2011). Features of Academic Writing. *Using English for Academic Purposes: A Guide for Students in Higher Education*. Retrieved from http://www.uefap.com/writing/feature/featfram.htm

Giri, A. (2010). Errors in the Use of English Grammar. *Journal of NELTA*, *15*(1-2), 54–63.

Glasgow, J. N. (1994). Teaching Visual Literacy for the 21st Century. *Journal of Reading*, *37*(6), 494–500.

Gomez, D. S. (2002). The Power of Visuals. *NEA Today*, *20*(8), 44.

Gonzalez, V., Chen, C., & Sanchez, C. (2001). Cultural Thinking and Discourse Organizational Patterns Influencing Writing Skills in a Chinese English-as-a-Foreign-Language (EFL) Learner. *Bilingual Research Journal*, *25*(4), 417–442.

Greenbaum, S., & Nelson, G. (2002). *An Introduction to English Grammar* (2nd ed.). London: Pearson Education.

Guangwei, H. (2007). Developing an EAP Writing Course for Chinese ESL Students. *RELC Journal: A Journal of Language Teaching and Research in Southeast Asia*, *38*(1), 67–86.

Hai, T., Qiang, N., & Wolff, M. (2004). China's ESL Goals: Are They Being Met? *English Today*, *20*(3), 37–44.

Halliday, M. A. K. (1994). *Introduction to Functional Grammar* (2nd ed.). London: Edward Arnold.

Halliday, M. A. K., & Hassan, R. (1976). *Cohesion in English*. London: Longman.

Hammersley, M. (2004). Pragmatism. In S. L.-B. Michael, A. Bryman, & T. F. Liao (Eds.), *Encyclopedia of Social Science Research Methods* (pp. 848–849). Thousand Oaks, California: SAGE Publications, Inc. Retrieved from http://knowledge.sage pub.com/view/socialscience/ n739.xml

Hamp-Lyons, L. (1991). Issues and Directions in Assessing Second Language Writing in Academic Contexts. In L. Hamp-Lyons (Ed.), *Assessing Second Language Writing in Academic Contexts* (pp. 323–329). Norwood, NJ: Ablex.

Hancock, C., & Kolln, M. (2010). Blowin' in the Wind: English Grammar in United States Schools. In Terry Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on Developing Language Knowledge in the English/Literacy Classroom* (pp. 21–37). New York: Routledge.

Hansen, C. (1993). Chinese Ideographs and Western Ideas. *The Journal of Asian Studies*, *52*(2), 373–399.

Hartwell, P. (1985). Grammar, Grammars, and the Teaching of Grammar. *College English*, *47*(2), 105–127.

Hegarty, M. (2004). Diagrams in the Mind and in the World: Relations between Internal and External Visualizations. In A. Blackwell (Ed.), *Diagrams 2004, LNAI 2980* (pp. 1–13). Berlin: Springer-Verlag.

Hepburn, A. (2011, April 4). Inforgraphic: Mobile Statistics, Stats and Facts 2011. *Digital Buzz Blog*. Retrieved from http://www.digitalbuzzblog.com/2011-mobile-statistics-stats-facts-mark eting-infographic/

Hepburn, A. (2012, January 3). Inforgraphic: Social Media Statistics for 2012. *Digital Buzz Blog*. Retrieved from http://www.digitalbuzzblog.com/social-media-statistics-stats-2012-infographic/

Hinkel, E. (2002). *Second Language Writers' Text: Linguistic and Rhetorical Features*. London: Routledge.

Hinkel, E. (2006). Current Perspectives on Teaching the Four Skills. *TESOL Quarterly*, *40*(1), 109–131.

Ho, A. L. (2013, February 18). "Gaokao" System Needs Re-examining in China. *Asia News Network*. Retrieved from http://www.asianewsnet.net/Gaokao-system-needs-re-examining-in-China-42909.html

Hubbard, P., Jones, H., Thornton, B., & Wheeler, R. (1996). *A Training Course for TEFL*. Oxford: Oxford University Press.

Hudson, R. (2001). Grammar Teaching and Writing Skills: The Research Evidence. *Syntax in the Schools*, *17*, 1–6.

Hudson, R., & Walmsley, J. (2005). The English Patient: English Grammar and Teaching in the Twentieth Century. *J. Linguistics*, *41*, 593–622.

Johnson, J. S., & Newport, E. L. (1989). Critical Period Effects in Second Language Learning: The Influence of Maturational State on the Acquisition of English as a Second Language. *Cognitive Psychology*, *21*, 60–99.

Johnson, L. B. (1946). Use of Audio-Visual Aids in Foreign Language Teaching. *The Modern Language Journal*, *30*(7), 404–412.

Juan, B., & Jing, S. (2010). English Grammatical Problems of Chinese Undergraduate Students. *English Language Teaching*, *3*(2), 48–53.

Juffs, A., & Harrington, M. (1995). Parsing Effects in Second Language Sentence Processing. *Studies in Second Language Acquisition*, *17*(04), 483–516.

Kaisheng, H. (2007). Reconsideration on CLT in College English: Theory and Practice. *Canadian Social Science*, *3*(1), 87–90.

Kempen, G. (2004). Teaching Grammar Visually: Interactive Visualization of Syntactic Structure Assembly for Grammar-oriented First- and Second-language Instruction. In *Proceedings of InSTIL/ICALL2004 Symposium on NLP and Speech Technologies in Advanced Language Learning Systems* (pp. 183–186). Italy: University of Venice.

Klein, H. K., & Myers, M. D. (1999). A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly*, *23*(1), 67–93.

Koehler, N., Thompson, A., & Phye, G. (2011). A Design Study of a Multimedia Instructional Grammar Program with Embedded Tracking. *Instructional Science*, *39*(6), 939–974.

Koning, B., & Schoot, M. (2013). Becoming Part of the Story! Refueling the Interest in Visualization Strategies for Reading Comprehension. *Educational Psychology Review*, *25*(2), 261–287. doi:10.1007/s10648-013-9222-6

Kosslyn, S. M., & Moulton, S. T. (2009). Mental Imagery and Implicit Memory. In W. M. P. Klein & J. A. Suhr (Eds.), *Handbook of Imagination and Mental Stimulation* (pp. 135–151). New York: Hove.

Krashen, S. D. (1981). *Second Language Acquisition and Second Language Learning*. CA: Pergamon Press Inc.

Krashen, S. D. (1987). *Principles and Practice in Second Language Acquisition*. New York: Prentice Hall.

Kreidler, C. J. (1971). Effective Use of Visual Aids in the ESOL Classroom. *TESOL Quarterly*, *5*(1), 19–37.

Kuiken, F., Mos, M., & Vedder, I. (2005). Cognitive Task Complexity and Second Language Writing Performance. *EUROSLA Yearbook*, *5*(1), 195–222.

Lambert, M., & Carpenter, M. (2005). Visual Learning: Using Images to Focus Attention, Evoke Emotions, and Enrich Learning. *Internet@Schools*, *12*(5), 20–25.

Landecker, H. (2009). Diagram This Headline in One Minute, if You Can. *Chronicle of Higher Education*, *55*(36), A10–A12.

Larkin, J. H., & Simon, H. A. (1987). Why a Diagram Is (Sometimes) Worth 10,000 Words. *Cognitive Science*, *11*, 65–99.

Lee, S., & Huang, H. (2008). Visual Input Enhancement and Grammar Learning: A Meta-Analytic Review. *SSLA*, *30*, 307–331.

Li, S., & Jie, S. (2010). A Corpus-based Study of Errors in Chinese English Majors' English Writing. *Asian Social Science*, *6*(1), 86–94.

Li, Z., & Song, M. (2007). The Relationship between Traditional English Grammar Teaching and Communicative Language Teaching. *US-China Education Review*, *4*(1), 62–65.

Lincoln, Y. S., & Guba, E. G. (1994). Competing Paradigms in Qualitative Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 105–117). Thousand Oaks, CA: Sage.

Lister, S. (2006, May 16). Reed-Kellogg Diagrams as Screencasts - A Revival Worth Pursuing? *Educause*. Retrieved from http://www.educause.edu/blog/slister/ReedKellogg DiagramsasScreencas/166036

Little, D., Felten, P., & Berry, C. (2010). Liberal Education in a Visual World. *Liberal Education*, *96*(2), 44–49.

Liu, Jing. (2010). An Experimental Study on the Effectiveness of Multimedia in College English Teaching. *English Language Teaching*, *3*(1), 191–194.

Liu, Jun. (2004). Effects of Comic Strips on L2 Learners' Reading Comprehension. *TESOL Quarterly*, *38*(2), 225–243.

Liu, N. (2008). A Study of Chinese Undergraduates' MI Distribution in EFL Class. *English Language Teaching*, *1*(1), 75–82.

Liu, Z., & Stasko, J. (2010). Mental Models, Visual Reasoning and Interaction in Information Visualization: A Top-down Perspective. *IEEE Transactions on Visualization and Computer Graphics*, *16*(6), 999–1008.

Lixin, X. (2009). A New Paradigm of Teaching English in China: An Eclectic Model. *Asian EFL Journal*, *11*(1), 271–291.

Locke, T. (2010). Introduction: "Grammar Wars" and Beyond. In T. Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on Developing Language Knowledge in the English/Literacy Classroom* (pp. 1–17). New York: Routledge.

Lombardi, J. (2004). Practical Ways Brain-based Research Applies to ESL Learners. *The Internet TESL Journal*, *X*(8).

Malamitsa, K., Kokkotas, P., & Kasoutas, M. (2008). Graph/Chart Interpretation and Reading Comprehension as Critical Thinking Skills. *Science Education International*, *19*(4), 371–384.

Marcus, N., Cooper, M., & Sweller, J. (1996). Understanding Instructions. *Journal of Educational Psychology*, *88*, 49–63.

Mason, J. (2006, July). Working Paper: Six Strategies for Mixing Methods and Linking Data in Social Science Research. Real Life Methods, University of Manchester.

Mathai, S., & Ramadas, J. (2009). Visuals and Visualisation of Human Body Systems. *International Journal of Science Education*, *31*(3), 439–458.

Matthews, B., Potter, P., & Williams, R. (2008). Is That Your Radius or Your Ulna? *English in Aotearoa*, (66), 62–67.

Mautone, P. D., & Mayer, R. E. (2001). Signaling as a Cognitive Guide in Multimedia Learning. *Journal of Educational Psychology*, *93*(2), 377–389.

Mayer, R. E. (2008). Applying the Science of Learning: Evidence-based Principles for the Design of Multimedia Instruction. *American Psychologist*, *63*(8), 760–769.

Mayer, R. E., & Anderson, R. B. (1992). The Instructive Animation: Helping Students Build Connections between Words and Pictures in Multimedia Learning. *Journal of Educational Psychology*, *84*(4), 444–452.

Mayer, R. E., Heiser, J., & Lonn, S. (2001). Cognitive Constraints on Multimedia Learning: When Presenting More Material Results in Less Understanding. *Journal of Educational Psychology*, *93*(1), 187–198.

Mayer, R. E., & Johnson, C. I. (2008). Revising the Redundancy Principle in Multimedia Learning. *Journal of Educational Psychology*, *100*(2), 380–386.

Mayer, R. E., & Massa, L. J. (2003). Three Facets of Visual and Verbal Learners: Cognitive Ability, Cognitive Style, and Learning Preference. *Journal of Educational Psychology*, *95*(4), 833–841.

Mayer, R. E., & Moreno, R. (2000). A Learner-Centered Approach to Multimedia Explanations: Deriving Instructional Design Principles from Cognitive Theory. *Interactive Multimedia Electronic Journal Computer Enhanced Learning of*, *2*(2).

Mayer, R. E., & Sims, V. A. (1994). For Whom Is a Picture Worth a Thousand Words? Extensions of a Dual-coding Theory of Multi-media Learning. *Journal of Educational Psychology*, *86*, 389–401.

McDonald, P. (2009). *To What Extent Can Defining Graphic/Written Text Relations Support the Teaching of Reading Comprehension in Multi-Modal Texts?* Dissertation Submitted to the University of Birmingham, Birmingham, UK.

McDougall, J. (2007). Just Another Trendy Theory?: Finding Space in the Curriculum for Teaching Visual Literacy. *Journal of Literacy & Technology*, *8*(3), 23–46.

Megginson, D. (n.d.). Why Sentence Structure Matters. *The Writing Centre*. University of Ottawa. Retrieved December 29, 2012, from http://www.uottawa.ca/academic/arts/ writcent/ hypergrammar/sntmatr.html

Meiring, L., & Norman, N. (2001). Grammar in MFL Teaching Revisited. *Language Learning Journal*, (23), 58–66.

Metiri Group. (2008). Multimodal Learning Through Media: What the Research Says. Cisco Systems, Inc. Retrieved from http://www.cisco.com/web/strategy/docs/ education/Multimodal-Learning-Through-Media.pdf

Moore, P. J., & Scevak, J. J. (1997). Learning from Texts and Visual Aids: a Developmental Perspective. *Journal of Research in Reading*, *20*, 205–223.

Moreno, R., & Mayer, R. E. (1999). Cognitive Principles of Multimedia Learning: The Role of Modality and Contiguity. *Journal of Educational Psychology*, *91*(2), 358–368.

Morgan, D. L. (1998). Practical Strategies for Combining Qualitative and Quantitative Methods: Applications for Health Research. *Qualitative Health Research*, *8*, 362–376.

Morgan, D. L. (2008). Sample Size. In (L. Given, Ed.)*The SAGE Encyclopedia of Qualitative Research Methods*. Thousand Oaks, CA: Sage Publications.

Murr, L., & Williams, J. (1988). Half-Brained Ideas about Education: Thinking and Learning with Both the Left and Right Brain in a Visual Culture. *Leonardo*, *21*(4), 413–419.

Myhill, D. (2005). Ways of Knowing: Writing with Grammar in Mind. *English Teaching: Practice & Critique*, *4*(3), 77–96.

Myhill, D. (2010). Ways of Knowing: Grammar as a Tool for Developing Writing. In Terry Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on Developing Language Knowledge in the English/Literacy Classroom* (pp. 129–148). New York: Routledge.

Myhill, D., Jones, S. M., Lines, H., & Watson, A. (2012). Re-thinking Grammar: The Impact of Embedded Grammar Teaching on Students' Writing and Students' Metalinguistic Understanding. *Research Papers in Education*, *27*(2), 139–166.

Myles, J. (2002). Second Language Writing and Research: The Writing Process and Error Analysis in Student Texts. *TESL-EJ*, *6*(2). Retrieved from http://www.cc.kyoto-su.ac.jp/information/tesl-ej/ej22/a1.html

Nassaji, H., & Fotos, S. (2004). Current Developments in Research on the Teaching of Grammar. *Annual Review of Applied Linguistics*, *24*(1), 126–145.

Ning, G. (2008). Systemic Functional Grammar and Its Pedagogical Implications. *Sino-US English Teaching*, *5*(10), 45–50.

Nokes, J., & Sappington, E. (2010). At First Sight: Improving Your Training with Good Visual Design. *T+D*, 31–33.

Norris, J. M., & Ortega, L. (2009). Towards an Organic Approach to Investigating CAF in Instructed SLA: The Case of Complexity. *Applied Linguistics*, *30*(4), 555–578.

Nunan, D. (1998). Teaching Grammar in Context. *ELT Journal*, *52*(2), 101–109.

Oka, H. (2004). A Non-native Approach to ELT: Universal or Asian? *Asian EFL Journal*, *6*(1), 1–8.

Ortega, L. (2003). Syntactic Complexity Measures and Their Relationship to L2 Proficiency: A Research Synthesis of College-level L2 Writing. *Applied Linguistics*, *24*(4), 492–518.

Owen, S. V., & Froman, R. D. (1998). Focus on Qualitative Methods: Uses and Abuses of the Analysis of Covariance. *Research in Nursing & Health*, *21*, 557–562.

Paivio, A. (1986). *Mental Representations: A Dual Coding Approach*. Oxford: Oxford University Press.

Pallant, J. (2010). *SPSS Survival Manual* (4th ed.). Berkshire, UK: McGraw-Hill.

Pastore, R. S. (2010). The Effects of Diagrams and Time-compressed Instruction on Learning and Learners' Perceptions of Cognitive Load. *Education Tech Research Dev*, *58*, 485–505.

Pearson, J., Rademaker, R., & Tong, F. (2011). Evaluating the Mind's Eye: The Metacognition of Visual Imagery. *Psychological Science*, *22*(12), 1535–1542.

Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, Design, and Analysis: An Integrated Approach*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Plass, J. L., Chun, D. M., Mayer, R. E., & Leutner, D. (1998). Supporting Visual and Verbal Learning Preferences in a Second-Language Multimedia Learning Environment. *Journal of Educational Psychology*, *90*(1), 25–36.

Quirk, R., & Greenbaum, S. (1973). *A University Grammar of English*. London: Longman.

Ramadas, J. (2009). Visual and Spatial Modes in Science Learning. *International Journal of Science Education*, *31*(3), 301–318.

Rao, Z. (1996). Reconciling Communicative Approaches to the Teaching of English with Traditional Chinese Methods. *Research in the Teaching of English*, *30*(4), 458–471.

Rapp, D. N., & Kurby, C. A. (2008). The "Ins" and "Outs" of Learning: Internal Representations and External Visualizations. In J. K. Gilbert, M. Reiner, & M. Nakhleh (Eds.), *Visualization: Theory and Practice in Science Education* (pp. 29–52). Surrey, UK: Springer.

Reed, A., & Kellogg, B. (1896). *Higher Lessons in English: A Work on English Grammar and Composition* (Revised.). Brooklyn: Clark and Maynard.

Sabau, I. (2008). The Visual Component of E-learning. *Bulletin of the Transilvania University of Brasov. Economic Sciences. Series V*, *1*, 109–118.

Sadoski, M., & Paivio, A. (2001). *Imagery and Text: A Dual Coding Theory of Reading and Writing*. Mahwah, NJ: Lawrence Erlbaum Associates.

Sapsford, R. (2007). *Survey Research*. London: SAGE.

Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and Second Language Instruction* (pp. 3–32). New York: Cambridge University Press.

Schnotz, W., & Kürschner, C. (2008). External and internal representations in the acquisition and use of knowledge: visualization effects on mental model construction. *Instructional Science*, *36*(3), 175–190.

Semali, L. (2003). Ways with Visual Languages: Making the Case for Critical Media Literacy. *The Clearing House*, *76*(6), 271–277.

Shen, H. H. (2010). Imagery and Verbal Coding Approaches in Chinese Vocabulary Instruction. *Language Teaching Research*, *14*(4), 485 –499.

Slack, N., & Norwich, B. (2007). Evaluating the Reliability and Validity of a Learning Styles Inventory: a Classroom-based study. *Educational Research*, *49*(1), 51–63.

Stevens, J. (1996). *Applied Multivariate Statistics for the Social Sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Stokes, S. (n.d.). Visual Literacy in Teaching and Learning: A Literature Perspective. *Electronic Journal for the Integration of Technology in Education*, *1*(1), 10–19.

Sudworth, J. (2012, June 8). China's Students Take on Tough Gaokao University Entrance Exam. *BBC*. Retrieved from http://www.bbc.co.uk/news/world-asia-china-18349873

Suhor, C., & Suhor, C. (1983). Thinking Visually About Writing: Three Models for Teaching Composition, K-12. The Talking and Writing Series, K-12: Successful Classroom Practices. *Report: ED233384. 61pp. 1983*.

Svinicki, M. (2009, October 19). How vision, visuals, and visualization represent levels of learning. *America College of Surgeons: Division of Education*. Retrieved February 6, 2012, from http://www.facs.org/education/rap/svinicki1009.html

Swales, J., & Feak, C. (1994). *Academic Writing for Graduate Students*. Ann Arbor: University of Michigan Press.

Sweller, J. (1994). Cognitive Load Theory, Learning Difficulty, and Instructional Design. *Learning and Instruction*, *4*(4), 295–312.

Talking shop: Second Language Acquisition Research: How Does it Help Teachers? An Interview with Rod Ellis. (1993). *ELT Journal*, *47*(1), 3–11.

Tao, R., & Mitchell, C. (2010). "I Never Knew that Pictures Could Convey Such Powerful Messages": Chinese Students in an English Department Explore Visual Constructions of HIV and AIDS. *Changing English: Studies in Culture & Education*, *17*(2), 161–176.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. Thousand Oaks, CA: Sage Publications.

The Bullock Report: A Language for Life (Report of the Committee of Enquiry appointed by the Secretary of State for Education and Science). (1975). London. Retrieved from http://www.educationengland.org.uk/documents/bullock/index.html

The Cox Report: English for Ages 5 to 16. (1989). London. Retrieved from http://www.educationengland.org.uk/documents/cox1989/index.html

The Kingman Report (Report of the Committee of Inquiry into the Teaching of English Language). (1988). London. Retrieved from http://www.educationengland.org.uk/documents/kingman/index.html

The Newbolt Report: The Teaching of English in England (The Report of the Departmental Committee Appointed by the President of the Board of Education to Inquire into the Position of English in the Educational System of England). (1926). London. Retrieved from http://www.educationengland.org.uk/documents/newbolt/newbolt00.html

Tindall-Ford, S., Chandler, P., & Sweller, J. (1997). When Two Sensory Modes Are Better Than One. *Journal of Experimental Psychology: Applied*, *3*(4), 257–287.

Trafton, G. J., & Trickett, S. B. (2012). Connecting Internal and External Representations: Spatial Transformations of Scientific Visualizations, *10*(1), 89–106. doi:10.1007/s10699-005-3007-4

Trochim, W. M. (2006). Types of Reliability. *The Research Methods: Knowledge Base*. Retrieved November 21, 2012, from http://www.socialresearch methods.net/kb/reltypes.php

Trousdale, G. (2010). Knowledge about Language in the English Classroom: a Scottish Perspective. In Terry Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on Developing Language Knowledge in the English/Literacy Classroom* (pp. 73–87). New York: Routledge.

Vavra, E. (2003). Grammar Is Back, but When Will We Start Cooking? *English Journal*, *92*(3), 86–89.

Visualize. (2008). *Cambridge Advanced Learner's Dictionary*. Cambridge: Cambridge University Press.

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Wang. (2007). Variation in Learning Styles in a Group of Chinese English as a Foreign Language Learners. *International Education Journal*, *8*(2), 408–417.

Wang, J., & Lin, E. (2005). Comparative Studies on U.S. and Chinese Mathematics Learning and the Implications for Standards-Based Mathematics Teaching Reform. *Educational Researcher*, *34*(5), 3–13.

Wang, W., & Lam, A. S. L. (2009). The English Language Curriculum for Senior Secondary School in China. *RELC Journal*, *40*(1), 65 –82.

Wang-Kun. (1981). English and Other Foreign Language Teaching in the People's Republic of China. *College English*, *43*(7), 653–662.

Weaver, C. (1996). Teaching Grammar in the Context of Writing. *English Journal*, *85*(7), 15–24.

Weaver, C. (2010). Scaffolding Grammar Instruction for Writers and Writing. In Terry Locke (Ed.), *Beyond the Grammar Wars: A Resource for Teachers and Students on Developing Language Knowledge in the English/Literacy Classroom* (pp. 185–205). New York: Routledge.

Wernsdorff, W. V. (1948). Audio-Visual Aids in the Secondary Language Curriculum. *The Modern Language Journal*, *32*(5), 346–350.

Wiklund-Engblom, A. (2010). Mixed Methods for Exploring E-learning Experiences. Presented at the 3rd Qualitative Research Conference 1-3rd June, Vasa, Finland. Retrieved from http://www.uwasa.fi/midcom-serveattachmentguid-5eecefd88bc224918ba7cd76e888ff81/ Wiklund-Engblom.pdf

Winn, W. (1991). Learning from Maps and Diagrams. *Educational Psychology Review*, *3*(3), 211–247.

Wintergerst, A. C., DeCapua, A., & Ann Verna, M. (2003). Conceptualizing Learning Style Modalities for ESL/EFL Students. *System*, *31*(1), 85–106.

Wright, S. (2006, June 11). Strategies for Teaching Grammar in Context. UNCC.

Xiao-fei, L., & Tian, T. (2008). On Formal Explicit and Implicit Grammar Instruction. *US-China Foreign Language*, *6*(3), 54–58.

Xing, Z. (2004, August 8). Spotlights on College Admission Abuse. *China Daily*. Retrieved from http://www.chinadaily.com.cn/english/doc/2004-08/19/content_366660.htm

Yu, L. (2001). Communicative Language Teaching in China: Progress and Resistance. *TESOL Quarterly*, *35*(1), 194–198.

Yue, V. W. Y. (2010). Investigating ESL Students' Grammar in Writing. *US-China Foreign Language*, *8*(1), 22–31.

Appendix A – Pre-Intervention Writing Task

Note: This exercise is intended to gauge your grammar proficiency. It will not be marked or graded and will not have any impact on your course. It will be used for research purposes in strict confidentiality.

Instructions: Write a short essay (not more than 300 words) on the following topic in 30 minutes. Pay special attention to grammar and sentence structure. Use an extra 5 minutes for self-correction.

Question: Why is higher education important in modern society?

Appendix B – Post-Intervention Writing Task

Note: This exercise is intended to gauge your grammar proficiency. It will not be marked or graded and will not have any impact on your course. It will be used for research purposes in strict confidentiality.

Instructions: Write a short essay (not more than 300 words) on the following topic in 20 minutes. Pay special attention to grammar and sentence structure. Use an extra 5 minutes for self-correction.

Question: 'Studying academic English in the first year at UNNC is necessary for Chinese students.' Do you agree with this statement? Give reasons and personal observations.

Appendix C - The Code of Errors

Identification		Classification		Explanation and Exemplification	
Error #	Error level	Error category	Error type	Incorrect Examples	Corrected Examples
E 1	Sentence level	Omission/Addition	Omission of words or phrases Unnecessary additions Incomplete sentences/non-sentences/Fragments	Being an active and creative university student. (missing predicate/verb phrase)	Being an active and creative university student <u>is important.</u>
E 2	Sentence /Clause level	Combining ideas	Incorrect combining of ideas: Faulty Coordination Faulty Subordination	I will go to the party <u>and John has a blue tie.</u> Television viewers can relate to a person they idolize, <u>and</u> they feel obliged to buy the product endorsed by their hero.	I will go to the party. John has a blue tie. <u>Because</u> television viewers can relate to a person they idolize, they feel obliged to buy the product endorsed by their hero.
E 3	Sentence level	Marker/linkers/determiners	Incorrect choice of or missing clause markers, conjunctions, discourse markers, articles,or prepositions	I like to play tennis <u>and</u> Tom likes to play football. <u>And</u> Jack likes football.	I like to play tennis <u>whereas</u> Tom likes to play football.
E 4	Sentence level	Punctuation errors	Run-on sentences Comma splices Capital letters and end punctuation errors	The library is a good place to go, <u>we need to read books</u>	The library is a good place to go <u>because</u> we need to read books.

E 5	Sentence level	Order/organization	Word order/phrase order Misplaced or dangling modifiers Incorrect noun combinations (e.g. English studying)	I heard that my roommate intended to throw a surprise party for me <u>while I was outside her bedroom window.</u>	<u>While I was outside her bedroom window</u>, I heard that my roommate intended to throw a surprise party for me
E 6	Sentence level	Faulty Parallelism	Faulty parallelism in the use of word forms, phrases, or clauses	He liked <u>to play</u> basketball and <u>riding</u> horses. (infinitive//gerund)	He liked <u>playing</u> basketball and <u>riding</u> horses.
E 7	Sentence level	Other grammar errors	Subject-verb agreement; incorrect word form esp.in the case of verbals Singular/plural Tenses	He study in a university. Education helps us <u>to understanding</u>…	He studies in a university. Education helps us <u>to understand</u>…
E 8	Sentence level	Overall Quality of Sentences	Long, winding sentences Unnecessary repetitions Unrelated ideas	Writer combines too many ideas into one sentence. Or, Writer uses short sentences (regardless of SS type) which could be combined into compound or complex sentences to make text more concise and effective	Divide sentence into two or three or Combine sentences
E 9	Sentence level	Overall Quality of Sentences	Vocabulary issues such as incorrect word choice Lack of clarity of structure/meaning Seems illogical	Writer produces ambiguous sentences or sentences that may be grammatically correct but lack clarity in meaning	Change sentence structure or word/phrase order to produce clarity

Appendix D - CELE Descriptors (Student-version)

UG Writing Descriptors– Coursework

Grade	Task Fulfilment & Organisation	Cohesion & Coherence	Grammatical Resource Range & Accuracy	Lexical Resource Range & Accuracy
Band 6 70-100	– Task addressed comprehensively – Excellent understanding & application of ideas from texts using appropriate referencing conventions* – Clear and sophisticated stance for level* / awareness of text purpose – Excellent balance of main points, examples and explanation – Excellent paragraph organisation/text structure* to support stance* / text purpose	– An excellent range of cohesive devices is used appropriately and accurately – Cohesion appears natural and does not draw attention from the reader – Excellent argument* / line of logic – Sophisticated application of relevant rhetorical functions for level *	– Excellent range of appropriate structures/ features produce sophisticated sense of academic style for the level – Accurate & flexible sentence types – Mistakes in grammatical structures are rare and do not affect meaning – Syntactic structures are produced by the writer and rarely taken from source text(s)	– Excellent range of appropriate lexical items (both general academic and task specific) – Mistakes in word form and usage are rare and do not affect meaning – Vocabulary items are transformed from the source text (s) where possible
Band 5 60-69	– Task addressed fully – Very good understanding and application of ideas from texts using appropriate referencing conventions * – Clear stance with a degree of sophistication for level * / awareness of text purpose – Very good balance of main points, examples and explanation – Very good paragraph organisation/text structure* to support stance* / text purpose	– A very good range of cohesive devices is used mainly appropriately – Cohesion is mostly natural and only minor errors are noticeable – Very good argument* / line of logic – Very good application of relevant rhetorical functions for level *	– Very good range of appropriate structures produce a clear sense of academic style – Range of sentence types with rare mistakes, usually only at long, complex level, & do not affect meaning – Mistakes in grammatical structures do not affect meaning – Most syntactic structures are produced by the writer and not often taken from source text(s)	– Very good range of appropriate lexical items (both general academic and task specific) – Mistakes in word form and usage are occasional and do not affect meaning – Most vocabulary items are transformed from the source text (s) where possible
Band 4 50-59	– Task addressed well – Good understanding and application of ideas from texts using appropriate referencing conventions * – Clear stance * / awareness of text purpose – Main points are mostly supported by examples and explanation – Good paragraph organisation/text structure* to support stance*/ text purpose*	– A good range of cohesive devices is used mainly appropriately – Some errors are noticeable but do not overtly distract the reader – Good argument* /clear line of logic with only occasional breakdowns – Good application of relevant rhetorical functions for level *	– Good range of appropriate structures produce an overall sense of academic style – Generally accurate sentence structure but with limited range – Mistakes in grammatical structures are occasional and do not seriously affect meaning – Some syntactic structures are produced by the writer and some are taken from source text(s)	– Good range of appropriate lexical items (both general academic and task specific) – Mistakes in word form and usage do not affect meaning – Some vocabulary items are transformed from the source text (s)

Band 3 40-49	– Task addressed but could be developed further – Satisfactory understanding and application of ideas from texts using appropriate referencing conventions * – Some evidence of simple stance* / basic awareness of text purpose evident – Main points are included but more examples and explanation needed – Satisfactory paragraph organisation/text structure* but some elements could be better organised to support stance * / text purpose	– A satisfactory range of cohesive devices used with a degree of appropriacy – Errors cause some reader distraction but do not affect coherence – Argument* / line of logic can be followed but with some breakdowns – Satisfactory application of relevant rhetorical functions for level *	– Satisfactory range of appropriate structures produces intermittent sense of academic style – Sentences generally accurate at simple/ compound level but more complex sentences likely to contain errors – Errors in structures not systematic and only occasionally affect meaning – Syntactic structures are taken from source text(s) but some transformation is attempted by the writer	– Satisfactory range of appropriate lexical items (both general academic and task specific) – Mistakes in word form and usage are not systematic and only occasionally affect meaning – Vocabulary items are taken from the source text(s) but some transformation is attempted
Band 2 30-39	– Task attempted but is either only partially addressed, misinterpreted, or lacking enough examples/ supporting information – Some understanding/ application of ideas from texts but lacking clarity/ depth* and/or limited understanding of referencing conventions – Some indication of basic stance though lacks clarity* / awareness of text purpose can be discerned – Main points are missing and more examples and explanation needed – Aspects of paragraph organisation/text structure* are inappropriate or illogical	– Limited range of cohesive devices is used appropriately – Repetition or misuse of cohesive devices causes reader distraction and affects coherence – Development of argument* / line of logic can be discerned but requires effort from the reader – Limited application of relevant rhetorical functions for level *	– Limited range of appropriate structures produces only occasional sense of academic style – Errors noticeable in simple and compound sentences. – Errors in structures may impede meaning – Syntactic structures are taken from source text(s) with limited attempts at transformation by the writer	– Limited range of appropriate lexical items (both general academic and task specific) – Mistakes in word form and usage may impede meaning – Vocabulary items are taken from the source text(s) but with limited attempts at transformation by the writer
Band 1 0-29	– Some attempt at task but generally unsuccessful/task not attempted – Only partial understanding/ application of ideas from texts* and/or referencing conventions – Little evidence of stance* / awareness of text purpose – Lacking most main points, examples and explanation and/or including irrelevant information (due to misinterpretation of task) – Organisation of ideas/ paragraphs* are weak, causing strain for the reader	– Poor range of cohesive devices used appropriately. – Cohesive devices may are misused or overused causing persistent reader distraction severely damaging coherence – Development of argument* / line of logic difficult or impossible to discern – Very limited understanding of relevant rhetorical functions for level *	– Poor range of appropriate structures produces mostly non-academic style – Systematic errors even in simple sentences – Errors in structures are intrusive and impede meaning – Syntactic structures are taken from source text (s) without sufficient attempt at transformation by the writer	– Poor range of appropriate lexical items (both general academic and task specific) – Mistakes in word form and usage impede meaning – Vocabulary items are taken from the source text(s) without sufficient attempt at transformation by the writer

NOTE: The areas marked with an asterisk (*) are to be considered when relevant to the writing task (an exam based on set texts vs. a general writing task; a critical writing task vs. a descriptive writing task; an essay answer vs. a single paragraph answer).

Appendix E - Tests of Assumptions Made by ANCOVA

As Pallant (2010) describes, the one-way ANCOVA assumes that:

1. *The covariate is measured prior to the intervention or experimental manipulation.*

2. *The covariate is measured without error (or as reliably as possible).*

3. *The covariates are not strongly correlated with one another.*

4. *There is a linear relationship between the dependent variable and the covariate for all groups (linearity).*

5. *The relationship between the covariate and dependent variable is the same for each of the groups (homogeneity of regression slopes).*

Research Question 1: Grammatical Correctness

As the research design indicates, the covariate (pre-intervention writing samples) was measured before the treatment of the visual approach began, meeting the first assumption of ANCOVA. Although it is not always possible to measure writing samples accurately at all times, care was taken to measure it most reliably by using a carefully developed Code of Errors. The procedure followed in error analysis helps meet the second assumption of ANCOVA. The third assumption is not applicable to this study as there was only one covariate: the pre-intervention writing sample. The fourth assumption is about a linear relationship between the post-intervention writing samples (dependent variable) and the covariate for both the groups. The scatter plot below (*Figure 1*) shows that the general distribution of the number of errors appears to be linear, although there are some outliers.
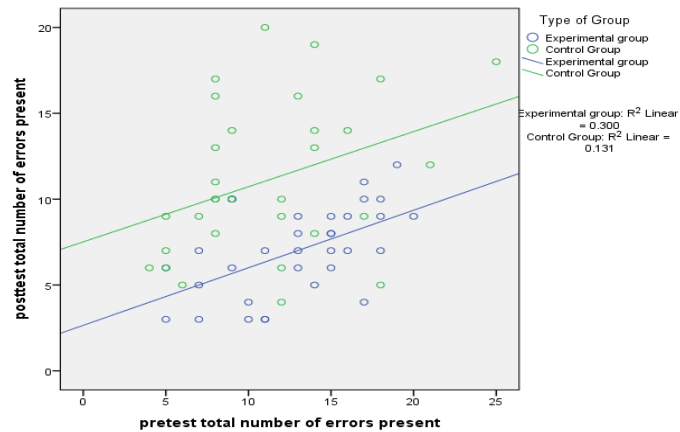
Figure 1: Scatterplot showing the distribution of errors

Homogeneity of regression slopes is an additional assumption for the ANCOVA model. This assumption concerns the relationship between the covariate and the dependent variable for each of the groups. ANCOVA assumes that there is no interaction between the pre-intervention and the post-intervention samples. Each comparison group should show a similar regression slope when the dependent variable is regressed on the covariate(s). The reason for the assumption is that all groups' dependent variable scores are adjusted based on a pooled regression slope; if the groups' individual slopes differ sharply, then the pooling becomes a muddy average (Owen & Froman, 1998). This is indicated by the two lines corresponding to the two groups. As the scatterplot (*Figure 1*) shows, the two lines are similar in their slopes. Thus, the assumption has not been violated. This can also been statistically in *Table 1*:

Tests of Between-Subjects Effects

Dependent Variable: posttest total number of errors present

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	414.510[a]	3	138.170	12.383	.000
Intercept	195.814	1	195.814	17.549	.000
Group	44.748	1	44.748	4.010	.050
preTOTALErr	139.461	1	139.461	12.499	.001
Group * preTOTALErr	.063	1	.063	.006	.940
Error	669.490	60	11.158		
Total	6268.000	64			
Corrected Total	1084.000	63			

a. R Squared = .382 (Adjusted R Squared = .352)

Table 1: Homogeneity of Regression

The Sig. level of Group*preTOTALErr is greater than .05 (p = .940) which is safely above the cut-off. Therefore, the higher significance level indicates that there was no interaction between the two variables.

Research Question 2: Sentence Variety

ANCOVA was not performed to address Research Question 2 because it called for an analysis of the variety of sentence structures used in the texts. Therefore, there was no need to test for ANCOVA assumptions for this data.

Research Question 3: Syntactic Complexity

Referring to the assumptions associated with ANCOVA as described by Pallant (2010), and cited earlier in this Appendix, the covariate, that is the pre-intervention writing sample, was

measured prior to the intervention; and, it was measured reliably by counting and cross counting each occurrence of the item being analysed. For example, first gerunds were identified in each writing sample by combing through each sentence in the text, and the number was noted against the sentence to which each one belonged. This was followed by identifying infinitives and participles in similar fashion. It must be noted here that sometimes when the verbal was not used correctly or not used in the correct form, the fact that the writer attempted to use a verbal in the sentence was acknowledged and the verbal was counted toward this calculation. However, the error was noted using the error code (E 7). An example may be used here to explain this:

- *Besides, higher education can help us easy to understanding and get many friends. (Sample 2 pre-intervention)*

This example sentence contains an error in the infinitive form *("to understanding")* which should correctly be *("to understand")*. It was acknowledged that the student used an infinitive here, but with an error in the form.

After identifying all the verbals, prepositional phrases were identified. The dependent clauses had already been identified while analysing the sentence types. This procedure as part of the research design ensured that the first two assumptions of ANCOVA (that the covariate be collected before the intervention and that the samples be measured reliably) were met. The third assumption is not relevant to this study because only one covariate was used in this experiment. Fourthly, ANCOVA assumes that there is a linear relationship between the dependent variable and the covariate for both the groups. The linearity was checked by using a scatterplot diagram for each of the items. The first scatterplot diagram shows the linearity of the relationship between the

verbals used in the post-intervention writing samples against the pre-intervention writing samples (Figure 2). Figure 3 and 4 show the scatter plots for prepositional phrases and dependent clauses.
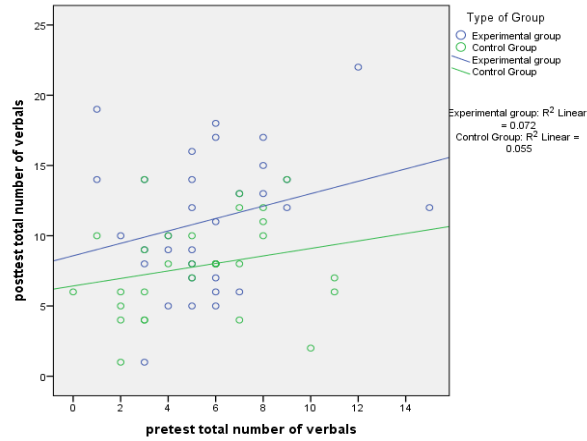
Figure 2: Scatter plot showing linearity in the number of verbals
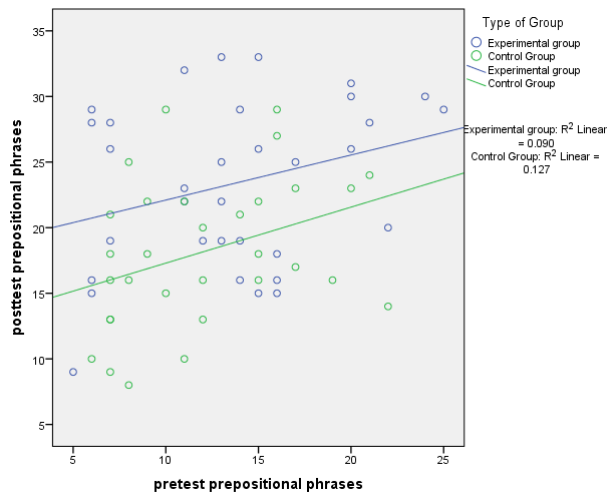
Figure 3: Scatter plot showing linearity in the number of prepositional phrases

303
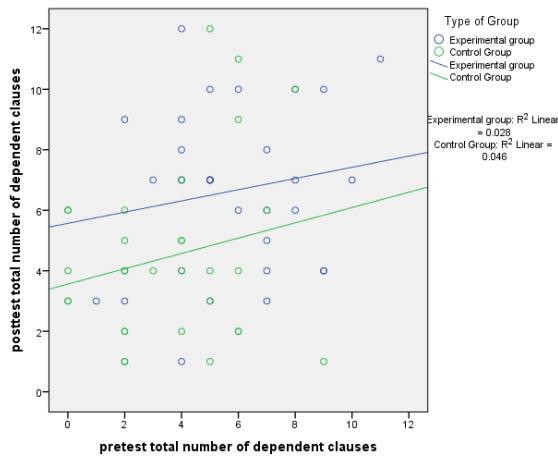
Figure 4: Scatter plot showing linearity in the number of dependent clauses

As the above diagrams show, the ANCOVA assumption has not been violated in this regard, as the linearity of relationship is demonstrated by the two lines (corresponding to the two groups) being similar in their slopes. The next assumption to be tested was homogeneity of regression. This was tested statistically for each item that was considered important in analysing syntactic complexity. Below are three tables (2, 3, and 4) that show the data that indicates homogeneity of regression. In other words, the data indicates that relationship between the covariate and dependent variable is the same for each of the groups.

304

a. Verbals

Tests of Between-Subjects Effects

Dependent Variable: posttest total number of verbals

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	239.415[a]	3	79.805	4.863	.004
Intercept	767.263	1	767.263	46.757	.000
Group	15.739	1	15.739	.959	.331
pretotalverbals	65.677	1	65.677	4.002	.050
Group * pretotalverbals	3.990	1	3.990	.243	.624
Error	984.570	60	16.409		
Total	7019.000	64			
Corrected Total	1223.984	63			

a. R Squared = .196 (Adjusted R Squared = .155)

Table 2: Homogeneity of regression (verbals)

b. Prepositional Phrases

Tests of Between-Subjects Effects

Dependent Variable: posttest prepositional phrases

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	664.812[a]	3	221.604	6.612	.001
Intercept	2130.373	1	2130.373	63.564	.000
Group	67.433	1	67.433	2.012	.161
prePP	235.940	1	235.940	7.040	.010
Group * prePP	2.767	1	2.767	.083	.775
Error	2010.923	60	33.515		
Total	30523.000	64			
Corrected Total	2675.734	63			

a. R Squared = .248 (Adjusted R Squared = .211)

Table 3: Homogeneity of regression (prepositional phrases)

c. **Dependent Clauses**

Tests of Between-Subjects Effects

Dependent Variable: posttest total number of dependent clauses

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	92.093[a]	3	30.698	3.992	.012
Intercept	264.525	1	264.525	34.403	.000
Group	12.795	1	12.795	1.664	.202
pretotaldepcl	17.626	1	17.626	2.292	.135
Group * pretotaldepcl	.422	1	.422	.055	.816
Error	461.345	60	7.689		
Total	2556.000	64			
Corrected Total	553.437	63			

a. R Squared = .166 (Adjusted R Squared = .125)

Table 4: Homogeneity of regression (dependent clauses)

As can be seen in the tables above, the line that shows the significance levels for each of the item being described is the one that shows Group*pretotalverbals; Group*prePP; and Group*pretotaldepcl respectively. The significance level in the case of verbals is p = .624 (>.05); in the case of prepositional phrases it is p = .775 (>.05); and in the case of dependent clauses it is p = .816 (>.05). In each of these cases, the significance is above the alpha level of 0.05 which indicates that the assumption of homogeneity of regression slopes has been met.

Research Question 4: Writing Quality

As previously, the tests of the assumptions made by ANCOVA were carried out. The first assumption is that the covariate be collected before the intervention, which was the case in this study. The writing samples were collected and scored before the intervention. The second assumption is that the covariate is measured in the most reliable way. The reliability was

established by testing for inter-rater agreement which in both pre-intervention and post-intervention scoring was above 80%. This has been discussed in substantial detail in the methodology chapter. Moreover, standard descriptors or rubric used by the department to score all writing was used to score the pre-intervention and the post-intervention writing samples as well. The third assumption is that the covariates are not strongly correlated with one another. In this study only one covariate was used so there was no question of violating this assumption. The fourth assumption is with regards to the linearity of the relationship between the post-intervention writing sample (the dependent variable) and the covariate (the pre-intervention writing sample). The procedure for checking linearity was followed and the scatter plot below (Figure 5) demonstrates the results:
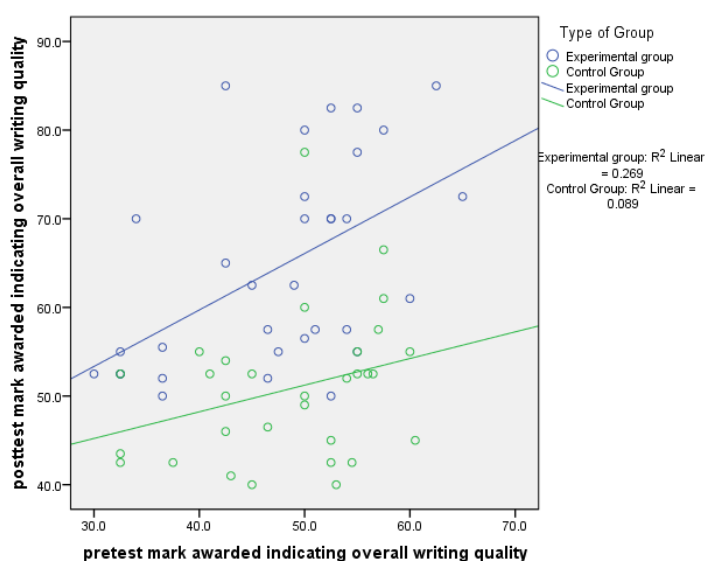
Figure 5: Linearity of the relationship between the scores

The two straight lines show a linear relationship to some extent, although the scores seem to be scattered about. There is no indication of a curvilinear relationship; therefore, the next step was taken to test for the assumption that there was no interaction between the covariate and the dependent variable. Graphically, it can be seen in *figure 5* that the two lines are somewhat similar

in their slopes. The assumption was assessed statistically for a clearer indication of the homogeneity of regression as is shown in the table below (*Table 5*):

Tests of Between-Subjects Effects

Dependent Variable: posttest mark awarded indicating overall writing quality

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4322.914[a]	3	1440.971	17.621	.000
Intercept	2428.644	1	2428.644	29.699	.000
Group	1.906	1	1.906	.023	.879
preMARK	1028.210	1	1028.210	12.573	.001
Group * preMARK	132.450	1	132.450	1.620	.208
Error	4906.586	60	81.776		
Total	223598.500	64			
Corrected Total	9229.500	63			

a. R Squared = .468 (Adjusted R Squared = .442)

Table 5: Test for homogeneity of regression

The output obtained from this procedure is in the table above and the value that needs to be looked at is the significance level of the interaction term (shown above as Group*preMARK). The Sig. level for the interaction is greater than .05, that is p = .20. This means that the assumption has not been violated.

Appendix F – Interview Themes and Questions

Research questions:

4. Does a visual approach help students in gaining better understanding of sentence structures?
5. What are students' responses to the visual approach and do they think it helps them?

Reminder: There are no wrong or right answers. Your opinion is valuable in this research. Please feel free to express your views. Your identity will remain confidential. I am recording this conversation only for my own reference and record.

A. The importance of studying grammar in second language acquisition
1. Do you think studying grammar is important while learning a language?
2. Do you like studying grammar? Why or why not?
3. Tell me about your experience in high school. Did you study grammar in your high school?
4. Could you tell me some of the grammar topics that you studied and what were the lessons like?
5. Did you study sentence structure in high school?
6. Did you understand most of what you were studying at that time?
B. Relationship between grammar (specifically, sentence structure) and writing skills
7. Do you think there is a relationship between grammar and writing skills?
8. In your opinion, do you think studying sentence structure is useful in improving your writing skills?
9. Would you prefer studying grammar as a separate subject of study or study it in the context of your writing assignments? Why?
C. Methods of teaching/studying grammar (specifically in China)
10. Going back to your time in high school, what methods did your teacher use to teach you grammar/sentence structure?
11. Did you enjoy your grammar lessons? Why or why not?
12. Have you found learning grammar easy or difficult? If difficult, what aspects do you find hard?
13. Do you feel more confident or less confident about your use of grammar in your writing now?

D. Visual approach vs. traditional approach
14. Compare these two lessons – which one would you prefer and why?
15. We used some visuals in the class. Do you think they were useful or not?
16. Did the visuals help or not help to improve your understanding of sentence structures?
17. Did the visuals help or not help to improve your written texts?
E. Response to specific types of visuals and their influence on understanding
18. There were four types of visuals that we used: ppts (to introduce information); charts; sentence diagrams; visual imagery. Take a look at them. Which types do you think were more beneficial to you? Why?
19. Tell me about the ones you think were not beneficial and why?
20. In your opinion, what could be done to improve them?
F. Relationship of visuals to writing skills
21. In your personal opinion, do these visuals help or not help you in your understanding of the sentence structures that you are required to use in your writing assignments?
22. Do you think your knowledge of sentence structure has improved or not improved as a result of the visual approach?
23. Do you think your writing skills have improved or not improved because of the visual approach?
24. Is there anything else that you would like to say regarding visual approach?

END

Appendix G – Gaokao Sample Paper (2009)

Part A   Short Conversations

Directions: In Part A, you will hear ten short conversations between two speakers. At the end of each conversation, you will hear a question about it, read the four possible answers in   your paper, and decide which one is the best answer to the question you have heard.

1. A. Very nice.
    B. Not so big.
    C. Small but new.
    D. Very big.
2. A. He acts rudely.
    B. He ignores Mary.
    C. He likes Mary.
    D. He dislikes Mary.
3. A. Football.
    B. Table tennis.
    C. Basketball.
    D. Baseball.
4. A. Jack's character.
    B. Jack's occupation.
    C. Jack's strong points.
    D. Jack's likes and dislikes.
5. A. She can't believe it.
    B. She is quite surprised.
    C. She doesn't think the man is wise.
    D. She expresses her disapproval.
6. A. There was a traffic jam.
    B. He forgot the appointment.
    C. He didn't know the place.

D. His watch was a couple of minutes slow.
7. A. The woman is satisfied with the place.
    B. The woman regrets moving to the place.
    C. The woman is unhappy with life here.
    D. The woman thinks life here is not good.
8. A. Before they say good-bye to each other.
    B. When they get to a party.
    C. Before they have a meal.
    D. When they stay there for a long time.
9. A. She was surprised by her boss.
    B. She made progress in her study.
    C. She has graduated from university.
    D. She solved a big problem.
10. A. She can't dance as gracefully as she used to.
    B. She can never dance gracefully.
    C. She couldn't dance gracefully, but now she can.
    D. She can still dance gracefully.

Part B Longer Conversations

Directions: In Part B, you will hear two longer conversations. After each conversation, you will be asked two questions. The conversations will be read twice, but the questions will only be spoken once. When you hear a question, read the four possible answers in your paper and decide which one would be the best answer to the question you have heard.

Questions 11 and 12 are based on the following conversation.

11.   A. It's much cooler there than in London.
        B. Life there is very interesting.

C. He'll take a new job there.
D. He'll start a company there.

12.   A. To visit her sister in Vancouver.   C. To go on a tour in Alaska.
             B. To look for a job in Vancouver.   D. To move to Alaska, too.

Questions 13 and 14 are based on the following conversation.

13.   A. He has been there before.   14.   A. He lives not far from her hotel.
             B. He once joined in the festival.   B. He lives in the Selfridge Hotel.
             C. He was born there.   C. He lives near the TV station.
             D. He saw it on TV.   D. He lives at a street corner.

Part C Passages

Directions: In Part C, you will hear two short passages, and you will be asked three questions on each of the passages.   The passages will be read twice but the questions will only be spoken once.   When you hear a question, read the four possible answers in your paper and decide which one would be the best answer to the question you have heard.

Questions 15 through 17 are based on the following passage.

15.   A. Two pounds sixty.
             B. One pound forty.
             C. Eight pounds.
             D. Seven pounds thirty.
16.   A. Students.
             B. Older children.
             C. Babies.
             D. Mothers and babies.
17.   A. The new Waterworld Cafe is already finished.
             B. The new Waterworld Cafe will be finished on June 22nd.
             C. The new Waterworld Cafe will be finished soon.
             D. You can only enjoy a drink there after your swim.

Questions 18 through 20 are based on the following passage.

18.   A. He knocked on the doors of nearby houses.
             B. He ran home to tell his father.
             C. He shouted to the men on the ships.
             D. He could not enjoy his Sunday morning in bed.
19.   A. Wood for the shops and houses of Port Richards.
             B. Oil, paint and paper to ports in the Far East.
             C. Paper from the Far East, but not oil or paint.
             D. Paper, paint and oil from the Far East.
20.   A. Burning boxes of paper and made part of the ship black.

B. Burning the paper and a little of the oil.
C. Reaching the paint but didn't burn it.
D. Burning one end of the ship.

第二卷　　笔试部分

II. Grammar

Directions: Beneath each of the following sentences there are four choices marked A, B, C and D. Choose the one answer that best completes the sentence.

21. Many people agree that _____ knowledge of English is a must in _____ international trade.
    A. a.../
    B. the...an
    C. the...the
    D. /...the
22. He looked _____ the mirror and found herself a little thinner.
    A. in
    B. through
    C. at
    D. on
23. Is this the computer you want to _____?
    A. repair it
    B. have it repaired
    C. be repaired
    D. have repaired
24. You should make it a rule to leave things _____ you can find them again.
    A. when
    B. where
    C. which
    D. then
25. Mary, you take care of the baby today, _____?
    A. do you
    B. will you
    C. don't you
    D. didn't you
26. Dick _____ his students was at the party. He told me that he did not know anyone _____ me there.
    A. together with ...beside
    B. along with...except
    C. rather than...except
    D. instead of ...besides
27. The little girl sat there and _____ say anything.

A. dared not

B. didn't dare

C. not dared

D. nor daring to

28. I have two brothers but _____ of us have ever been abroad.

A. none

B. no one

C. both

D. neither

29. _____ a certain doubt among the young people as to the necessity of work.

A. It existed

B. There existed

C. They had

D. It had

30. There's no one _____ has a few faults.

A. who

B. that

C. which

D. but

31. It wasn't good idea to throw the bottle out of the window, it _____ hit somebody.

A. would have

B. must have

C. could have

D. should have

32. She wore, _____ was very uncommon in the country, a pair of white shoes.

A. which

B. as

C. what

D. that

33. It is a thousand pities that such accidents _____.

A. could have happened

B. would have happened

C. should have happened

D. ought to have happened

34. American people appreciate _____ when you wish to pay a visit to them.

A. your calling beforehand

B. you to call beforehand

C. that you call beforehand

D. you call beforehand

35. -- Centuries ago, many businessmen traveled on horseback.

-- _____, I imagine.

A. So did they

B. They did, too

C. So they did

D. So they were

36. _____, the job can be done much better.
    A. Give me more time
    B. Giving me more time
    C. More time given
    D. If giving more time
37. It was the university _____ he was teaching _____ sent him to America.
    A. which...that
    B. where....that
    C. that...which
    D. that...had
38. Believe it or not, last year, John earned _____ his sister, who has a better position in a big company.
    A. much as twice as
    B. as twice many as
    C. twice as much as
    D. twice as many as
39. _____ for your laziness, you would be a good student.
    A. Were not it
    B. Were it not
    C. If were it not
    D. If were for
40. No one realized _____ it was until much later.
    A. how serious a crime
    B. what serious crime
    C. how serious crime
    D. how a serious crime

III. Vocabulary

Directions: Beneath each of the following sentences there are four choices marked A, B, C and D. Choose the one answer that best completes the sentence.

41. It is the _____ in Britain to drive on the left.
    A. custom
    B. practice
    C. habit
    D. hobby
42. After years of hard training, David at last became a _____ tennis player.
    A. specialized
    B. technique
    C. professional
    D. particular
43. I agree with you to a certain _____ but not entirely.
    A. part

B. level

C. way

D. extent

44. Will you take my previous experience into _____ when you fix my salary?

A. mind

B. thought

C. reference

D. account

45. After the earthquake, it took a long time for life to go back to _____.

A. usual

B. normal

C. ordinary

D. common

46. The folk song concert was so well _____ that all the tickets were sold out on the first day.

A. accepted

B. recognized

C. received

D. approved

47. The robber would _____ her with death if she refused.

A. frighten

B. shock

C. threaten

D. kill

48. Mangoes don't _____ with me; every time I have it, I feel uncomfortable.

A. agree

B. go

C. deal

D. match

49. The photo _____ his memory of his old school days.

A. awoke

B. called

C. reminded

D. raised

50. The voters told the politician that he could _____ their support in the next general election.

A. count on

B. take in

C. look up

D. see through

IV. Cloze

Directions: For each blank in the following passages there are four words or phrases marked A, B, C and D. Fill in each blank with the word or phrase that best fits the context.

(A)

The dog has always been considered man's best friend. Always known __51___ being particular faithful in watching over children, he also has his ___52__ by the fireside and beside the hunter in the forest. He is easy to train, works hard, and often ____53_ surprising deeds. Because he barks in the __54___ of coming death, the dog was once thought to have ___55__ powers and believed to be ___56__ of seeing gods and spirits invisible to men. ___57__, these beliefs lie in the fact that dogs are sensitive to people's feelings and his good hearing ability and ___58__ of smell, which enable him to find ___59__ hidden from human observation. His record of saving lives is great, __60___ he often gives warning of fire and other dangers not noticed by his master.

51.	A. as		56.	A. independent
	B. by			B. capable
	C. for			C. possible
	D. to			D. sure
52.	A. name		57.	A. However
	B. place			B. Therefore
	C. position			C. Usually
	D. devotion			D. Actually
53.	A. carries		58.	A. sense
	B. performs			B. power
	C. achieves			C. ability
	D. gets			D. feeling
54.	A. danger		59.	A. enemies
	B. appearance			B. signs
	C. discovery			C. clues
	D. presence			D. surprises
55.	A. special		60.	A. for
	B. unknown			B. so
	C. particular			C. although
	D. strong			D. if

(B)

When your wallet is nearly empty or your check balance is low, you know you are nearing your spending __61___. But if you use credit, you can __62___ without realizing it-until the bills come in. That's why wise credit use __63___planning and monitoring.

Take a look at your __64___ credit situation. Do you know how much you pay out each month on credit obligations and whether or not your debt is in __65__ with your income? If your credit picture isn't clear, __66___ you need to organize your record and take a closer look.

How do you know when it's time to stop buying __67___ credit? There's 68_____ single answer to this question __69___ it depends on your circumstances, _70____ the size and stability of your income and your present and future expenses.

61. A. time
    B. control
    C. limit
    D. line
62. A. buy
    B. overspend
    C. overdraw
    D. deal
63. A. claims
    B. advises
    C. allows
    D. requires
64. A. current
    B. new
    C. old
    D. used
65. A. order
    B. line
    C. trouble
    D. plan

66. A. perhaps
    B. hurriedly
    C. unwillingly
    D. luckily
67. A. in
    B. by
    C. over
    D. on
68. A. every
    B. one
    C. no
    D. any
69. A. because
    B. if
    C. though
    D. while
70. A. for example
    B. as
    C. namely
    D. such as

V. Reading Comprehension

Directions: Read the following passages. Each passage is followed by five questions or unfinished statements. For each of them there are four choices marked A, B, C and D. Choose the one that fits best according to the information given in the passage you have just read.

(A)

　　NEW DELHI (Agencies via Xinhua) -- An India Air Force Antonov-32 aircraft crashed outside Delhi airport yesterday, killing 21 people and injuring five -- the second crash in India in 48 hours.

　　"Twenty-one people have died in the crash," PK Bharadwaj, a senior police official, told reporters at the crash site.

　　"Eighteen people were on the AN-32 aircraft, and I don't think there were any survivors. The rest were on the ground. Five people have been injured," he said.

　　Bharadwaj said the injuring included a 5-year-old girl who was burned on 35 percent of her body. "She has been rushed to hospital," he said.

"It was very misty when we came here, and the visibility was extremely low. This could be the reason for the crash," he said.

Bharadwaj said there was no senior official on the plane. Delhi Airport Director N V Sridhar said by telephone that the plane crashed around 8 a.m. near a labor's camp.

On Friday night, an Air France cargo plane ploughed into the runway at Madras airport and burst into flame. All five people on board survived.

A faulty nose wheel may have led to the crash landing and subsequent fire which destroyed the Air France Boeing 747-200 cargo plane, India's top official said yesterday.

71.   The AN-32 aircraft crashed on _____.
       A. Wednesday
       B. Friday
       C. Sunday
       D. Thursday

72.   How many people who were on the ground died from the crash?
       A. 21.
       B. 8.
       C. 5.
       D. 3.

73.   Which of the following statements is NOT TRUE?
       A. In the first crash the plane was destroyed but no one died.
       B. The Air France cargo plane crashed at an airport.
       C. The second   air crash caused a terrible fire.
       D. Five people were killed in the first air crash.

(B)

The law is a great mass of rules, showing when and how far a man is likely to be punished or to be made to hand over, money or property to his neighbours, and so on. These rules are contained in books. A lawyer learns them mainly by reading books.

He begins by doing little else than read, and after he has prepared himself by, say, three years' study to practise, still, all his life long and almost every day, he will be looking into books to read a little more than he already knows about some new question which he has to answer.

The power to use books, then, is a talent which the would-be lawyer ought to possess. He ought to have enough flexibility and fineness of mental fibre to make it easy for him to collect ideas from printed words. He ought to have some readiness in finding what a book contains, and something of an instinct for where to look for what he wants.

But although this is the power of which he will first feel the need, it is not the most important. A lawyer does not study law to recite it; he studies it to use it and act upon the rules which he has learned in real life. His business is to try cases in court and to advise men what to do in order to keep out or get out of trouble. He studies his books in order to advise and to try his cases in the right way.

74. The passage tells us the first thing a law student has to do is to _____.
    A. practise law
    B. read books
    C. hand over money
    D. answer questions
75. After three years of reading _____.
    A. he can stop reading
    B. he can study law
    C. he still has to continue reading
    D. he is able to give intelligent answers
76. The principal business of a lawyer is _____.
    A. to advise people who have legal trouble
    B. to discuss the material he has read
    C. to learn about real life
    D. to study the law only
77. From this passage we get the idea that a good lawyer should know how to _____.
    A. be powerful
    B. collect ideas
    C. be flexible in all things
    D. analyze and interpret what he reads

(C)

When American students graduate from college, they must find jobs for themselves. But often they get help from their college and university. Every college has a career counseling office. The people who work there help students learn about different kinds of jobs and the chances for employment. Students can discuss their first year of college. Some use the information a counselor gives them   when deciding what subjects to study.

For example, a girl student wants to be an engineer, but she does not know what kind. The counselor can tell the girl that, when she graduates in four years, there will be more jobs for structural engineers than for chemical engineers. Therefore, the student may study structural engineering.

The career counseling office also communicates with local and national companies. Company officials often visit the university to talk to students who want to work for them. The career counseling offices arrange these meeting for the company and the students. They also have

classes for students. They teach the students how to find a job such as what to say to company officials and how to write letters telling about themselves.

Experts say that American students who are employed when they finish college usually find jobs in their own field of study. Those who must search for months after graduation usually take lower paid jobs, and their jobs are not connected to what they studied in college. The experts foretell that in coming years there will be more jobs for health workers, financial experts, teachers and computer scientists.

78.   According to the passage, a career counsellor _____.
        A. helps students pass the examinations successfully
        B. helps student find well-paid jobs
        C. provides students with information about various opportunities
        D. helps students find full-time jobs
79.   A career counselling office does all the following jobs except _____.
        A. providing jobs for college graduates
        B. communicating with local and notional companies
        C. arranging meetings between company officials and students who what to work   D. teaching students special skills
80.   Those who spend months hunting jobs after graduation usually _____.
        A. can find well-paid jobs
        B. have to take part-time jobs
        C. can find lower paid jobs in their own field of study
        D. can't find jobs in their own field of study
81.   What's the best title for this passage?
        A. American University Graduates
        B. Finding Jobs after Graduation
        C. Well-paid Jobs for University Graduates
        D. Future Jobs

(D)

The Last Supper is regarded as one of the supreme masterpieces in the whole field of pictorial art. Tradition has it that Leonardo da Vinci worked for ten years upon the painting, the monks in the church annoyed at the delay. It was said that Leonardo often painted continuously from dawn to night without eating his meals. But at other times he spent hours before the picture, lost in contemplation, examining, comparing, and measuring his figures.

This inactivity aroused the anger of the fussy Prior, the head of the church, who belonged to the large group of those who believe that the busier a man seems, the more he accomplishes; and so he tried to find fault with the idle painter. Leonardo was slightly unhappy and explained to somebody else that there was a great difference between the work of the creative artist and the stonemason. The creative artist needs time for contemplation; he may be busiest when his hands are idlest. Just now he needed two heads to complete the picture; that of Christ,

for which no model on earth could be found, for where was the man to be found whose face would express the strength, and beauty, and tenderness, and deep sorrow of the Christ; then he also needed a head of Judas, and that was hard to find as well, for where was the man whose face could express the meanness of that base traitor. But he would look no further; if none came his way, he would be satisfied to take the Prior as a model for Judas. This threat silenced the angry Prior, who quite naturally had no desire to pass to descendants in such a fashion.

82. Why did the Prior complain about the delay?
   A. Because he thought that the painter idled most of the hours.
   B. Because he knew that genius might be busiest when seemingly idlest.
   C. Because he liked the work of a stonemason.
   D. Because he was eager to be taken as a model for Judas.
83. What does "contemplation" in the last sentence of Paragraph 1 mean?
   A. Possibility.
   B. Intention.
   C. Deep thought.
   D. Expectation.
84. Which of the following is TRUE?
   A. The painter was pleased with the Prior's complaint.
   B. Neither Christ nor Judas was easy to paint.
   C. The painter took one of the monks as a model for Christ.
   D. The painter took one of the monks as a model for Judas.
85. Which of the following is NOT true?
   A. Leonardo took the fussy Prior as a model for Judas.
   B. The Prior was discontented with Da Vinci's ways of working.
   C. The painting was accomplished in ten years.
   D. The painting is justly regarded as one of the world's masterpieces.

第三卷
VI. Translation
Directions: Translate the following sentences into English, using the words or phrases given in the brackets.

86. 这部电影显然不适合青少年。(suitable)

   ----

87. 据我所知，这场足球赛的门票可以在足球场买也可以在网上购得。(available)

   ----

88. 她从未想到一个看上去很有教养的男人会这样粗鲁地对待她。(occur)

   ----

89. 使我们感到欣慰的是，长期受到严重污染的苏州河正在变清。(relief)

----

90.   毫无疑问她能达到目的，因为他坚信有志者事竟成。(accomplish)

VII. Guided Writing

Directions: Write an English composition in about 100 to 120 words, according to the points given in Chinese.

The Person I Respect Most

Source: http://sh.gaokao.com/20091112/4afbce4941180.shtml

Appendix H – Sample of Hand-outs Given to the Control Groups

Sample Hand-out 1: Lesson 1 - Introduction to Sentence Structure

Studying sentence structure in detail helps to gain a higher level of grammatical accuracy in writing. A good piece of academic writing includes among other features a sophisticated use of a variety of sentence structures that enhance the richness of the text. In order to skillfully use a variety of sentence structures, it is important to understand each sentence structure very well.

Here is a summary of the four types of sentence structures:

1. <u>**Simple sentence:**</u> has one subject and one predicate.

   Example: ***John ate an apple.***

2. <u>**Compound sentence**</u>: has two or more simple sentences joined together by a conjunction. These simple sentences can stand independently and make complete meaning; therefore, they are called independent clauses. We can say that a compound sentence is made up of two or more independent clauses.

   Example: ***John ate an apple but he did not like it.***

3. <u>**Complex sentence**</u>: has one independent clause and one or more dependent clauses. The dependent clause does not make complete meaning on its own and is usually marked with a subordinate conjunction such as because, although, if, which, that, and others.

   Example: ***John ate the apple that was on the table.***

4. <u>**Compound-complex sentence**</u>: has a compound sentence and one or more dependent clauses. In other words, this structure has at least two independent clauses and at least one dependent clause.

   Example: ***John ate the apple that was on the table but he did not like it.***

It is important to be able to identify the different sentence structures in the texts that you read and the texts that you write. All good writing incorporates a variety of these structures; however, it is possible to find texts that are dominated by only one sentence type. Academic texts often consist of a variety of complex sentences (the third type).

Note the following:

- Although skillful writers use simple sentences to create effective texts, beginning writers usually write simple sentences that are short and choppy. Such a text does not read well.

- Compound sentences are useful when combining ideas to produce conciseness. However, students usually combine ideas that do not go well together and sometimes use incorrect conjunctions.

- Complex sentences offer a large variety as dependent clauses are of many types. These sentence types provide the writers a variety of sentences to express their meaning and also to make their writing more creative.

- Compound-complex sentences are used rarely because they tend to be long and may produce sentences that lack clarity and may require the reader to read it several times before fully comprehending the meaning. However, skillful writers make use of these types of sentences for rhetorical effect and also to combine several related ideas in order to achieve conciseness.

Note: This lesson was taught to experiment groups using visual imagery through PowerPoint and chart (See a smaller version of the chart in Chapter 3, Section 3.7.5, Figure 3.3)

Sample Hand-out 2: Lesson 5 - Complex Sentences

Noun Clause	Adjective Clause	Adverb Clause

Used as Nouns:
    ▪ Subject
    ▪ Direct/indirect object
    ▪ Subjective complement
    ▪ Objective complement
    ▪ Object of preposition, etc.
	• An adjective clause is a subordinate (dependent) clause that modifies a noun or a pronoun.
	• An adjective clause appears after the noun or pronoun it modifies.
	• It usually begins with a relative pronoun (*that, which, who, whom,* or *whose*) or with a relative adverb (such as *before, since, when, where,* or *why*).
		▸ An adverb clause is a subordinate clause that modifies a verb, an adjective, an adverb, or a verbal.
		▸ It does this by pointing out *where, when, in what way, to what extent, under what condition,* or *why.*

Examples: Whatever information you need can be found in this book. (subject) I do what I want to do. (object) I will listen to whatever you say. (object of prep). I do not know when the semester started. (object) Whoever recognizes this country's flag should treat it with respect. (subject) He told me that he will not be able to come for the discussion. (object)	**Examples:** New technology that is available in every sphere of life is changing the way people think of life. Companies which do not keep up with the latest development will fail. Many people who exploited the new technology made great advances.	**Examples:** Although they may differ in the particularities of how they achieve their goals, all education systems are fundamentally the same. Because it provides competitive salary, the company has an influx of highly motivated employees.
Application question: Did you use noun clauses in your last writing assignment? Can you identify them? If you didn't use a noun clause, can you try and rewrite a sentence using a noun clause?	**Analyze:** • The reason that this task can be difficult is that workers' motivation is influenced by not only pay levels, but also social and psychological considerations. • The tangible product includes intangible benefits which are an important part of what you buy.	**Advice:** Read the essay that you wrote recently and identify all the complex sentences that you wrote. Which type of subordinate clauses did you use? It is good to use a variety of clause types. You may improve your text by rewriting some sentences to provide a variety of clause/sentence types.

Appendix I – Teaching Plan for Experiment and Control Groups

Week	Activity	Materials for Experiment Groups	Materials for Control Groups
1 Feb 13	Pre-test essay	Answer sheet	Answer sheet
2 Feb 20	• Introduction of the four Sentence Structure types • Parts of a sentence (subject and predicate) • Two writing errors: fragments, run-on sentences • Prepositional phrases	Ppt, chart Diagrams P 414-415 Handout	Two hand outs (List along with textual explanation)
3 Feb 27	• Go through homework • Clauses and Clause types • Analyze some sentences • Introduce Verbals	Answers + Ppt Diagram templates ppt Worksheet (ppt print with part diagrams and pictures) Verbals chart	Hand out Worksheet
4 Mar 5	• Verbals and verbal phrases • Diagrams of infinitives or gerunds from students own writing • Compound sentences vs. compound elements of a simple sentence	Ppt Diagrams Student written text Prentice hall book p. 446-454	Hand out Exercises identifying verbals and verbal phrases and compound sentences from a text and then from student's own texts
5 Mar 12	• Introduce complex sentences and the three types of dependent clauses • Focus on noun clause – identify noun clauses in a text • Adjective and adverb clauses	Chart Ppt Diagrams Imagery	Hand out Exercises
6 Mar 19	More on adjective and adverb clauses using student written text	Student written text Diagrams Imagery -- orphans	Exercises (photocopied from a grammar text book)
7 Mar 26	Tutorial Week		
8 Apr 2	• Compound-complex sentences - Identify and analyze CCx sentences in a text	PPt Visual Imagery Diagrams using a template Reading text for exercise	Hand out Identify CCx sentences in student texts
9 Apr 9	Workshop – identify SS types in their own essay – is there SS variety	Student writing Visual Imagery	Identify types of sentence structures used in their essay drafts

10 Apr 16	Pick a student written paragraph (part of essay or timed-writing or mid-term exam) and analyze SS on the screen. Help identify grammar errors and talk about variety of SS.	Smartboard Diagrams Imagery	Group activity – identify errors and analyze sentence variety in a student written paragraph
11 Apr 23	Post-test	Answer sheet	Answer sheet
12-13	Interviews	Audio taped interviews using semi-structured interview schedule	

Appendix J – Procedure for Qualitative Analysis

Step 1 – A schedule of interviews was developed keeping in view the theoretical constructs and the research questions that needed to be addressed.

Step 2 – Appointments were scheduled for interviews with 20 students (in pairs) over two weeks.

Step 3 – Interviewes were conducted in an informal setting over coffee and refreshments. The interviews were conducted in English and recorded using a mobile recording device.

Step 4 – The interviews were transcribed by listening over and over again to make sure all sentences were captured and all meaningful communications - verbal or by gestures - were recorded.

Step 5 – The scripts were marked for major themes that were planned in the interview schedule

Step 6 -- The transcripts were imported into the NVivo file for analysis.

Step 7 – Multiple codes were created as scripts were combed through and highlighted texts were placed under appropriate codes.

Step 8 – The sub-codes were clustered into the six major codes according to the themes and the major codes and sub-codes were re-arranged in a logical order.

Step 9 – The sources (scripts) were classified into two groups: Experimental and Control.

Step 10 – The scripts were checked again to see if there were any overlaps and that all data was accounted for. Some overlaps were unavoidable. All data was accounted for.

Step 11 – The Qualitative chapter was written incorporating relevant quotes and analysis. Multiple drafts were created in the process. Interpretation of the analysis was added to the commentary.

Step 12 – The analysis was then associated with the statistical findings to see how the data was able to explain and support the statistical findings. The two types of findings were then brought together in the following chapter.

Informed Consent Form for Research Participants

Please read the following information carefully. You can also request a copy for future reference.

Research: English Grammar Contextualized to Writing
Researcher: Vinita Gaikwad
Site: University of Nottingham, Ningbo, China

HELLO,

I am Vinita, a CELE tutor doing research on the topic of teaching and learning grammar. I need your participation in this project; however, your participation is voluntary. In other words, if you do not wish to participate, please let me know. During the semester you will receive explicit instruction in some aspects of grammar that will be useful in your writing development. The impact of this instruction will be seen by comparing two short essays that you will write – one at the beginning and another at the end of the semester.

This is for research purposes only and your performance on these essays will not influence your marks for the course. However, it is very likely that you will improve in your writing skills with this additional knowledge. The information will be given to you in 5-10 minutes of your class time and will include some contextualized exercises from your on-going work. There are no risks or awards involved. Your individual privacy will be maintained during and after the research study. This means that your identity will not be revealed, but the results of the research study may be published. You will be informed of the outcomes of the study in due course. The Research Ethics Committee of UNNC has approved this project.

I hope that you will willingly participate in this study and will benefit from it. If you do, kindly sign against your name below:

ID	Name	Sign	ID	Name	Sign

Note: If you have any questions, concerns, or problems about this study, please contact your tutor or Douglas Bell, Director of Preliminary Year Programme, CELE by sending him an email at:
Douglas.BELL@nottingham.edu.cn or Tel: 8657488180189
Thank you.

Informed Consent Form for Interviews

Please read the following information carefully. You can also request a copy for future reference.

Research Topic: Teaching English Grammar in the Context of Teaching Writing Using a Visual Approach
Researcher: Vinita Gaikwad
Site: University of Nottingham, Ningbo, China

Hello,

I am currently doing some research on the teaching of grammar and I would like to invite you to participate further in this research by giving me an interview. This interview will serve as qualitative data for my research and will help me in arriving at a conclusion regarding the methods used in the teaching of grammar.

This is voluntary and you are free to let me know if you do not wish to participate in this activity. If you do participate in this interview, your identity will remain confidential and you will not be asked to provide any identification information during the interview. The interview will be voice recorded and it will be used only for research purposes.

There are no right or wrong answers and your views are highly respected and valued. I hope we will have a good exchange of views on the topic. If you agree to participate in this interview, please sign below:

| Sr. No.	ID No.	Name	English Name	Signature

Note: If you have any questions, concerns, or problems about this study, please contact Douglas Bell, Director of Preliminary Year Programme, CELE by sending him an email at:
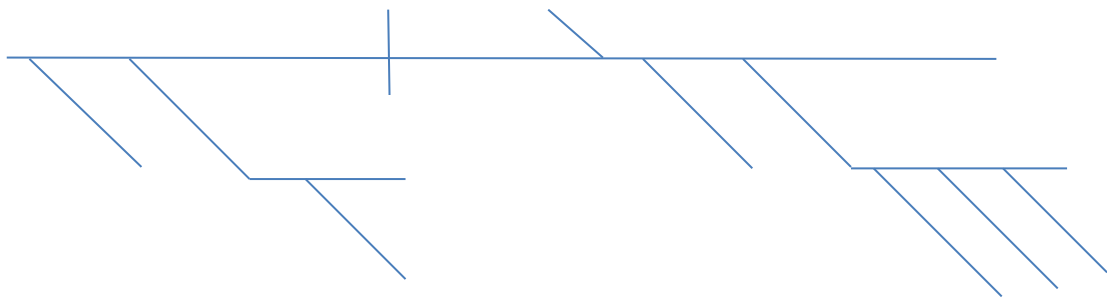Douglas.BELL@nottingham.edu.cn or Tel: 8657488180189
Thank you.

Appendix K – Sample Sentence Diagramming Worksheet

Make sentence diagrams for the following sentences taken from the reading in your textbook:
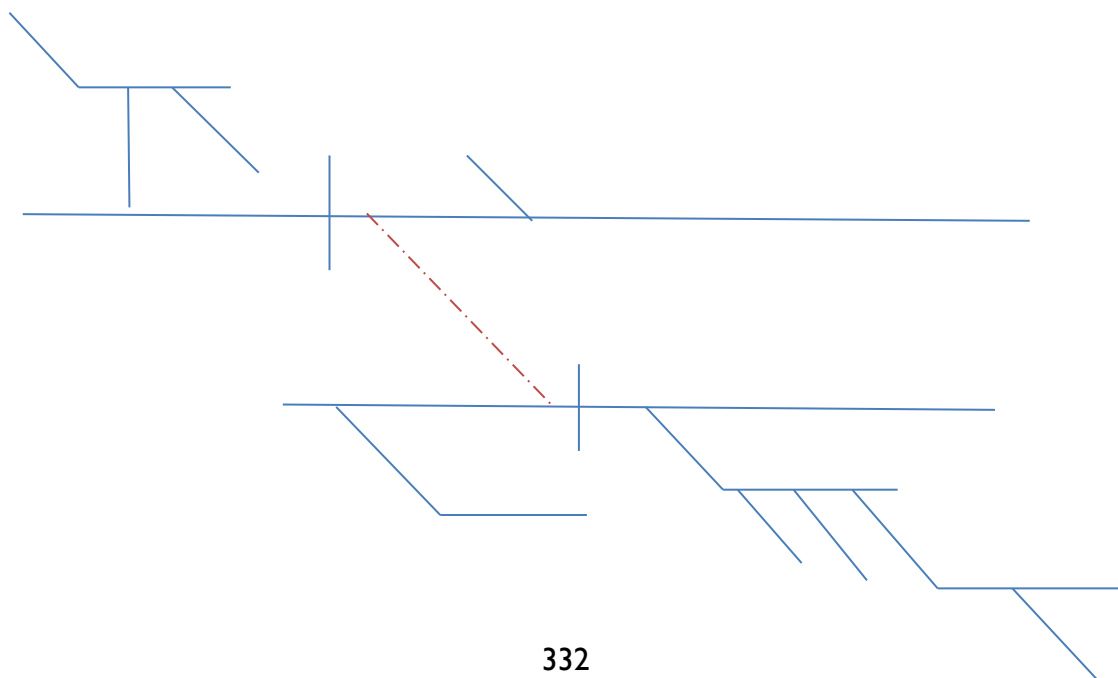
1. Lean production methods have gradually become much more widespread.
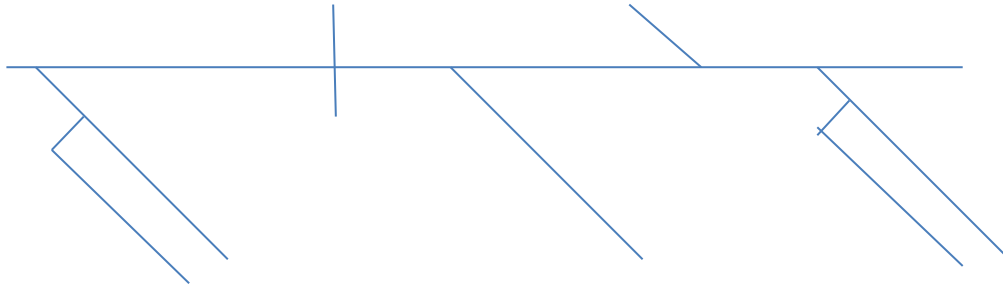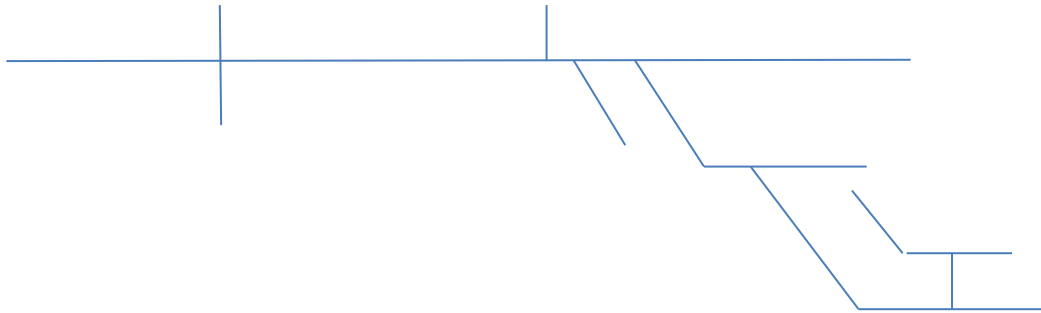
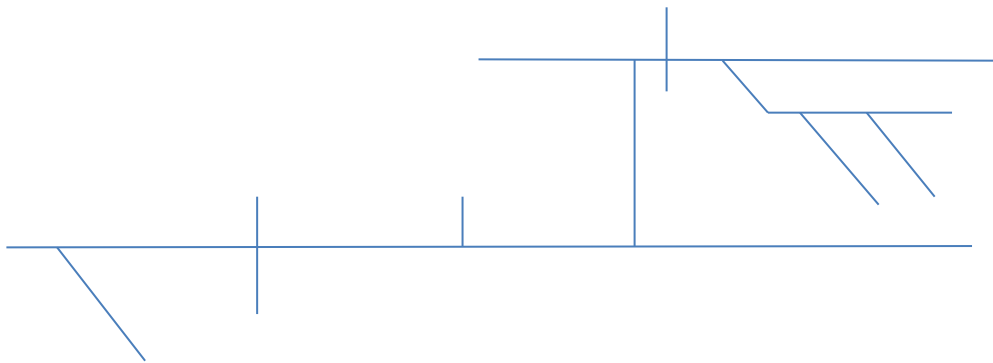2. The location of the business is very important for the whole business operation.

3. Production planning is complex because planning decisions are based on a wide variety of different factors.

332

4. Henry Gantt came up with an idea to help with scheduling.

5. Gantt charts show what processes are happening at any one time.

Appendix L – Ethics Approval

Provided separately.