CONJUNCTIVE COHESION AND RELATIONAL COHERENCE IN STUDENTS'
COMPOSITIONS


by



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I declare that "Conjunctive Cohesion and Relational Coherence in Students' Compositions" is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.


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**Summary**

This research study examines the relationship between conjunctive cohesion and relational coherence in students' narrative and expository compositions and writing quality (here defined in terms of teachers' ratings). Altogether 64 compositions were analysed using Halliday and Hasan's (1976) cohesion theory and Crombie's (1985) set of interpropositional relations. The results of the study show that both conjunctive cohesion density and relational coherence, as defined by the density of contiguous functional relations, affect perceptions of writing quality. Writers of low-rated narrative and low-rated expository compositions not only used a more limited range of conjunctives but their compositions manifested less cohesion density and contiguous relation density than writers of high-rated narrative and expository compositions did.

**Key terms**

Cohesion; conjunctive cohesion; relational coherence; contiguous relations; writing quality; teachers' ratings; second language writing.

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**Chapter 1**

**1.0 Introduction**

This chapter is principally concerned with identifying the research problem, pointing out the focus of research, which is basically the contribution of conjunctive cohesion and a form of relational coherence to writing quality or impressionistic coherence. The literature on cohesion and coherence will thus be dealt with and the views of different researchers will be examined in the domain of text linguistics. Some of the major constructs will here be introduced and the hypotheses of the study will also be posited.

**1.1 The research problem**

There has been a growing concern among teachers, the Ministry of Education of Botswana, parents and other stakeholders over the large number of senior secondary school students failing or getting very low grades in the English language examination at the end of their secondary Education in the Cambridge General Certificate of Education (Cambridge GCE O' level) and, more recently, in the Botswana General Certificate of Secondary Education (BGCSE). This is surprising in view of the fact that they have been exposed to and taught the language for 12 years, that is from Grade 1 to 7 in the Primary school, from Form 1 to 3 in the Community Secondary School, and from Form 4 to 5 in the Senior Secondary School. When the result of the subject component, Paper 1 composition, was analysed, the majority of the students were seen to have attained the lowest Grades (D, E and F) in the Cambridge GCE and Grades D, E, F and G, in the BGCSE. Concerned officials and teachers have been wondering what is at the root of this situation.

Researchers have given different reasons for this writing difficulty. For example, Fahnestock (1983: 415) advocated that "helping students understand coherence in terms of lexical ties and semantic relations possible between clauses and sentences gives some structure to an area of composition instruction that has been somewhat haphazard before." Similarly, Bamberg (1984:305-306) claimed that a better understanding of

linguistic features and rhetorical structures that create coherence as well as a greater insight into the problems students experience in trying to use them will serve as a systematic approach to teaching academic writing. Some researchers have found a relationship between cohesion density and writing quality (e.g. Hubbard, 1989), whereas other researchers (for example, Connor, 1984) found that general cohesion density was not found to be a discriminating factor between the native and ESL writers in her study. She emphasised that cohesion analysis may not be an adequate factor to describe writing quality, and that "while cohesion and coherence interact somewhat, yet a text need not be cohesive to be coherent" (Connor, 1984:302). However, she later suggests that detailed text analysis studies need to be done to investigate the relationship between cohesion and coherence in different kinds of writing. A number of empirical studies have attempted to document the relationship between cohesion and coherence and the results of investigations have been mixed.

Is incoherence, then, responsible for lack of communication and poor scores in composition? Connor noted that her study was based on argumentative texts and suggested that the relationship of cohesion to coherence might have been different if other types of text had been examined in the task, for example, narrative and informative texts (Connor, 1984:311). The present study therefore seeks to explore the relationship between cohesion, one form of relational coherence, and teachers' ratings with respect to two genres (narrative and expository texts), the most frequent types of compositions written by candidates in the examinations mentioned earlier.

## 1.2 Focus of the research study

This study bears a resemblance to Hubbard's study (1989), but while he was concerned with academic writing, the present one is concerned with students' narrative and expository compositions. The aims of this study are to investigate the effects of conjunctive cohesive density and functional relations density on holistic ratings of students' compositions. The focus is thus on conjunctive cohesion and relational coherence. All these concepts will be defined below. It is assumed that texts are regarded

as communicative phenomena and that the communicative success of a text is related to coherence, which is itself related to cohesion and both these concepts will be investigated here.

In their classic study of cohesion in English, Halliday and Hasan (1976) defined cohesion as what occurs when the interpretation of some element in the discourse is dependent on that of another. The one presupposes the other in the sense that it cannot be effectively decoded except by recourse to it.

Halliday and Hasan (1976) identified five types of cohesion: reference cohesion, substitution cohesion, lexical cohesion and conjunctive cohesion. The first three types fall under the category of grammatical cohesion. Lexical cohesion on the other hand refers to relations between any lexical item and some previously occurring lexical item in the text, quite independently of the grammatical category of the items in question. For example, lexical cohesion can exist between the noun *magistrate* and the verb *judge*. Conjunctive cohesion lies on the borderline between grammatical cohesion and lexical cohesion. Conjunctive cohesion is effected by cohesion elements that are called conjunctives. The five types of cohesion are explicated below.

**1.3 Reference cohesion**

Reference cohesion constitutes "items" in the English language which, "instead of being interpreted semantically in their own right,….make reference to something else for their interpretation" (Halliday and Hasan, 1976:31). Let us consider example 1 below:

[1] You cannot see *the headmaster* now. *He* is interviewing a teacher.

*He* in example [1] is a reference cohesion tie because it shares the same referent as, and refers back to, *the headmaster*.
Or again,

[2] The woman took a cup of coffee after s*he* woke up.

 S*he* is the reference cohesive tie, sharing the same referent as *The woman.*

Reference cohesion can itself be subdivided into three groups: personal, demonstrative, and comparative reference. The category of personal reference itself includes:

(a) Personal pronouns: *I, me, you, we, us, him, she. her, they, them*, and *it.*

(b) Personal determiners (the possessives*)*: *my, mine, your, yours, his, her, hers, their, theirs, its.*

(c) Relative pronouns: *who* and *which. (That* is not included because it only introduces restrictive clauses which are not equivalent to F-unit (see section 3.1.1.5).

The category of demonstrative reference includes:

(a) Determiners: *the, this, there, that,* and *those*.

(b) Demonstrative adverbs: *here, there*, and *then*.

Comparative reference includes:

(a) Comparative Adjectives*: same, identical, equal, other, different, more, better* etc.

(b)  Comparative adverbs*: similarly, differently, more, less* etc.

## 1.4 Substitution cohesion

Substitution cohesion is a relation of sense identity rather than a relation of reference identity. It is also divided into subcategories such as nominal substitution, verbal substitution and clausal substitution.

### 1.4.1 Nominal substitution

Nominal substitution occurs where the presupposed element is a noun or a noun phrase, as in the example below:

[3] A Can you give me a glass?

   B There is *one* on the table.

The presupposing cohesion element is *one*.

### 1.4.2 Verbal substitution

Verbal substitution occurs when the presupposed element is a verb or a verb phrase. The presupposing element which denotes the substitution is usually the word *do* and its various forms, e.g. *does, did* and *done*, as in:

[4] Every child likes chocolate and I think my son *does* too.

*Does* substitutes for the verb phrase *likes chocolate*

### 1.4.3 Clausal substitution

Clausal substitution occurs where the presupposed element is an entire clause (Simple-sentence-like structure). The most frequent presupposing element affecting this kind of substitution is *so*. For example:

[5] Latecomers will not be allowed in school after 8.00 a.m. The headmaster says *so*.

*So* in [5] replaces the whole sentence that latecomers will not be allowed in school after 8.00 a.m.

### 1.5 Ellipsis

The term *ellipsis* refers to the absence of a word, a phrase or a clause which is understood. In the case of ellipsis cohesion, there are three types, depending on the syntactic category of the presupposed elements.

### 1.5.1 Nominal ellipsis

Nominal ellipsis occurs when a noun or noun phrase is presupposed, as shown below:

[6] These are my two dogs. I used to have *four.*

The word *dogs* has been omitted and can easily be understood or recovered from the context.

### 1.5.2 Verbal ellipsis

Verbal ellipsis occurs where a verb or verb phrase is presupposed, as in:

[7] Teacher: Have you done the homework?

John: Yes, *I have.*

John's answer is elliptical in the sense that *done the homework* is understood.

### 1.5.3 Clausal ellipsis

Clausal ellipsis occurs when both a noun or noun phrase and a verb, or at least part of a verb phrase, is omitted. It is mostly seen in dialogue in yes/no questions, as in the example below:

[8] Mary: Are you going to buy a new dress for my birthday?

Mother*: Yes*

Here the mother is affirming the entire clause *You are going to buy a dress for my birthday.*

The whole clause may often be omitted, as in:

[9] Henry: What Grade did you get for French?

Paul: *B*

Since the whole clause has been omitted, Paul's answer constitutes a clausal ellipsis and not a nominal or verbal ellipsis.

## 1.6 Conjunctive Cohesion

Reference and conjunctive cohesion are the two most common areas in which students experience difficulty (Lieber, 1981:201-202). However, this study will focus on conjunctive cohesion though occasional mention of reference cohesion problems will be made when samples of students' writing are discussed

Conjunctive cohesion is the type of cohesion commonly and most extensively dealt with in grammar and composition writing. It is often referred to as "transitional devices." This type of cohesion differs from the other types mentioned above in that it does not need a specifiable element in a situational context or text for its interpretation. It has its own intrinsic meaning. As Halliday and Hasan (1976:222) point out "conjunctive elements are cohesive not in themselves but indirectly, by virtue of their specific meanings; they are not primarily devices for reaching out into the preceding (or following) text, but they express certain meanings which presuppose the presence of other components in the discourse". For example:

[10] He took a cup of coffee *after* he woke up.

The word '*after*' suggests a sequence, signalling that what is expressed in the first clause followed what is expressed in the second one.

Furthermore, words such as *hence* and *so* indicate that there is a preceding segment of text presenting a cause or reason, and a following segment presenting a result. In other words, the relation between the two segments will be one of reason-result. Unlike reference, substitution and ellipsis cohesion ties, which are meant to signal only one phoric relation at a time (with the exception of a pronoun, which can act in anaphoric, cataphoric, or exophoric reference, depending on the text in which it appears), conjunctions "open in the directions at the same time forward to where the writer intends to go and backward to where he has been" (Gallo & Risik, 1973:59 cited in Lieber, 1981:130).

**1.7 Lexical Cohesion**

Coherence can also exist without the use of a cohesive conjunctive tie as in

[11] Young people act quickly. Old people take their time.

Cohesion, an intersentential property of a text, is achieved through texture, through specific features given to it by the text (Halliday and Hasan, 1976) as can be seen in the case of lexical cohesion in [10].

Example [10] above is also full of lexical cohesion, which is "the cohesive effect achieved by the selection of vocabulary" (Halliday and Hasan, 1976:274). Here for example, *young* and *old* are antonymous (they bear a relation of semantic contrast).

Lexical cohesion is the final type of cohesion dealt with in Halliday and Hasan (1976). Unlike reference, ellipsis, substitution and conjunctive cohesion, lexical cohesion is not associated with any special syntactic classes of elements. It is therefore the most open-ended and least adequately defined of the five kinds. In lexical patterning, successive sentences can be expected to exhibit some relationships through their vocabulary. For example:

1.  through repetition of a word or phrase;
2.  synonymy (words of almost the same meaning, e.g. *commonly, popularly* );
3.  antonymy (the relation of semantic contrast, e.g. *high, low* );
4.  hyponymy ( the semantic relation between a more general expression and related specific relations, e.g. *cigarettes/cigars* );
5.  collocation (words which tend to occur with one another in certain contents, e.g *education, classroom*, *class* and so on).

(See Halliday and Hasan, 1976, 274-292).

The present study will not investigate the lexical cohesion of texts in the data corpus.

## 1.8 Relational coherence

The term relational coherence is here defined in terms of the extent to which sets of meaning relation such as Reason-Result and Means-Purpose, are interpretable in a text. These meanings can be signalled without the help of conjunctives, with the reader relying on both semantic and pragmatic knowledge. 'Contiguous functional relations' as used in this study, deals with relations between functional units that are juxtaposed, that is, relations that lie next to one another, and these are bracketed in this study for analytical purposes. The following example is taken from the sample of data collected for this study.

[12] Really she had forgotten it 9/ and now she was in a pool of confusion.10/
    [Text HN 5]

The contiguous semantic functional relation between unit 9 and 10 is one of Reason-Result. Contiguous functional relations, as defined here, are stricter than Hubbard's (1989) functional relations because in the latter case analysis becomes more difficult requiring more inferencing at higher levels by the analyst ( E. H. Hubbard: personal communication). See the example below:

[13] But instead of being welcomed by the children[7]/       Ct
Simon is thought by them to be a beast[8]/
So they form into a circle of chanting savages       RRT
without any reason or control,[9]/       CS
pursue Simon down the beach[10]/,    CS
and kill him.
(Hubbard, (1989: 140)

9

In the above example, units 7 and 8 have a contrast relation and units 9, 10 and 10, 11 have a chronological sequence relation. These sets of relations are contiguous functional relations, whereas units 7 to 11 as a whole, when considered at higher inference levels, are also of reason-result relations. The type of relational coherence identified by Hubbard (1989), as exemplified in units 7-11 when taken as a whole, will not be analysed in the present study. Further explanations are given in the clarification of the constructs later (see section 3.1.2- 3.1.5.8).

## 1.9 Hypotheses

Given the research focus and aims (see section 1.2), the following hypotheses are formulated.

### 1.9.1 Hypothesis 1: Conjunctive cohesion and writing quality.

There is a relationship between the density of conjunctive cohesion in students' compositions and writing quality.

The dependent variable, writing quality, is operationalised as teachers' ratings. In other words, By density is meant the frequency of conjunctive cohesion per 100 F-units.

There have been inconsistencies among the research studies on the density of each category of conjunctive expressions in a text and the holistic scoring of a text (e.g. Eiler, 1983, Witte and Faigley, 1981, Linterman-Rygh, 1985, Hubbard, 1989) as well as contradictions (e.g. Connor, 1984, Tierney and Mosenthal, 1983). The research literature pertaining to this will be dealt with in Chapter 2. This hypothesis has therefore been formulated as non-directional.

**1.9.2 Hypothesis 2: Contiguous functional relations and writing quality.**

There is a relationship between the density of contiguous functional relations and writing quality.

Contiguous functional relations have been explained in section 1.8. In his study, Hubbard (1989) dealt with functional relations including the higher inference levels (the non-adjacent hierarchical relations as well). The Density of Contiguous Functional Relations (DCFR) is different from Hubbard's (1989) Relational Coherence Quotient (RCQ) as already pointed out in section 1.8, example [13]. In the present study, the DCFR for each text is derived from only the contiguous relations, that is, relations that are adjacent. They are bracketed and counted, and their total number divided by the number of F-units in that particular text, and the result multiplied by 100. Hubbard's fuller analysis of hierarchical relations will not be attempted here because this calls for a greater degree of inferencing on the part of the analyst, and the present study aims at a higher reliability for easier replicability.

The DCFR and the RCQ are thus similar but not identical constructs and so although Hubbard (1989) found a positive relationship between RCQ and writing quality, it is justifiable to posit Hypothesis 2 as non-directional.

**1.9.3 Hypothesis 3: Conjunctive cohesion and composition genres.**

There are significant differences between the densities of conjunctive cohesion in the different composition genres (narrative and expository compositions).

Hypothesis 3 is about whether different genres reveal differences in the density and types of conjunctive cohesion Put differently, it is about which of the two genres, narrative and expository, reveals more use of each of the various categories of conjunctives: additive, causal, adversative and temporal. This means that Hypothesis 3 engenders four mini-hypotheses which relate to the relative densities of the four categories of conjunctives

mentioned with respect to the two genres. The findings should provide insights into the types of conjunctives that teachers should focus on in their teaching of the different composition genres.

This hypothesis is non-directional because there are few relevant findings in the literature.

Hypotheses 1 and 2 relate to writing quality, and hypothesis 3 relates to genres. In chapter 4 the statistical methods used are described and justified, and the findings of the study are discussed.

**1.10 Conclusion: the structure of the study.**

Chapter 1 has dealt with the research problem, and the focus of the study. The hypotheses to be tested involve the relationship of conjunctive cohesion to writing quality, the relationship of contiguous functional relations to writing quality, as well as whether composition genres affect the density of different types of conjunctives. Chapter 2 is concerned with the relevant literature and issues in text linguistics that pertain to this study. Chapter 3 presents the analytical framework and the research procedures. Chapter 4 provides sample texts analyses and then discusses the findings for the whole corpus. The frequency tables and relevant statistical workings are given in the appendix. Chapter 5 concludes the study, highlights the implications for teaching and points out suggestions for further research.

**CHAPTER 2: Review of the literature on cohesion and coherence**

**2.0 Introduction**

The literature on cohesion and coherence will now be reviewed and this study will be placed in the relevant context. Section 2.1 mentions some South African text and discourse research and 2.2 and 2.3 deal with the two main approaches to coherence, the process-oriented approach and the product-oriented approach. These two approaches reflect various views on how coherence is achieved. Section 2.4 concludes the chapter.

**2.1 Text and discourse research in South Africa**

As indicated by Carstens (1995), research in South Africa on textual aspects began to gain momentum in the early 1980's and the influence of researchers such as Halliday and Hasan (1976) and De Beaugrande and Dressler (1981) was very noticeable. For example, Halliday and Hasan's *Cohesion in English* (1976) stimulated studies such as Carstens (1981), Hilton (1993), Hubbard (1989) and Steenberg (1986) (cited in Carstens, 1995:188) to mention a few. Carstens also notes that De Beaugrande and Dressler (1981), *Introduction to Text Linguistics*, provided a further foundation for South African text linguistic research, and this was principally because it clearly gave the criteria for establishing the acceptability of a text by advocating that the communicative success of a text is based on seven standards of textuality, namely: cohesion, coherence, intentionality, acceptability, contextuaility and intertextuality (see Carstens, 1995:189 for further detail on these standards). Among these standards of textuality, cohesion and coherence received the greatest attention in textual studies.

The identification of coherence features is generally regarded as one of the central problems of writing research (see for example Enkvist, 1985). According to Hubbard (1989:27), insight into what constitutes cohesion is best derived from quantitative empirical studies, and the present study is essentially quantitative in nature.

**2.2 Process-oriented approaches to coherence.**

Since the 1970s there has been a heated debate on "above the sentence linguistics" among researchers in coherence. Two main approaches, that is, coherence as a process and coherence as a product, share different views on how coherence is achieved. The former centres on what is unfolded as the reader interacts with the text, whereas the latter is explained in terms of features identifiable in the textual product itself.

The researchers of the process-oriented approach directly challenged cohesion (Carrell, 1982; Tierney and Mosenthal, 1983; Morgan and Sellner, 1980). These researchers maintained that coherence is not some feature that is embedded in a text, but instead is a process of "coherence-making" on the part of reader and writer and is dependent on the notion of shared background knowledge. This is a situation whereby the efficient reader essentially constructs a meaning that he can assimilate or accommodate and which to a certain degree tallies with the original meaning of the writer. Such a notion of coherence paves the way for a great deal of insightful work in text linguistics.

However, since the primary concerns of process-oriented theories rest on the modelling of the reading and writing process, and not with quantitative writing research, they have consequently not supplied us with a sufficiently objective analytical procedure which could enable us to distinguish, in quantitative research studies, more coherent from less coherent texts. And among them are included: Brown and Yule (1983); Carrell (1982; 1984); Crothers (1978); Morgan and Sellner (1980). The distinction between coherence as a process and coherence as a product is basically spelled out in the relationship between cohesion and coherence.

Cohesion theory has been under severe criticism by process-oriented researchers. Carrell (1982:480), for instance, argues that a text can be coherent but not cohesive. See her example below:

[14]The *picnic* was ruined. No one remembered to bring a *corkscrew*.

She explains that coherence is achieved by the reader's schema of a picnic, not by the lexical ties of picnic and *corkscrew.* Although there is an association of *picnic* and *corkscrew* in the reader's schema, it is undeniable that the lexical ties mentioned are at the basis of coherence, and according to Halliday and Hasan (1976) lexical ties are cohesive.

The top-down and bottom-up approaches to comprehension are the two big difficulties that the process-oriented approach has to face. The two approaches deal with insights into the reading process, but while the former is concerned with the reader understanding a text by drawing on his background knowledge of the world, the latter advocates that the reader makes use of information present in the text. These two approaches led to an extensive debate about whether decoding skills (bottom-up) or the meaning (top-down) should receive more emphasis and Chall (1967) has provided a comprehensive account of this debate updated in his 1983 edition. The interactive model of McClelland and Rumelhart (1981) rightly posits a constant interaction between "bottom up" and "top-down" processes in reading. The top-down approach to reading is a concept-driven approach, whereby the reader samples the text as a necessary step to confirm hypotheses. The different expectation-driven proponents' models advocate the view that processing of a text is dependent on the readers' knowledge of the world. Bottom-up approaches, on the contrary, by reason of being limited to the semantics and syntax of sentences, cannot account for the pragmatic knowledge that is brought to bear on the comprehension of texts. However, because of the different strategies used in the process of reading, both decoding and meaning are essential for the understanding of texts.

Various views have been put forward on how coherence may be achieved. Van Dijk (1972) advocated that readers have certain expectations about the overall structure or "macro-structure" of texts, depending on the genres. Carrell (1984:162) and Sperber and Wilson (1986), claim that coherence is dependent on relevance. Johns (1986:247-251) declares that coherence is reader-related, that is, coherence is seen as a process, whereby the reader makes coherence by continually testing the text against his expectation and that

"text-based coherence" is the product of text alone, abstracted away from socio-cultural knowledge between reader and writer.

 Coherence has also been based on the Gricean maxims of relevance and cooperativeness (Grice, 1971). Critics of cohesion concepts such as Enkvist (1979:110) and Witte, S.P. and Faigley, L. (1981:201) have claimed that texts can be coherent without being cohesive. But it should be remembered that the originators of cohesion theory, Halliday and Hasan (1976), did not prescribe that cohesion is a necessary condition for coherence. Cohesion is the effect and not the cause of coherence. Let us consider the following:

[15] I forced myself to run 3 kilometres every afternoon last week. The doctor says my blood sugar is on the increase.

The relevance of the statements in [15] depends on the reader's cooperativeness. The reader has to look into his available schema for inferences that could provide the necessary pragmatic link to make the text meaningful and may come up with, for instance, that "If his blood sugar is high, he wants it to be lower, and blood sugar can be lowered by certain things like exercise or strict dieting, and therefore running as an exercise can help". A reader who does not have the background knowledge of the world from which these inferences derive would not be in a position to interpret text [15]. The coherence of texts like the above is independent of whether or not they demonstrate cohesive devices.

It is noteworthy that process-oriented approaches to coherence are subject to a lot of shortcomings. They suffer from the drawbacks inherent in behaviour protocols, retrospective reporting, indirect reporting and thinking aloud protocol techniques. Behaviour protocols (records of what the subjects say as they complete the task) and retrospective recordings (going over what has happened before) can be subjective: what we will see will be determined by what we expect to see. Furthermore, in the case of retrospective reporting, because of the time taken between the mental state and the reporting, data may be distorted. Retrospection, however, is necessary because it is not

possible for the researcher (for example, a teacher in the act of teaching) to engage in an activity and simultaneously report on his thought and decision. Nevertheless, the gap between the event and the retrospection will lead to unreliable data. Besides, the performance of subjects on a task can be influenced by their knowledge of having to provide a retrospective account. It is also questionable whether the verbalisation occurring in think-aloud techniques accurately reflects the mental processes which normally underlie the problem-solving tasks The validity of these methods could also strongly be influenced by the effects of "the observer's paradox" (Labov,1972); that is, during the data collection, the normal daily habits of subjects may be altered.

These process-oriented approaches will not be adopted in the present study because, although they have provided us with insights about composition, they have not provided us with the modes of the process that could be objectively applied to differentiate coherent from less coherent texts. The models are restricted to tasks of two or three sentences, and are in Jackson's words (Jackson, 1984:83, cited in Hubbard, 1989), an enterprise of analytical fiction. Such models deal with studies of inferencing, speech act approaches, and those based on the functions of the first sentences in paragraphs and texts.

However, to balance the advantages of product-and process-oriented approaches to coherence, a framework will be developed in this study which will incorporate certain insights from process-oriented views such as the pragmatic context of the text, most especially the intended reader's textual processing, involving the notion of shared background knowledge. This will be considered when the use of conjunctive cohesion in the low-rated groups in the study corpus will be analysed to identify whether the low achievers fail to communicate successfully because of lack of audience awareness. Process-oriented approaches are not adequately explicit for application of quantitative analysis of authentic, natural texts carried out in the present research.

## 2.3 Product-oriented approaches to coherence

Text research has many advantages and presents exciting opportunities for research studies. The present study adopts a quantitative approach and it is therefore fitting to consider some quantitative studies on cohesion and coherence in reviewing the product-oriented approach.

The majority of studies in the three decades before the 1990s concentrated on discourse at the sentence level. The researchers followed the general interest shown by theoretical linguists in sentence grammar. Gradually some linguists shifted their emphasis from the analysis of sentence structure to the analysis of the process by which people use language. The contribution of Van Dijk (1972, 1977) to the evolution of text linguistics as well as that of De Beaugrande and Dressler (1981) in providing a comprehensive survey to the domain of linguistic research cannot be overlooked.

Many quantitative studies using product-oriented approaches have not dealt with intersentential aspects of text structure. Rather, they have focussed on errors in general, for example: Greenall (1980) and Shaughnessy (1977) have concentrated, within the transformational-generative paradigm, on syntactic features such as the sentence, T-units and clause length and so have other researchers (e.g. Hunt, 1965, 1970; Mellon 1969; O'Hare 1973, cited in Hubbard, 1989:52). In terms of aims, texts analysed and research method, the present study bears a similarity with those of Hubbard (1989) and Witte and Faigley (1981). There are many other works which are directly relevant to this study. A few of these sources are discussed below.

The importance of cohesion and coherence to writing quality has preoccupied researches for some time; they have considered the use of cohesion in different genres of composition writing at different school grades. Smith and Frawley (1983) compared the use of conjunctions in the writing of four American English genres: fiction, religion, journalism and science. They found that the functions of conjunctions are not limited to "intra-clausal" relationships as prepositions are but have "cross-clausal functions" and

that the functions may be made clearer "through their differential distribution over genre" (1983:349). That is, they are manifested in different modes of texts (genres). They further claimed that different modes of texts connect differently. They discovered a prevalence of certain types of conjunctions over others in some genres, but no difference in the use of coordination and subordination. They found that the cohesive use of the hypothetical *if* is less frequently present in journalism and science, where its frequency is more or less the same, than in religious discourse (1983:363). They suggested that the types of conjunctions used in the genres they analysed are of vital importance because "the semantics of such signals give us an excellent insight into the argument and narrative structure of each type of text" (1983:371). The use of *as* and *because* in the narrative texts of their data corpus here does indicate a certain text structure and rhetorical component, a text generating or a text analysis scheme. This means that the semantics of the kinds of conjunctives used throw light on the narrative structure of each type of text The present study is similar to Smith and Frawley (1983) in that it also studies conjunctive cohesion in composition genres.

The notion of cohesive harmony was also employed in studies by researchers who dealt with cohesion. Cohesive harmony is a more comprehensive concept of cohesion developed by Hasan and is based on the work of both Halliday (1985) and Hasan (1984), extending their earlier (1976) taxonomy of cohesive devices to include not only repetition of semantic information – via nouns, pronouns, verbs and ellipsis — but also repetition of functional information — via words having the same grammatical or syntactic functions (Cox and Sulzby, 1990:50).

According to cohesive harmony, depending on the verb, a subject noun has the case grammar role of actor, agent, sayer, or existent; an object noun may have the case grammar role of range or goal. To elaborate the concept of cohesive harmony further, let us consider the example below:

[16] Birds build nests in trees.

The verb, *build,* is classified as a goal-oriented material action. Therefore, the subject noun, *birds,* is implicitly and automatically assigned the case grammar role of actor or agent and the object noun *nests* is automatically assigned the case grammar role of the goal which is achieved by the action and is the lasting effect.

Cohesive ties can also exist between words (or phrases) with the case grammar roles. For example, suppose the above example is followed by sentence 19 below;

[17] These creatures make their homes in the branches.

then there is a cohesive tie between *make* and *build*, which are both goal-oriented actions. *Birds* and *creatures* also cohere because both have case grammar roles of agents; similarly*, nests* and *homes* are cohesive since they are both goals with lasting effects.

According to Halliday and Hasan (1984), as an author develops a theme, an idea, or event, the cohesive bonds form more than just pairs of linked terms. Each type of repetition of information forms a chain; the ideas within each chain together develop a topic. Let us consider the paragraph below:

[18] The sun heats the water on the surface of the earth. The water then evaporates in the atmosphere. It afterwards falls in the form of rain.

*Water* and *rain* develop functional or role information. All these chains of repetition wend through the text and support, refer back to, and elaborate on earlier ideas or roles. The paragraph considered here demonstrates that a chain interaction in a text is maximally cohesive because it involves both semantic repetition (e.g *water*; *then* and *afterwards*), and syntactic repetition (of implicit or explicit grammar roles).

A study of cohesion and coherence with respect to genres was carried out by Cox and Sulzby (1990) Narrative stories and expository reports of third and fifth grade students were examined in terms of appropriate use of cohesive devices and cohesive harmony.

Referring to Martin and Peters (1985, in Cox and Sulzby, 1990:52) Cox and Sulzby state that narrative and expository writing do not differ in the amount of cohesion required (Cox and Sulzby, 1990:18), but in the use of types of cohesion devices, an issue considered in the statistics of the present study. Does students' writing reveal individual differences in understanding the use of cohesion and its function in narrative and expository texts? Cox and Sulzby (1990) not only claimed that their study revealed that cohesive harmony seems to be a more consistent measure of a text's cohesion than are simple counts of cohesive ties but also admit that the existing "empirical evidence on the validity of the cohesive harmony measure is still small" (1990:61).

Zamel's (1984) study is on "conjuncts", which she defined as "those connectives more specifically referred to in grammars as coordinating conjunctions, subordinating conjunctions and conjunctive adverbs or transitions" (1984:110). Meaning or intent can be obscured, she argues, when these conjuncts are either absent or when their use is semantically or syntactically inappropriate. Indeed, conjunctions signal relationships within and between sentences and between larger units of discourse. Cohesive ties, when correctly used, make obvious the writer's line of thought (Broadbent and Berlin 1981, cited in Zamel, 1984:111). They are essential for preserving meaning. Cohesion errors are the apparent result of the teaching tendency pointed out by Zamel. Transition markers (the words that signal relationships between units), she postulates, can have more than one function in English: some linking devices in a list do serve similar semantic functions, but carry different grammatical weight. For example, a word like *since* can be used as a transition marker signaling both time and cause as in the two italised sentences:

[19] *Since* we arrived in Pretoria last Monday, it has been raining (*since* signals time) and
[20] *Since* he did not care for the poor, he lost the election. (*since* signals cause)

The above examples [19] and [20] illustrate the importance of knowledge of the different roles and of semantics of conjunctives in different contexts. Its value to the language teacher and to the applied linguist cannot thus be ignored.

Emphasis on the importance of the cohesive device is carried further in the claim of Kuo (1995) that cohesive ties in a sentence play a central role in the thematic development of a text and that any serious study in cohesion and coherence lies not in just contrasting cohesion and coherence, but in exploring the relation between them. He recognises the importance of cohesion in terms of the interpretation and communicative purpose of a text in making semantic relations logical. He rightly claims that in the absence of surface links, coherence is based on propositional or information organisation of a text and discrimination of continuative and discontinuative relations in the composition texts studied. He concludes that sentences which are functionally more important to the thematic development of the text contain more cohesive ties with other sentences than sentences less important functionally. The significance of the relationship of cohesion to coherence is shown in his reference to Wikborg's (1990) study of cohesion breaks in Swedish students' essays, where five types of coherence break were related to cohesion problems.

Similarly, Shakir (1991) carried out an investigation into the weaknesses which affect coherence in students' writing. Out of 45 texts written by first year EFL students at Yarmouk University Shakir (1991) examined in detail two texts after these had been rated by teachers. He considered in his study Bamberg's (Bamberg, 1969-1974; 1984:13,18; 1984:305-319) scheme for the evaluation of coherence and cohesion in students' written texts, Wikborg's (1985) suggestions of aspects essential to text coherence, and Doushaq (1986, cited in Shakir 1991:403) as well as insights from text linguistic theories on what a coherent text is supposed to consist of. His findings reveal major weaknesses in the students' mode of presentation, their inability to stay with initial ideas and general statements, lack of depth of substantiation, and deviation from intended rhetorical functions of the writing task. These aspects were the concerns of his raters' impressions of the texts he studied and are in line with the product-oriented view of coherence.

The aspects just mentioned are far more detrimental to coherence, he argues, than others like the grammaticality of structures and appropriateness of the mechanics of writing that his raters emphasised. Shakir's findings are convergent with Bamberg's (1983) view of

coherence, which postulates that coherence in students' written texts is achieved through content organisation, focus, functionality of connectives, topic development and appropriateness of grammatical structures. He also underlined the point that cohesive links were inappropriately, and at times redundantly, used (1991:404), a finding noted by researchers who focused more on cohesion (e.g. Witte and Faigley, 1981).

The study of the relationship of cohesion to coherence has continued to dominate the literature of the last two decades. Khudson (1992) studied the effects of task complexity (one simple and one complex task) on narrative writing. The quality of the students' written compositions, like the study here and that of Hubbard (1989) on academic writing, was measured using holistic scores for overall coherence and cohesion. Khudson also considered word count (number of words written per minute) for the fluency of drafting the text. One curious finding was that although sixth graders wrote better than fourth graders on both simple and complex tasks, the latter, when considered on their own, outperformed in their production of complex tasks versus their simple tasks. The results of sixth graders also showed that different tasks evoked different responses.

Using Halliday and Hasan's (1976) model in his study of cohesion and coherence, Khalil (1989) investigated the relationship between cohesion and coherence in 20 compositions in Arab EFL students' college writing. The relationship of cohesion and coherence was also tested by the use of multiple correlation statistics, controlling for the number of T-units used in each composition. A weak correlation was found (r=0.18) between the number of cohesive ties and the coherence score of the text. This study concurs with an earlier one such as Carrell (1982:486) that a text may be cohesive but not coherent and that cohesion is just one of the many components contributing to coherence.

Along with his emphasis on the concept of cohesive harmony, Farghal (1992) agrees with Halliday and Hasan (1985:94) that "variation in coherence is a function of variation in cohesive harmony of a text." He advocated that teachers' awareness of the acquisition of order of various cohesive devices is of crucial importance in EFL classes. For instance, following Rutherford (1987:51-52, cited in Farghal 1992:46), he reiterates that

coordination should be taught prior to subordination in EFL writing classes, supporting this claim by an example from his study where the coordinator *but* appears before the subordinator *although.* Thus*, but* and *although* must be presented in a graded way so that the learner can perceive the differences between the conjunctives The exaggerated use of cohesive devices, he pointed out, is simply ornamental rather than functional; it leads to artificiality and inappropriateness of usage – a conclusion reached by other researchers in this field. Different forms of conjunctives can be used to express one cohesive function. The provision of cohesive devices alongside the eradication of mechanical errors wins a text a far better evaluation than eradication of mechanical errors only and cohesion should be seen as a servant to coherence rather than its master.

Researchers examined the nature of variation in cohesion and coherence using a cohesive harmony index as a measure. For example, Spiegel and Fitzgerald (1990) examined the relationship between cohesion and coherence in children's writing and whether this relationship varied with story content, quality of writing and grade level. The procedures used by Spiegel and Fitzgerald (1990) do not fully capture the facets of coherence; for example, they do not utilise pragmatic features of coherence because these procedures are "bottom up" and do not account for the structural aspects of texts that contribute to coherence. A uni-dimensional linguistic, text–based measure of coherence and cohesive harmony index was used to compare the result of this study with an earlier study (Fitzgerald and Spiegel, 1986, cited in Spiegel and Fitzgerald, 1990:49) which was a multi-dimensional, holistic rating of coherence. The findings of their earlier study resembled their later study in that there was evidence of a limited relationship between cohesion and coherence; this relationship varied according to text content; and there was no variation in the relationship between text content, quality of writing and students' grade level. The measure of coherence in the second study (1990) is uni-dimensional because it does not reflect a multifaceted view of coherence; it assesses coherence only as it results from cohesion. Their earlier study used a multi-dimensional measure of coherence, modified from Bamberg (1984) in that the facets of coherence comprised having topic, staying with the topic, orienting the reader, having a plan, using cohesive ties, providing closure, and avoiding grammatical or mechanical errors. T-units were used

as the textual unit. Substitution and ellipsis cohesion were not considered. In their earlier study, use of fewer conjunctive ties was associated with increased coherence whereas in their second study use of more ties, particularly references and lexicals was a contributory factor to greater coherence. Furthermore, in the first case distance between ties and their referents accounted for increased coherence, an aspect clearly absent in the second case. However, both studies demonstrated a significant relationship between cohesion and coherence; and the degree of that relationship was also dependent on text content. On the whole, as far as the second study is concerned, the cohesive harmony index did not correlate with quality, number of cohesive errors and holistic coherence rating.

Two of the questions they asked were related to the present study, mainly:

(1) Is cohesion related to coherence in students' writing?
(2) Does the relationship between cohesion and coherence vary according to story content or topic? (narrative and expository genres in my study).

It is interesting to note that in respect of (1) they found significant interactions of cohesion and coherence; and in respect of (2) their answer was negative.

Contrary to the above observations, some studies do not give much weight to cohesion as a determining factor of coherence. Neuner (1987) compared good and poor essays written by first year college students, and, unlike Witte and Faigley (1981) and Hubbard (1989), concluded that cohesive ties are not the "distinguishing feature of good and poor writing" (Neuner, 1987:100). He instead found that cohesive chains (lexical collocations, reiterations, synonyms, superordinates and pronouns) are more evident in good essays (Neuner,1987:100), which are furthermore characterised by longer chains (which he defined earlier in his study) and by greater variety of words and greater maturity of word choice. Neuner's finding on the extent of the number of chains determining good and bad essays is a worthwhile investigation. His approach is based on lexical cohesion, relations

achieved by the selection of vocabulary, and the present study is mostly on relations achieved by conjunctives.

All these research studies reviewed above attempted to discover what contributes to or what inhibits successful discourse. A directly related research study to the present one is Hubbard's (1989), which also studies the relationship between the coherence of texts and ratings. However, the data corpus is different. However, like his, this study is concerned with academic writing, but whereas Hubbard's subjects wrote expository assignments and examinations, the subjects of the present study wrote narrative and expository compositions.

Finally, it is worth noting that Cook (1989) defined discourse "as the quality of being meaningful and unified." It is a quality clearly necessary for communication and second language learning. His claim that cohesive devices are "formal links between sentences and clauses" (1989:14) is acceptable to the present framework of analysis. Discourse in the present study is analysed at the level of writing: that is, by the way it is rendered in text linguistics.

## 2.4 Conclusion

This chapter has reviewed the literature on cohesion and coherence and on the process-oriented as well as product-oriented views of coherence. Furthermore, the aims of the present study have been clarified in the context of the text linguistics literature. The constructs and the analytical framework in terms of which the main aims of the study are addressed will now be defined and explained in Chapter 3.

**CHAPTER 3: Analytical framework and research procedures**

**3.0 Introduction**

This chapter will deal with the framework and systematic procedures of the present study. It highlights the preference of the F-unit over the other units for the purpose of textual analysis and defines, as well as exemplifies, conjunctive cohesion. Relational coherence as derived from Crombie (1985b) and Hubbard (1989) is explained and exemplified. To this effect, students' examples from the present study's corpus have also been included among others. The research procedures involve the subjects and the materials.

**3.1 Analytical framework**

The following aspects of the analytical framework applied to the corpus of students' composition writing will be discussed:

a) the F-unit as the basic textual unit;

b) the analysis of conjunctive cohesion; and

c) coherence and the framework of relational coherence adapted from Crombies's (1985 b) set of inter-propositional relations;

**3.1.1 Establishing the F-unit as a basic textual unit**

The F-unit as used in this study is an essential measure for the analysis of cohesion and relational coherence and will now be dealt with. The rationale presented here for the adoption of the F-unit summarises some of the main defects of the other textual units as identified by Hubbard (1989). The establishment of a textual unit is crucial to any form of text linguistic analysis since it constitutes the terms to be used for the definition and measurement of textual features. The most commonly used units so far have been the proposition, the orthographic sentence, the T-unit, the clause, and more recently, the F-unit. The discussion of the characteristics distinguishing the F-unit is adopted from Lieber (1981) and Hubbard (1989).

### 3.1.1.1 The proposition

The proposition has been rejected because, of all units considered here, it is the one which defies objective definition the most (see Hubbard, 1989:48-49).

### 3.1.1.2 The orthographic sentence

Halliday and Hasan (1976) claim that the orthographic sentence, that is, whatever occurs between full stops, provides a good basis for defining cohesion. .For them, "cohesive ties between sentences stand out more clearly because they are the only source of texture, whereas within the sentence there are the structural relations as well" (Halliday and Hasan, 1976:9).

When it comes to students' writing, however, a definition of cohesion in terms of the orthographic sentence is not satisfactory. For example, one is bound in cohesion analysis to reject the conjunction *but* in (21) and yet accept it in (22) although the word certainly has the same role in each example:

[21] The child liked the banana*, but* he disliked the apple.

[22] The child liked the banana. *But* he disliked the apple.

If we go according to Halliday and Hasan, we can analyse *but* in example [21] as a conjunction signalling contrast in terms of relational coherence but if [22] is considered as a single unit, this binary relation cannot be proposed for it. Secondly, this approach will be damaging to subordinators since they almost never show their influence across orthographic sentences. They would hardly be counted in analysis even though they demonstrate as great a cohesive and relational coherence value as the coordinators, as in:

[23] The child liked the banana *though* he disliked the apple.

The third reason is that a correct, well-punctuated long sentence is not always the norm in student writing and, fourthly, the length of the orthographic sentence is in principle unlimited. It follows that a lengthy sentence forming an entire long paragraph would have

to be analysed as a single orthographic sentence where cohesion or relational coherence would be hard to find.

### 3.1.1.3 The T-unit

The T-unit consists of one main clause together with whatever dependent clauses are attached to it. For example, [24] below can be described as a T-unit:

[24] After he had the coffee, he smoked a cigar.

In [24], there is one main clause; *he smoked a cigar* and one dependent clause, *after he drank the coffee*.

Although the T-unit has been used in a number of studies, it has a number of weaknesses. It cannot fully solve the problems pointed out here in examples [21] - [23] It will put [21] and [22] on the same level since both of them have two main clauses but [23] will be considered as one T-unit because it has only one main clause and one dependent clause. Besides, because it is a large unit, it is not useful in  analysing significant rhetorical relations in the text, such as contrast, if these relations are attained by means of a subordinator. Since the T-unit cannot accommodate subordinating conjunctions like *though* in [23] as instances of cohesion, it has not been adopted for the present study.

### 3.1.1.4 The clause

Although the clause is the smallest unit so far discussed, when rhetorical structures such as those defined by relational coherence analysis are taken into account, it is not suitable. Hubbard pointed out that it has the drawback of not being equivalent to structures that serve rhetorical functions (Hubbard, 1989:116). It follows that the required unit must be one that is almost equivalent to such structures and which can justifiably be objectively defined in terms of syntactic structure. In this sense then, the F-unit is to be preferred to the clause.

### 3.1.1.5 The F-unit

Given the rationale for the choice of the F-unit as a better measure for use as a unit of textual analysis, it has been adopted in this study, with one significant modification. The F-unit is derived from Lieber (1981:93:96). It includes clauses, and certain phrase structures such as appositives which are equivalent to clauses. It also includes non-restrictive relatives which are generally analysed as root sentences. For example:

[24] The headmaster declares that professionalism, *which is a respectable quality,* must be exercised in the school

Likewise, the reduced version of structures such as non-restrictive appositives as in [24] are also regarded as F-units. For example:

[25] The headmaster declares that professionalism, *a respectable quality*, must be exercised in the school.

In line with Lieber (1981), the following criteria have been used to characterise F-units. In the examples from the sample below, the F-units have been segmented by a slash.

a) Clauses joined by coordinate conjunctions form F-units.

[26]. He picked up the baby/ *and took him to the nearest police station.*

b) Clauses showing gapping in a non- initial member constitute separate F-units:

[27] The police grabbed the thief, / *and the mother the child.*

c) Clauses having conjoined verbal structures will be segmented into more than one F-unit:

[28] He took me by the hand, / *and showed me the yard.*

d) Conjoined non-verbal elements within a clause will be considered as separate F-units when an overt signal pointing to a change in rhetorical function occurs ( for example, *but*, *except*, or an adverbial marker or prepositional phrase):

[29] Everybody passed the test, *except Mary*

In the present study, subordinators have been treated as cohesive devices because they signal similar sorts of semantic relationships to those of adverbials and coordinators. It is also noticeable that certain items which can grammatically be considered as subordinators, such as *when* and *where*, were denied such status by Lieber (1981). She did not consider temporal and locative clauses, together with their reduced equivalents, as eligible candidates for F-units. She merely regarded them as integral parts of their associated matrix clauses, for example:

[30]*When he got home,* he found that everyone had left

Temporal and locative clauses are analysed by Lieber as functioning in much the same way as verbal conjunctions of time and place, such as, *afterwards*, *then* or verb phrase modifiers indicating location, such as *where* ( Lieber,1981:77-78 ).

Since Lieber accepted clauses introduced by *when* as F-units while at the same time denying temporal clauses introduced by *when* the same status (1981:79-80), it is hard to agree with her argument. The present study, following Hubbard (1989:120), therefore differs from Lieber in accepting temporal and locative clauses as F-units because they play an important role in the rhetoric of narration (as witnessed, for example in the sequence of events in narrative compositions in the data corpus).

The following subordinate structures are regarded as F-units:

(a) Adverbial subordinate clauses and clause equivalents:

[31] There is high crime rates in towns / *because people stay there without work.*

 (b) Non-restrictive relative clauses:

[32] The lessee is given some rules and regulation, / *which he has to abide by.*

(c.) Reduced non-restrictive relative clauses (Non-restrictive clauses)

[34] The greatest elegy in the English Language, *Elegy in the Country Churchyard*, was written by Oliver Goldsmith.

(d) Non-restrictive appositives of exemplification, identification, and renaming:

[35] The only child can develop bad habits, / *like smoking cigarettes.*

(e). Absolute constructions related to adverbial clauses or non-restrictive relatives:

[36] *Having been questioned about the pregnancy,* / she avoided the sight of the headmaster

The following structures are not regarded as F-units:

(a). Nominal clauses or clause equivalents, and adjective complements:

[37] The woman said *that they saw a girl carrying a baby.*

(b). *Be* complements with because:

[38] *This is because* people will rely only on the government.

(c) Correlative comparative structures or result clauses with *that*, and restrictive manner clauses:

[39] My father is as tall *as my mother.* (Correlative comparative)

[40] He is *so* arrogant *that most people dislike him*. (result clause with *that*).

[41] Mary speaks *exactly as her twin sister does.* (restricted manner clause).

The F-units, when properly expressed and linked, form the building blocks of relational coherence. These relations may be defined as the extent to which sets of meaning relations are integrated into the text and such meanings can be worked out with or without the use of conjunctives, with the reader relying on both semantic cues and on his knowledge of the world.

### 3.1.2 Conjunctive cohesion

Conjunctive cohesion is the only type of cohesion that consistently links the meanings of sentences or other textual units as wholes, expressing the way in which what is to follow is systematically connected to what has gone before (Halliday and Hasan, 1976). "Conjunctive elements are not cohesive in themselves but indirectly, by virtue of  thrir

specific meanings…they express certain meanings which presuppose the presence of other components in the discourse" (Halliday and Hasan,1976:226).

It is noteworthy that conjunctive cohesion devices have both a grammatical and a semantic function. In this study the focus will be on the semantic categories of conjunctives, but the grammatical categories will first be briefly dealt with.

### 3.1.2.1 Grammatical Categories of Conjunctives

Conjunctives can be categorised grammatically as: coordinators, subordinators and adverbials.

### 3.1.2.1.1 Coordinators

Coordinators refer to devices such as *and*, *but*, *for*, *nor*, *yet*; certain combinations such as *and yet, and also* will be regarded as single coordinators. Furthermore, various correlative pairs such as *both… and*, *not only… but also*, *either*; *or; neither; nor*, are also considered as single coordinators. The clauses joined by *and* and *or* will be treated as F-units. In this study, the conjunctive devices will be grouped according to their semantic categories: additive, adversative, causative and temporal. Where they are used as intra-F-unit conjunctions, that is, where their use is only structural and they merely connect phrases without revealing any logical relationships, they will not be considered as forming separate F-units and will consequently not be regarded as cohesive, for example:

[42] Henry *and* Mary are standing over there

Lieber (1981:133) claims that coordinators are not like subordinators which allow clauses "freedom of movement". Thus the two subordinate clauses below in [43] (a) and [43] (b) can be reversed without any change of grammaticality whereas the removal of but you

are sick [44] (a), to its position in [44] (b) is not only impossible, but it also sounds awkward as shown below:

[43] (a) Since you are sick, you may not participate in the track event. (correct)

(b) You may not participate in the track event since you are sick. (correct)

[44] (a) You may participate in the track, *but you are sick*

 (b) *But you are sick*, you may not participate in the track event. (incorrect)

This limitation is a salient feature for distinguishing between coordinating and subordinating conjunctions.

### 3.1.2.1.2 Subordinators

Subordinators are cohesive ties that signal subordinate clauses or phrasal equivalents treated as F-units. They were not regarded as textual cohesive markers by  Halliday and Hasan (1976:321-322) because they deal with  intrasentential cohesion (also referred to as structural cohesion).

In the present study, subordinators have been treated as cohesive devices because they signal similar sorts of semantic relationships to those of adverbials and coordinators

### 3.1.2.1.3 Adverbials

Adverbials can be one-word items (for example*: however, next, conversely*), phrasal constructions (*in other words, that is)* or sentence-modifying elements that connect the unit they occur to a larger unit in the discourse. They may function in logical relations such as result and reason; they may involve sequencing of segments of texts like the words *first, finally*; they may also be used for temporal sequencing of information, as in the case of *then, after, when, afterwards,* and so on, as in the following example:

[45] Mary entered the room. *Then* she saw the television set had been stolen, *and* she realised that she was living in a dangerous district.

Some adverbial conjunctives generally appear at the beginning of sentences or F-units, for example: *however*, *thus* and *moreover*.

[46] He is a lazy teacher. *However*, he is kind.

Most adverbs can appear at the beginning or in other places in a sentence. In [46] below, the adverb, *Thus*, is at the beginning of the sentence:

[47] He fought bravely in the battle. *Thus* he was regarded as a hero.

In [48], *thus* is in a different position:

[48] He fought bravely in the battle. He was *thus* regarded as a hero.

It can also at the end of a sentence or F-unit, as in [49] below:

[49] He cannot be rejected *thu*s.

When some adverbials are in the initial-position in sentences, they are part of the main clause or F-unit despite an intervening subordinate, as in:

[50] *However*, because there was nothing he could do, he accepted the money.

Here, the main clause is *However, he accepted the money.*

### 3.1.2.2 Semantic categorisation of conjunctives

Grammatical characteristics of conjunctives have just been dealt with, but the present study focuses on the semantic categorisation of conjunctives. These semantic characteristics are temporal, causal, adversative and additive, as defined by Halliday and Hasan (1976).

### 3.1.2.2.1 Temporal conjunctives

Temporal conjunctives express relations that in some way are "next in time" (Halliday and Hasan, 1976: 239). Such a sequence is said to be in the speaker's or writer's organization of his discourse. Temporal conjunctives suggesting sequence in time are: *then, and, next, afterwards, after that, subsequently* and many other expressions.

Temporal conjunctives also refer to two actions taking place at the same time, a temporal overlap relation, as in:

[51] The students are talking *while* the teacher is writing on the chalkboard.

Other conjunctives of temporal overlap include: *meanwhile*, *all this time.*

### 3.1.2.2.2 Causal conjunctives

Causal conjunctives express relations that show the result of one phenomenon or event as arising from another phenomenon or event, and vice versa, for example:

[52] She will get more money in her new job. *So* she is leaving her present one.

Conjunctives such as *so, thus, hence, therefore, consequently, accordingly*, *as a result of*, *in consequence* have the semantic relational functions of reason-result, *to* and *by* can indicate means-purpose and *therefore* can point to a grounds-conclusion relation. For example, *to* in [53] links means and purpose:

[53] John works overtime *to* pay school fees for his son.

In example [54]*, by* indicates the means:

[54] *By* using a ladder, the thief got into the room in the room in the second floor

In [55] *and therefore* suggests a grounds-conclusion relation between the units.

[55] Jim's father is a gambler *and therefore* he will defend gamblers in all situations.

### 3.1.2.2.3 Adversative conjunctives

According to Halliday and Hasan (1976:250) the adversative conjunctive basically signals a "contrary to expectation" relation, which may be deduced from the content of what is being said, or from the communication process. Such a relation is normally signalled by conjunctives like *but, however, and, though, on the other hand, unlike, instead, rather* and so on. Examples of all these functional relations given are taken from the sample of this study corpus.

### 3.1.2.2.4 Additive conjunctives

Halliday and Hasan (1976:244) made it clear that the additive relation brought about by the conjunctive *and* is somewhat different from coordination proper, although it is no doubt derivable from it. The words *and, or,* and *nor* are all used cohesively as conjunctives and classified as additives. Examples also include *either or*, *or else, and also*, *furthermore, similarly, for example* and many others.

### 3.1.3 Coherence

The primary aim of the study is to discover whether certain textual features distinguish the more coherent writing from the less coherent writing. The present study makes reference to holistic or "impressionistic" coherence and relational coherence. "Holistic" or "impressionistic" coherence is coherence perceived in terms of the overall impression of the reader or rater. "Relational coherence" is the coherence which arises from the logical relationship of the F-units which lie adjacent to each other.

### 3.1.4 Relational coherence: continuative and discontinuative relations

An important aspect of conjunctive cohesion is the fact that semantic relations can be realised in the absence of explicit conjunctive cohesive devices. They can, instead, be signaled by other elements such as a noun phrase or a clause.

[56] Mary does not have much money. / She cannot buy the book.

It is possible to understand the reason-result relation between the two clauses in example [56] even in the absence of any conjunction between them.

Fahnestock's (1983:402-415) taxonomy of continuative and discontinuative relations between units has been incorporated into the framework adopted for this study. According to Fahnestock (1983), an impression of coherence is produced not only when the reader can go from one clause to another without losing their meaning, but also when larger groups of sentences successfully integrate: there is a flow of sentences. She distinguishes between continuative and discontinuative relations in her taxonomy of semantic relations.

The continuative relations, she emphasises, fulfil expectations or represent normal expectations, for example:

[57] He failed his examination/ *and* he could not apply for the job.

This is a reason-result continuative relation whereby the event in the first clause (or F-unit) provides a reason for some result specified in the second clause (or F-unit).

The discontinuative relations "are less expected, often surprising, and therefore somewhat not readily comprehended" (Fahnestock, 1983:406). Thus, these discontinuatives are usually marked by an explicit transition word to help the reader across an unexpected synapse or turn in the meaning. The following example shows how the information in [58] is relatively more unexpected than in [57] above:

[58] He was the best goalkeeper in the school. He failed his English examination.

The writer of [58] should have used a transition word to help the reader; that is, he should have lessened the processing load of the reader by linking the two sentences with a discontinuative conjunction such as *but*, so that the whole sentence could have been as in [59] below:

[59] He was the best goalkeeper in the school *but* he failed his examination.

Since relational coherence is so important in this study, the next section further develops this construct with examples taken from the data corpus

### 3.1.5 Crombie's set of binary textual relations

Relational Coherence can be defined as the extent to which the functional units of the texts integrate with one another in terms of a set of binary textual relations. Crombie's (1985:6-17) taxonomy of general discoursal values - her set of interpropositional general semantic relations-has been applied to this study in the same way as Hubbard (1989). The categories are: (1) Temporal, (2) Matching, (3) Cause and Effect, (4) Truth and Validity, (5) Alternation, (6) Paraphrase (7) Amplification, and (8) Coupling. The framework of these relations was applied in this study as shown below. The first unit is called X, and the second unit to which it relates is called Y. A full explanation of these relations and their applicable variation now follows.

### 3.1.5.1 Temporal relations

These deal with temporal links between F-units.

#### (a) Chronological sequence (CS) [continuative]

The event specified in Y follows the event specified in X without necessarily being causally related to it.

[60] I went to the child / and knelt down before her.

#### (b) Reverse chronological sequence (RCS) [discontinuative].

In this case the event in Y precedes the event specified in X without necessarily being causally related to it.

[61] Before the bus could stop, / everyone was running after it.

#### Temporal overlap (TO) [continuative].

The event specified in X overlaps in time with the event specified in Y.

[62] While we were still waiting for the bus, / the sound started again.

**3.1.5.2 Matching relations**

These refer to some kind of similarity or contrast between F-unit segments.

**(a) Comparison (Cp) [continuative]**

[63] At that time my friend stood, / just like a prisoner given a life sentence.

**(b) Contrast (Ct) [discontinuative]**

[64] A person living in a city can start a business, / unlike in rural areas where people usually depend on their agricultural produce.

The two segments are different in that city people and rural people earn their living in different ways.

**3.1.5.3 Cause-effect relations**

These involve various kinds of causal relations between units.

**Condition-Consequence (Cdc) [continuative].**

Here some aspects of X provides a condition for some aspect of Y.

[65] If you have a sister, / she will help you.

**Denied Consequence (DC) [discontinuative]**

In this semantic relation, some consequence that would normally follow from a condition expressed in X is denied in Y.

[66] In a city, even if someone is alert to danger, / he cannot be completely safe.

**Reason-Result (R/Rt) [continuative]**

X provides a reason for some effect or result in Y.

[67] Because we were taking loudly, /the baby started crying.

**Means-Result (MR) [Continuative]**

In this case, X explains how some result or effect is achieved in Y

[68] By living in a city, / you can end up losing your culture.

### Grounds-Conclusion (GC) [continuative]

X provides an observation in terms of which a conclusion is made in Y.

[69] People in cities come from different areas. / This explains why some can be influenced to forget their culture.

### Means-Purpose (MP) [continuative]

Y provides a purpose, an intention, for an event in X

[70] One morning I went to the nearby shop / to buy a newspaper


## 3.1.5.3 Truth and Validity relations

These refer to comments made in one unit about the truth or validity of a statement made in the other. It is a relation which is found more commonly in spoken discourse.

### Statement-Affirmation (SA) [continuative]

X affirms the truth of Y.

[71] She might have forgotten her passport. /Really she had forgotten it.

### Statement-Denial (SD) [discontinuities]

X denies the truth of Y

[72] He says that money is better than honour, / but I don't agree.

### Denial-Correction (DCr) [discontinuative]

Y provides a corrective substitute for a refuted term in X.

[73] Many people think that life in cities is not better than life in the countryside. / But I don't think so.

### Concession-Contraexpectation (CCE) [discontinuative].

Y goes against an idea that would normally follow from X.

[74] They took the baby into their care, /even though their grandfather was not happy with it.

### 3.1.5.5 Alternation relations

Alternation relations involve some kind of choice.

#### Supplementary Alternation (SAl) [continuative]

X offers an alternative that is compatible with Y. Thee is a choice between X or Y.

[75] The only child neither easily socialises with others / nor shares things with others.

#### Contrastive Alternation (CAl) [discontinuative]

In this case X offers an alternative that is incompatible with Y.

[76] The mother should either pay the fine / or accept three years imprisonment.

### 3.1.5.6 Paraphrase

#### Paraphrase (P) [continuative]

This semantic relation in Crombie's category of relations, consists of only one functional relation.

X has the same meaning as Y; Y does not provide more detail about X.

[77] There is freedom in the city. / Everyone lives the way he likes

### 3.1.5.7 Amplification

In this kind of relation, the meaning of the first unit is present in the second unit, but the second unit adds content that further specifies some aspect of the content in the first.

#### General-Specific (GS) [continuative]

[78] There is a horrible incident /which needs your attention immediately.

Y provides illustration or specific information for some more general aspect of the conceptual content of X.

**Term Specification (TS) [discontinuative]**

Y specifies a more general term or word in X.

[79] Living in a city gives one access to media services / like newspapers, radios and television as well.

**Statement-Exception (SEx) [discontinuative]**

Here Y provides an exception to some more general aspect of the conceptual content of X; it provides an unexpected event or factor.

[80] No one readily helps nowadays, / except for payment.

## 3.1.5.8 Coupling

In Crombie's taxonomy, the category called "coupling" has conjoined units, that is, units or clauses which are juxtaposed, placed next to each other This is the weakest of relations between sentences or units and is defined negatively in terms of all others. In this case, a second sentence, or more precisely F-unit, can follow the preceding one simply as another point, another thing to be said. Coupling will not be analysed as a functional relation in the present study because it is the weakest, default relation.

[81] Mary was singing at the assembly / and she sang well.

This section has dealt with the eight major categories consisting of 21 functional relations, of which 13 have been categorised as continuative and eight as discontinuative.

These categories will be used in the analysis of the semantic relations in the texts in the corpus and their frequency will be quantified because it is assumed that they play an important role in our understanding of the concept of "coherence" in general. Coupling will not be counted as having semantic relational coherence. The study's framework analysis has been presented and discussed. The next section deals with the procedures and methods.

## 3.2 Methods and procedures

This section deals with the methods and procedures of the present study, which are in line with the quantitative approach.

**3.2.1 Subjects**

The subjects were students from Moshupa Senior Secondary School in Botswana. They were in their 12th year of schooling and were between 18 and19 years old. They were 60 in number, 37 boys and 23 girls. They had already written their National Junior Certificate Examination, and after passing, had been allowed to continue their education in a Senior Secondary School until they wrote the Botswana General Certificate of Secondary Education examination, the equivalent of the University of Cambridge 'O' Level General Certificate of Education. Their native language is Setswana.

They were students from similar socio-economic backgrounds (working class) and they interacted in Setswana when they were outside classes and sometimes even when they were in class. Speaking in English in daily interactions is very minimal in all government schools. English is their second language though also the official language of the country.

**3.2.2 Materials**

Two separate tests were administered to the subjects. It was expected that they had been taught and had had practice in the writing of narrative and expository compositions. They were thus made to write tests in these two composition genres. From a choice of two topics set in each session, they first wrote a narrative composition and, two weeks later, an expository composition.

These topics were written in similar examination conditions to those of the B.G.C.S.E. examinations. In each session, they were given 60 minutes to write one composition of about 350-500 words. The whole examination time took 80 minutes for each session administered because apart from the 60 minutes writing, 10 minutes were used before the test for issuing question papers and answer sheets as well as for making sure that the seating arrangement was in order; the other 10 minutes were used for the collection of

question papers and scripts after the test. The students composed without recourse to any other printed material. The titles of the compositions were taken from past Cambridge 'O' Level English examination papers (Paper 1: composition). The format of the narrative genre test was:

Write a story of about 450 words on:

Either   [1] A new-born baby was found abandoned at the bus-stop.

Or       [2] Someone had a great disappointment that turned out to be a blessing in

disguise.

The format of the expository genre text was

Choose one of the two compositions and write 300-500 words on the topic

Of your choice.

Either   [1] Favouritism.

Or       [2] Discipline.

The topics were taken from the Cambridge G.C.E O-Level examination because the composition paper is of the same standard as the B.G. C. S.E. (Botswana General Certificate of Secondary Education). Since the questions were not those from the most recent examination papers, it was expected that this would help in guarding against any possibility that they could have just been seen or reflected upon by the subjects before the actual test. Thus the titles were picked from the 1994, 1996, and 1997 question papers.

The assessment objectives for the "O" level Cambridge/BGCSE examinations are quoted below:

The candidates are to be tested for their ability to

1. Produce a piece of continuous prose in accurate standard English.

2. Respond relevantly to a task chosen from a number of alternatives.

Particular emphasis is placed on the candidate's abilities to:

3. Write sentences of various lengths and types, using a <u>variety of sentence</u> structures as an aid to meaning.

4. Use a wide <u>vocabulary</u> and suitable range of <u>idiom</u> with precision.

5. <u>Punctuate</u> accurately and helpfully.

6. Write in <u>paragraphs</u> which demonstrate internal unity and are appropriately <u>linked.</u>

7. <u>Spell accurately</u> over the full range of vocabulary used.

8. Respond with <u>relevance and precision</u> to the chosen topic.

9. <u>Engage and sustain the interest</u> of the reader.

And these objectives above are assessed by IMPRESSION (that is some form of "holistic rating/scoring").

(Cambridge International Examinations. University of Cambridge local Examinations Syndicate. *Syllabus*. Assessment Objectives. November 1995, November 1996, November 1997).

In this study, the raters were told to rate compositions according to the above assessment objectives.

### 3.2.3   Analytical and statistical procedures.

After the students had written the compositions in the two sessions as previously explained, two teachers (or raters) rated the compositions on the Cambridge "O" level grid. They were not the usual teachers of these students but worked in the same school and knew some of these students (the subjects of the present study). So the names of the subjects on the compositions were removed so as to prevent bias resulting from teachers' knowledge of students' different abilities. These teachers or raters were not only familiar

with the types of compositions written but also with the linguistic competence expected from students at this level of examining. Since they were told to give scores to individual texts after having gained an impression of what they had read, the rating was "holistic".

After the rating of the texts, those scoring in mid- range (50-59%) were removed and the remaining high and low groups were focused on. Thus the low scripts were below50%; and high scripts ranged from 60% upwards. These low-rated and high-rated texts were arranged according to their respective genre and then analysed to test the hypotheses of this study.

The analytical framework presented in Chapter 3 (Section 3.1-3.1.5.8) was applied to the compositions of the subjects in the study in order to assess the relationship of conjunctive cohesion and relational coherence with regard to teachers' ratings. In other words, the study attempts to test whether these variables have a bearing on writing quality.

The texts comprise eight high-rated and 24 low-rated narratives as well as 16 low-rated and 16 high-rated expository compositions. Each text was segmented into separate F-units with slashes and numbered. The functional relations that are contiguous were bracketed. The F-unit has great importance because it has here been used in the calculation of percentage density of conjunctives and contiguous functional relations.

For example, the percentage density of conjunctives involved adding all cohesive conjunctives in a text, dividing it by the number of F-units in a text and multiplying this by 100. The percentage density of contiguous functional relations involved dividing the number of relations analysed by the F-units and multiplying the result by 100. The resulting figure is the density of contiguous functional relations (DCFR).

The hypotheses mentioned in chapter 1 will be tested statistically and the findings reported in Chapter 4. Hypotheses 1 and 2 will be tested through the use of a t-test and Hypothesis 3 will involve the use of chi² tests.

## 3.3 Conclusion

Th1s chapter has explicated the framework of this study and the rationale for employing the F-unit in preference to other units previously used in the studies of cohesion and coherence as a measure in the analysis of semantic relations. The main constructs as well as Crombie's taxonomy of inter-propositional relations have all been explicated and exemplified. The materials, procedures and methods have been discussed in line with the quantitative paradigm. The next chapter will deal with the sample analyses and the statistical findings for the study as a whole.

## Chapter 4: Findings

## 4.0 Introduction

Chapter 4 presents the interpretation of the sample texts analysed. First of all a representative sample of four of the texts analysed in the corpus will be presented and interpreted with reference to the framework and to their genre. This small sample comprises one low-rated and one high-rated narrative as well as one low-rated and one high-rated expository text. The detailed tables of data findings pertaining to this chapter of the research study are given in the appendix (See tables 3-6) and will be mentioned where appropriate. The data will also be subject to statistical findings to test the three hypotheses posited in section 1.9.1-1.9.3 of Chapter 1. An inter-reliability test was done on two teachers' ratings. The t-tests and the chi² tests meant to test the hypotheses mentioned above are here discussed, and the relevant statistical calculations are given in the appendix.

## 4.1 Sample analyses

Having explained the analytical framework of this study, this section serves to illustrate the application of this framework by presenting sample analyses of one low-rated text and one high-rated text in each genre. The students' compositions have been reproduced in their original form without any correction whatsoever. The analysis of each text shows the bracketed functional relations, and the conjunctives are represented in italics.

**Analysis of sample texts:**

Keys:

LN=Low-Rated Narrative. HN=High-Rated Narrative

LE=Low-Rated Expository. HE=High-Rated Expository

LN9, HN5, (Narrative Texts)

LE7, HE9, (Expository Texts)

/=F-unit boundary

//=F-unit enclosed within another.

 Functional relations exemplified of such relation in sections 3.1.5.1-3.1.5.8 in Chapter 3.


**4.1.1 (LN 9): Low-rated narrative text (39% average mark)**


**Someone had a great disappointment that turned to be blessing in disguise**

I remember the day when Nandi// the daughter of          TS amplification

Jim and Sarah [1]// telling her parents about how

she wants to achieve her aims in her life.[2]/

They were resting in the moon light[3]/

and the night was so enjoyable.[4]/                                    coupling *and* (coordinator)

                                                                                          (additive)


Nandi's parents slept happy about
Nandi's words of vision.[5]/


Nandi's    aims    was    to    finish    her    school    at    Cambridge[6]/        coupling    *and*
(coordinator)(additive)

and get her Grade A[7]/                                            CS temporal *and*

and also after that go to University of                        (coordinator) (temporal)

Botswana or any other University[8]/

to continue with her studies.[9]/                            MP cause-effect

                                                                          *to* (subordinator) (causal)

Her best career choice was to be a nurse[10]/          MP cause-effect

so that she may help the people in the society.[11]/          *so that* (subordinator)

  (causal)

She also told her parents that she won't fall in          MP cause-effect

 love with any other boy[12]/          *so that* (subordinator)

so that she may focus on her school work.[13]/          (causal)

Two months later Nandi fall in love with one

of her schoolmates called John,[14]/          R/Rt cause-effect

thus breaking the promise.[15]/          *thus* (adverbial) (causal)

As everyone knows that boys are there to trick girls.[16]/

John tricked Nandi telling her that love is all

about sexual intercourse.[17]/

Nandi later agreed[18]/          CS temporal

and she eventually fall pregnant.[19]/          *and* (Coordinator) temporal

Nandi was so disappointed that she had

brought shame to her family.[20]/

John supported her wife as well as his child.[21]/

Nandi found a permanent husband John[22]/

and she lived with him.[23]/          coupling *and* (coordinator)

          (additive)

They were very rich and were known from

East to West.[24]/

With John's effort he told Nandi to go and

 train to be a nurse[25]/

and Nandi was successful.[26]/          *and* (coordinator) coupling

**4.1.2 (HN5) High-rated narrative text (69%)**

**Someone had a great disappointment that turned out to be a blessing in disguise**

The sun seems to be moving slowly, slower

than all other past days to Mary.[1]/

She was nervous to see herself in a plane,

traveling to such a popular country England.[2]/

Even though she was now left with an hour

to see herself in a metal bird,[3]/                                CCE truth & validity

to her it seemed like ages.[4]/                                   (discontinuative)

                                                                 *even though* (subordinator)

                                                                 (adversative)


Above of all she was very happy to the

top of the brim.[5]/

The mention of the word passport arose

her from her deep thought[6]/

and a bad thought struck her,[7]/                                TS amplification.

she might have forgotten her passport.[8]/                       *and* (coordinator) additive

                                                                 SA truth & validity

Really she had forgotten it[9]/                                  *really* (adverbial) – (additive

and now she was in a pool of confusions.[10]/                    R/Rt cause-effect

                                                                 *and* (coordinator) (causal)

Does it now means she was to miss such

a great honour [11]/                                             TS amplification

to go to England as a basket baler?[12]/                         CCE truth & validity

                                                                 (discontinuative)

But her team put all their trust in her[13]/                     *but*                    (coordinator)

(adversative)

she knew this very well.[14]/

| | |
|---|---|
| Fortunately she was asked to run back home[15]/ | MP cause-effect |
| to go[16]/ | *to* subordinator (causal) |
| and collect it, [17]/ | coupling *and* (coordinator) (additive) |
| as her home was not that far.[18]/ | Rt/R cause-effect *as* (subordinator) (causal) |
| She ran faster than she had ever ran[19]/ | CCE truth & validity (discontinuative) |
| but now the time ran at the top of her speed[20]/ | *but* (coordinator) (adversative) |
| now the sun seems to be traveling at the speed of a bullet.[21]/ | CCE truth & validity *but* (coordinator) |
| But she knew she had to make it[22]/ | (discontinuative )   (adversative) |
| When she came back[23]/ | TO temporal |
| all the happiness she had disappeared like the mist in a sunny morning.[24]/ | *when* (coordinator) (temporal) |
| The plane had gone,[25]/ | Rt/R cause-effect |
| left her behind. [26]/ | coupling |
| She knew that now her dream to be in England had been shattered.[27]/ | R/Rt cause-effect |
| She regretted and regretted,[28]/ | CCE truth & validity (discontinuative) |
| but it gave her no plane to ride.[29]/ | *but* (coordinator) (adversative) |
| She was forced to go back home, hopelessly.[30]/ | R/Rt cause-effect |
| She was wondering what a curse has she taken in.[31]/ | P paraphrase |
| She was very disappointed.[32]/ | |

When she arrived at home [33]/           TO (temporal)

*when* (subordinator)

(temporal)

she met directly with the news[34]/

reporting that the plane had crushed [35]/     GS amplification

and all the passengers had died.[36]/      R/Rt cause-effect

*and* (coordinator) (causal)

The name of the plane struck her like
a sharp pin.[37]/                R/Rt cause-effect

It was the plane she was supposed to
travel in,[38]/

the same plane that had left her behind
an hour ago.[39]/             P paraphrase

The thought came clearly to her that if
she could have made it
she could be dead.[40]/

She don't know if to cry or to be happy,[41]/   Ct matching (discontinuative)

but what she was sure of was to exalt
the God for this[42]/          *but* (coordinator)

(adversative)

She knew that that was a blessing to her.[43]/   Rt/R cause-effect

Her happiness flooded back into her heart[44]/

what a great escape.[45]/

### 4.1.3 (LE7) Low-rated expository text (34%)

### The advantages and disadvantage of city life

Living in the city is very important
because of the employment[1]/,
there is high education,[2]/
people always being busy[3]/
and many of works are easy todo.[4]/                    coupling *and* (coordinator)

                                                   (additive)

And on the other hand it is very risky because          *on the other hand*
of that employment, too much noisew[5]/                 (adverbial) (adversative)

                                                   Ct matching (discontinuative)

and there are many different people living
there who you are not related to them.[6]/              *and* coordinator (additive)
In the city there are electricities along
the roads [7]/                                          TS amplification
which is good [8]/                                      Rt/R cause-effect
because during the nights the drivers                   *because* (subordinator)
can see each other clearly[9]/                          (causal)
unlike there is no lights [10]/                         R/Rt cause-effect
and this reduces car accidents [11]/                    *and* (coordinator) (causal)
since there re many transport [12]/                     R/Rt cause-effect
movement from place to another is very fast [13]/       *since* (subordinator) (causal)
and a person can travel a long distance within
a short period of time[14]/                             (coordinator) (additive)
and also every where there are telephones [15]/         coupling *and also*

                                                   (coordinator)(additive)

you can speak with a person far away at the
right time you want to talk [16]/

unlike writing a letter that will take days

*unlike*"for

to arrive [17]/

where it supposed to be. [18]/

There are many schools [19]/

which means most of people in the city

are educated [20]/                              P paraphrase

                                                Rt/R cause-effect

so, they can find good jobs [21]/               *so* (subordinator) (causal)

unlike uneducated person at the village. [22]/  Ct matching (discontinuative)

                                                *unlike* (subordinator)

                                                (adversative)

People there are busy [23]/

which encourages productivity in works [24]/

and there are many enough facilities and materials    coupling *and* (coordinator)

that make the works to be done easily and fast. [25]/   (additive)

Sometimes living in the city is very risky[26]/         Rt/R cause-effect

because there are many different people with            *because* (subordinator)

different cultures [27]/                                 (causal)

and a person can end up copied the life styles          *and* (coordinator)

of that people[28]/                                      (additive)

lost his/her culture [29]/

and also it will cost him to do. [30]/                  coupling *and also*

                                                        (coordinator) (additive)


It is very easy to make car accidents because of

that many vehicles, many lifes of people lost

and their cars damaged. [31]/

There is too much noise every where.[32]/

### 4.1.4 (HE9) High-rated expository text (67%)

**The advantages and disadvantages of living in a city**

A city is a place where there is a lot of
development and a high population[1]/
due to people looking for greener pastures.[2]/
 It is advantageous to live in a city [3]/
since more development is the road to
employment.[4]/
On the other hand most of the people end up
suffering because of poor shelter and
lack of finance.[5]/

Rt/R    cause-effect *due to*
(adverbial) (<u>causal</u>)
CG    cause-effect
*since* (subordinator) (<u>causal</u>)
*on the other hand* (adverbial)
Ct. *matching* (<u>adversative</u>)
(discontinuative)

it is not everybody who can be employed[6]/
to get enough finance for survival.[7]/

MP (cause-effect)
*To* (subordinator) (<u>causal</u>)

Because of the development in the city,
people are encouraged to develop[8]/
and cope with city life.[9]/

*and* (coordination) coupling
(<u>additive</u>)

Most of the people in the city buy
expensive clothes[10]/
to suit with the city life[11]/

MP cause-effect
*to* (subordinator) (<u>causal</u>)

others buy cars[12]/
just because they are ashamed to walk
in the streets.[13]/

Rt/R cause-effect
*just because* (subordinator)
(<u>causal</u>)

Those who cannot afford to buy their own
cars prefer combis, cabs and taxis[14]/
rather than walking some distances.[15]/

CA alternation
(discontinuative)
 *rather than* (subordinator)
(<u>adversative</u>)

Even though most of the people benefit from this,[16]/ some people are not able to cope with this high standard of living.[17]/

CCE truth and validity (discontinuative)

*even though* (subordinator) (adversative)

Some of the people who can't cope with this situation end up being criminals with intention to improve their standard of living[18]/ and some of them make life out of only comitting crimes[19]/ such as stealing are robbering.[20]/

*and* (coordinator) (additive)

GS amplification *such as* (subordinator) (additive)

They steal and robber other people's properties[21]/ and sell them[22]/ to get money in turn.[23]/

*and* (coordinator) (additive)

MP cause-effect

*to* (subordinator) (causal)

They also steal other things like mobile phones[24]/ so that they can be seen more suitable for city life.[25]/

MP cause-effect *so that* (subordinator) (Causal)

Since a city contains people from different societies and of different cultures,[26]/ they interact[27]

R/Rt Cause effect

*since* (subordinator) (causal)

and exchange their types of living.[28]/

*and* (coordinator) Coupling (additive)

Some people find their types of culture civilized[29]/ so they end up copying others' cultures.[30]/ Meanwhile people can forget[31]

GC cause-effect

*so* (coordinator) (causal)

and deny their culture[32]/

which is not good [33]/

coupling *and* (coordinator)
(underline)(additive)(/underline)

TS amplification

in such a way that if it comes time to apply
culture such as in marriage, [34]/
they will have totally forgoten their culture. [35]/

CDC cause-effect
*if* (subordinator) (causal)

Young generations living there can also be lost [36]/
since they will find their elders practicing
a certain culture [37]/

Rt/R Cause-effect
*since* (subordinator) (causal)

and they will think it is how they are
supposed to live. [38]/

*and* (coordinator) coupling
(additive)

People can also copy some technologies [39]/
such as business [40]/



to make their living. [41]/

GS amplification
*such as* (subordinator)
(additive)

MP cause-effect
*to* (subordinator) (causal)

This is very important [42]/
because they can increase the development
in the city [43]/

CG cause-effect
*because* (subordinator)
(causal)

and even go [44]/

*and* (coordinator) coupling
(additive)

and apply it in other non-city areas. [45]/

*and* (coordinator) (additive)

Some places end up civilised [46]/
because of applying the city activities [47]/

R/Rt cause-effect
*because* (subordinator)
(causal)

but some people abuse civilisation in such a
way that they can do wrong things [48]/

*but* (coordinator) adversative
CCE truth and validity
(discontinuative)

and pretend to be more civilised. [49]/

*and* (coordinator) coupling

59

This can be proved [50]/               RM cause-effect

by looking at some young ladies who

wear undesirable attire [51]/            *by* (subordinator) (causal)

and some practice bad habits [52]/       *and* (coordinator) additive

such as prostitution [53]/              GS amplification *such as*

                                         (subordinator) (<u>additive</u>)

and take it as a mode of civilization. [54]/    *and* (coordinator) coupling

                                         (<u>additive</u>)

They do this [55]/                         Rt/R cause-effect

trying to cope with the life of a city[56]/    CCE truth and validity

but end up on the wrong track. [57]/      discontinuative

                                         *but* (coordinator)

                                         (<u>adversative</u>)

A city is a center of development[58]/

which means almost everybody living in the

city have excess to civilisation [59]/      TS amplification

even though some development can bring harm

to the people living such surrounding, [60]/    CCE truth and validity

                                         (discontinuative)

                                         *even though* (subordinator)

                                         (<u>adversative</u>)

some industries produce bad smokes [61]/    GS amplification

which can be an effect to people's lives. [62]/

There are also many accidents in the city [63]/   R/Rt cause-effect

such that more lives are lost            *such that* (subordinator)

because of civilisation. [64]/           (<u>causal</u>)

## 4.2 Interpretation of analysis of sample texts

The analysis of the sample texts presented is now interpreted with reference to their textual quality and teachers' ratings.

LN9, the low-rated narrative text, has a DCFR of 27. It has only 7 functional relations, out of 26 units. On the other hand, HN 5, the high-rated narrative text, has 23 relations out of 45 units, giving a DCFR of 51. In the low-rated narrative text, there are only a few conjunctives appropriately used (only 9) and no discontinuative conjunctives; the high-rated narrative text reveals 15 conjunctives, including 6 signalling discontinuative relations, of which 5 were truth and validity relations and 1 of the category of matching.

A look at the low-rated expository text (LE7) shows 9 functional relations in 32 F-units (a DCFR of 28), with a total of 13 conjunctives, including 2 conjunctives signalling 2 discontinuative relations, which are of the category of matching. The high-rated expository text, HE9, has a DCFR of 45 (29 relations in 64 F-units), 36 conjunctives and 6 discontinuative relations, (1matching, 1 alternation, and 4 truth and validity relations.).

One trend observed in the sample of narrative and expository compositions of the corpus was that low-rated texts had few or no discontinuative relations. In addition, high-rated texts in both genres not only had more discontinuative relations but also these types of relations were varied although a higher density of truth and validity relations emerged. For example, in the sample texts presented in section 4.1, in terms of densities per 100 F-units, the low-rated expository has a density of 6.25, the high-rated narrative text has a density of 13.3 and the high-rated expository shows a density of 9.4 as far as their respective total discontinuative relations are concerned. With regard to truth and validity relations alone, the high-rated narrative and high-rated expository texts revealed densities of 11.1 and 7.8 respectively.

In terms of overall conjunctive cohesion density LN9 has 34.6, HN5 has 33.3, LE7 has 40.6 and HE9 has 56.3, thereby showing that there was clearly not much difference

between low-rated and high- rated narrative texts in contrast to the marked difference between low-rated and high-rated expository texts. It is also noticeable that expository texts called for a higher conjunctive density than expository texts did. This was the trend observed throughout the whole corpus.

## 4.3 Statistical processing in the main study

The use of inferential statistics enhances the reliability and validity of a study in the quantitative tradition. For this reason, the data in the tables 3-6 in the appendix have been subjected to inferential statistical analysis to test the various hypotheses posited in this study.

## 4.4 Inter-rater reliability

The compositions written by the subjects were rated according to the Cambridge O' level assessment objective explained and presented in chapter 3 in section 3.2.2. Two teachers rated the compositions holistically. There were 8 high-rated and 24 low-rated narrative texts while the expository genre comprised 16 high-rated and 16 low-rated texts. The sample corpus has a total of 64 texts for analysis. The texts considered high-rated ranged from 60% upwards and the low-rated texts ranged from 49% downwards. Texts which were awarded 50%-59%    were regarded as belonging in the middle range and were not analysed to ensure that the two groups better represented high and low-rated compositions respectively.

After the collection of the corpus to be analysed, the reliability of marks awarded by the two raters was tested by correlation statistics using Pearson product-moment correlation (r). The results for marks given for all narrative texts by the raters showed a correlation coefficient of    $r = 0.93$ and that given for all expository texts was $r = 0.95$. This shows that there was no significant difference between ratings; rather, there was high agreement between the raters. Consequently, the average scores were calculated and the results taken as an indication of writing quality.

## 4.5 Alpha level for the hypotheses

According to Brown (1988:115), since the researcher is typically using statistics to investigate parameters, there is always some chance that the results based on the sample do not represent the population, that is they are in error. In such a situation, then, there is room for the application of probability. It follows that if the probability that the difference found in the data is due to chance, the null hypothesis will not be rejected. In the present study, the level of significance adopted for all hypotheses is $p \quad 0.05$, which means that a 5 percent error is tolerated. At that level the null hypothesis will be rejected. In other words, significance is established if there is a 5 percent or less probability that the significance is due to chance.

## 4.6 Hypothesis 1: Conjunctive cohesion and writing quality

Hypothesis 1 posits that there is a relationship between the density of conjunctive cohesion in students' compositions and writing quality.

As stated earlier, this hypothesis was formulated as non-directional. The dependent variable is writing quality, operationalised as teachers' ratings, and the independent variable is density of conjunctive cohesion. The term density means the frequency of conjunctive cohesion per 100 F-units

### 4.6.1 Narrative texts

A t-test was done to find out the relationship between high-rated and low-rated texts with respect to their cohesion density. Firstly, it was done with high and low narrative groups. The results (see table 1(a)) revealed the high-rated narrative texts to have a mean of 34.11, and a standard deviation of 7.56. As for the low-rated texts, the mean was 34.85 and the standard deviation was 8.16. The value for p was .82 and so there was no evidence for the hypothesis that there are significant differences between these two groups. The null hypothesis was hence supported.

## Hypothesis 1

## Table1 (a)

## T-Test

**(i) Narrative Group**

**Group Statistics**

|  | NARRATIVE | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
|  | High Narrative | 8 | 34.1125 | 7.56126 | 2.67331 |
|  | Low Narrative | 24 | 34.8500 | 8.16110 | 1.66588 |

**Table1 (b)**

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
|---|---|---|---|---|---|---|---|---|
|  |  | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
|  |  |  |  |  |  |  |  |  |
| MARKS | Equal variances assumed | .186 | .670 | -.225 | 30 | **.823** | -.7375 | 3.27625 |

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## 4.6.2 Expository texts

Another test was done with respect to the high-rated and low-rated expository texts and their cohesion density. Here, the mean was 46.81 and the standard deviation was 8.04 for the high group, while the low group gave a mean of 40.60 and a standard deviation of 8.20 and p was .039, indicating a significant difference between the two groups, that is, showing a positive relationship between cohesion density and writing quality (See tables 1(c) and !(d)).

## Table 1(c)

## T-Test
## (ii)Expository Group

**Group Statistics**

|  |  | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| TOTAL | High Expository | 16 | 46.8125 | 8.04163 | 2.01041 |
|  | Low Expository | 16 | 40.6000 | 8.20861 | 2.05215 |

**Table 1(d)**

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
|---|---|---|---|---|---|---|---|---|
|  |  | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
|  |  |  |  |  |  |  |  |  |
| MARKS | Equal variances assumed | .051 | .823 | 2.163 | 30 | **.039** | 6.2125 | 2.87282 |

**4.6.3 Discussion of results of Hypothesis 1**

Reflecting the result of no significant difference in conjunctive density in the first t-test, it can be clearly seen in table 3 in the appendix that the 8 high-rated narratives produced 34.3 % of conjunctive cohesion out of 356 F-units while the 24 low-rated narratives produced 39.9.3 % of conjunctive cohesion out of 986 F-units: their cohesive density was not noticeably high when we consider that the number of high-rated narrative texts were just one-third of that of  the low-narrative texts. However, a closer look at the texts showed that low-rated narratives texts were full of conjunctives like *as, and*, and *because.* Such conjunctives are more easily used by writers with inadequate linguistic competence.

Turning to the high and low-rated expository group, the strong significance of the relationship between conjunctive cohesion density and teachers' ratings concurs with similar findings by Hubbard (1989). Table 3 reveals that high expository texts had a total cohesion density of 45.8% as against 40.9 % for the low-rated texts. In the high-rated texts, greater variety in the use of conjunctives was detected. For example, in addition to variety in the use of causal conjunctives such as *therefore*, *as a result*, *hence*, *thus*, and others, conjunctives introducing discontinuative relations such as  *however*, *although*, *whereas, while*, *on the other hand, nevertheless* and *despite* featured in the texts. On the other hand, in the low-rated texts, the writers were almost only content with *and* and *therefore.* This greater variety of conjunctives, and especially of discontinuative conjunctives in the compositions rated high, is indeed a mark of greater maturity of thought and is an index of growth. Such clear and higher-order semantic relations from the high-rated scripts call to mind Stotsky's remark that extensive vocabulary is a characteristic of greater maturity of thought (Stotsky, 1983:484), and Hubbard's view (1989:253) of discontinuative conjunctives as an aspect of better writing quality.

**4.7 Hypothesis 2: Contiguous functional relations and writing quality**

Hypothesis 2 posits the following:

There is a relationship between the density of contiguous functional relations in students' compositions and writing quality.

It was stated in Chapter 1 that the independent variable is contiguous functional relations and the dependent variable is writing quality, as operationalised by teachers' ratings The count of contiguous relations comprised the 8 major categories of inter-propositional semantic relations of Crombie (1985) already presented and explicated in the analytical framework in sections 3.1.5.1-3.1.5.8. Out of these functional relations, coupling was not counted in the total density of relations in the present study because it is considered as the weakest relation.

Two t-tests were done to test this hypothesis. These tests were concerned with finding out whether there was any significant relationship between text ratings, and the density of contiguous functional relations in first the narrative and then the expository genres. The statistical findings regarding this are now discussed with reference to the tables below.

**4.7.1 Contiguous functional relations in high-rated and low-rated narrative texts**

In terms of contiguous functional relations density, in the narrative genre the high-rated group had a mean of 37.38 and a standard deviation of 8.40 whereas the mean and standard deviation for the low-rated group were 29.10 and 6.64 respectively. Since p was 0.008, a very significant relationship was found in the narrative corpus (See table 2(a) and 2(b)

**Hypothesis 2 – Contiguous functional relations density & writing quality**

**Table 2(a)**

**T-Test**

**(i) (Narrative Groups)**

**Group Statistics**

|  | VAR00004 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| TOTDCFR | High Narrative | 8 | 37.3875 | 8.40874 | 2.97294 |
|  | Low Narrative | 24 | 29.1042 | 6.64186 | 1.35576 |

**Table 2 (b)**

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
|---|---|---|---|---|---|---|---|---|
|  |  | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
|  |  |  |  |  |  |  |  |  |
| MARKS | Equal variances assumed | .051 | .822 | 2.860 | 30 | **.008** | 8.2833 | 2.89595 |

## 4.7.2 Contiguous functional relations in high-rated and low-rated expository texts

When it comes to the expository genre, the high-rated texts had a mean of 41.87 and standard deviation of 5.40. The low-rated expository texts had a mean of 31.88 and standard deviation of 5.53. The value for p was 0.000 (See tables 2(c) and 2(d)). There was therefore a very strong positive relationship between the two variables and the null hypothesis was rejected. Hypothesis 2 was thus confirmed generally too because in both genres a strongly significant $p < 0.01$ was found.

**Table 2 (c)**

**T-Test**
**(ii) (Expository Groups)**

**Group Statistics**

| | VAR00004 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| TOTDCFR | High Expository | 16 | 41.8750 | 5.40956 | 1.35239 |
| | Low Expository | 16 | 31.8813 | 5.53489 | 1.38372 |

**Table 2 (d)**

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
| | | | | | | | | |
| MARKS | Equal variances assumed | .429 | .517 | 5.165 | 30 | **.ooo** | 9.9938 | 1.93485 |

### 4.7.3 Discussion of results of Hypothesis 2

A closer examination of contiguous functional relations in table 4 in the appendix reveals that high-rated narrative compositions show significantly higher percentages of functional relations than low-rated narrative compositions in all seven categories analysed, namely temporal, cause-effect, paraphrase, matching, amplification, and truth and validity relations. Temporal, matching, amplification, truth and validity relations were more profusely used, as shown in their percentage densities. The former group comprises 18.53% temporal, 16.85% matching, 4.77% amplification and 3.65% truth and validity as against the latter group with 10.75%, 0.81%, 1.72% and 2.43% respectively, in terms of these four functional relations considered here. The functional relations were denser in all high narrative corpus 45.2% versus 27.78% in the low narrative texts. This suggests that abler students (high-rated compositions) produced texts with more logical relations and conveyed their ideas more comprehensibly than less able students (low achievers) did.

The same trend as above was observed in the high-rated expository versus low-rated expository compositions, although the latter had more alternation F-relations. High expository compositions revealed a higher percentage density of all other relations than low expository did, with considerably higher percentages in cause-effect, 24.10% as against 20.77%, amplification, 7.06% as against 3.25%, and truth and validity, 3.7% as against 1.39%. The differences in the types of semantic relations in the whole corpus of narrative and expository genres are also reflected in table 4.

Even when taken as a whole, the density of contiguous functional relations also correlates with teachers' ratings. The high-rated texts in both narrative and expository compositions have a higher DCFR (Density of Contiguous Functional Relations) than the low-rated texts in both genres. The average DCFR in high-rated narrative compositions is 37.62% as against 29.12% in the low-rated narratives. As for high-rated expository texts, the average DCFR was 41.81% as against 31.81% in the low-rated expository texts. Similar findings were also made by Hubbard (1989) in the relationship between relational coherence quotient (RCQ) and holistic ratings of academic writings. All high-rated

compositions covering both genres showed an average of 40.41% as against 30.2% for all low-rated compositions in both genres, revealing that high achievers generally produce a high DCFR.

## 4.8 Hypothesis 3: Conjunctive cohesion and composition genres

There are significant differences between the densities of conjunctive cohesion in the different composition genres (narrative and expository compositions).

The independent variable is composition genres and the dependent variable is density of types of conjunctives, which are here identified as temporal, causal, adversative and additive (see section 3.1.2.2.1-3.1.2.2.4). This hypothesis tests whether narrative and expository genres show differential use of each of the various categories of conjunctives: additive, causal, adversative and temporal.

A Chi² test was used to find out whether there was any association between genres and the density of cohesive conjunctive types mentioned above. A null hypothesis was to be rejected if Chi² > 7.815. Indeed, the result turned out to be Chi² = 15.86, and so significant at the level of p    0.01 (See Hypothesis 3, Chi² test in the appendix). Given an alpha level of p    0.05 and three degrees of freedom (which derives from the two genres tested in terms of the four conjunctive types), Hypothesis 3 was thus strongly supported.

### 4.8.1 Temporal conjunctives and genres

The findings from data analysis revealed that there are differences in the relative densities of types of cohesive conjunctives used. For example, narrative compositions trigger more temporal conjunctives than expository compositions do, 172 (12.8% density) in the former as against 32 (2.12% density) in the latter. This is supported by descriptive statistics in table 3 in the appendix.

The occurrence of a greater density of temporal conjunctives in the narrative texts than that of their expository counterparts can be explained by the fact that narrative compositions are normally associated with chronological sequence relations to signal events, unlike expository compositions which are essentially argumentative in character.

## 4.8.2 Causal conjunctives and genres

With reference to causal conjunctives (as shown table 3) the narrative corpus produced 141 (10.5% density) while the expository genre corpus revealed 375 (24.86% density). A close look at the texts analysed demonstrated that most narrative texts had an abundant use of a narrow range of causal conjunctives, such as *because*, *as* and *and*, pointing to either reason-result or result-reason relations. There were just very few conjunctives suggesting grounds-conclusion relations like *hence*, *therefore, so* and others. On the other hand, expository compositions employed a variety of causal conjunctives, including causal discontinuative conjunctives such as *even if* suggesting denied-consequence relation. It is also noteworthy that some of the causal relations were successfully conveyed without the use of conjunctives. Finally, the narrative texts were lengthier and with many conjunctives that were simply ornamental, a conclusion also reached by Witte and Faigley (1981).

## 4.8.3 Adversative conjunctives and genres

Similarly, as far as adversative conjunctives and genres were concerned, differences in densities were noted (see table 3). There were 5.83% adversative conjunctives in the expository corpus as against 3.80% in the narrative corpus. But the narrative compositions produced adversative conjunctives which were mostly *but*, *unlike*, *though*, whereas expository texts employed *on the other hand*, *nevertheless, in contrast,* and *yet* in addition to those seen in the narrative genre, thereby manifesting a greater variety in the use of adversatives.

### 4.8.4 Additive conjunctives and genres

Densities of additive conjunctives also showed differences in the two genres (See table3). The narrative corpus had 122 (9.09%density) whereas the expository one produced 164 (10.87% density). This finding was due to the huge number of couplings in the narrative corpus produced by the weak subjects. For example, the density of couplings in the narrative and expository texts was 6.40 and 4.44 respectively (See table 4), pointing to the fact that expository compositions call for greater language mastery with stronger relations than couplings, which have been regarded as the weakest of relations by linguists (for example, Crombie, 1985). Couplings in the narrative genres comprise a lot of additives with *and* and *furthermore*. In contrast, expository compositions exhibited the varied use of additives like *such* as, *moreover, for example*, and *in other words* in the expository compositions.

In conclusion, an analysis of the corpus revealed that expository genres trigger a greater density of varied types of conjunctives than the narrative genre does. The narrative corpus produced a total of 1342 F-units and the expository one 1508 F-units. Besides, given the number of this sample, further research on density of variety of conjunctives can be pursued by other researchers in these two, as well as, in other genres.

The significant differences in the amount and types of conjunctive cohesion discovered in the present study give an insight into the structure of each genre type and concur with similar findings of the study conducted by Smith and Frawley (1983:371). Witte and Faigley (1981) declared that the low-rated papers they analysed in their study "include relatively fewer conjunctives" (1981:199). Cox and Sulzby (1990) found that better readers used cohesion more effectively even in the more difficult expository task, and that the knowledge of the complex uses and "appropriate monitoring of cohesion, for written language appears to be well developed in good readers" (1990:59). The knowledge of cohesion is here thus seen to be a cause for successful writing and of maturation.

## 4.9 Discontinuative functional relations

Tables 6 in the appendix also present data which demonstrate that a larger number of discontinuative conjunctives featured in the high-rated expository texts. Although no hypothesis was formulated for this variable and coherence, it plays such an important role in the contribution of cohesion to coherence that its occurrence in the present study, as witnessed in table 6, cannot be ignored and it is therefore discussed. It is noteworthy that even the low-rated expository texts have a higher density of discontinuative relations, than in the low-rated narrative texts and in both cases these are in the categories of truth and validity relations.

Analysis of discontinuative functional relations showed that the total percentage density of discontinuative relations in the narrative corpus fell significantly short of their total density in expository compositions, 3.87% as against 5.9%, suggesting that the expository genre triggers more discontinuative relations than narrative genre does. Within the same genre, high-rated compositions have more discontinuative relations than their low-rated counterparts with 5.89% and 3.14% in high and low-rated narratives, and 6.25% and 5.42% in high-rated and low-rated expository. It can be concluded from these findings that the production of discontinuative relations calls for greater command of conjunctive use and maturity of thought. This is also supported by the total percentage of discontinuative relations in the whole data corpus of all high-rated texts in both genres, 6.15%, as against 4.46% for all low-rated texts in both genres in the whole corpus.

## 4.10 Conclusion

In this Chapter the analytical framework was applied to the data corpus and samples of such analyses with respect to both genres were presented. The hypotheses were statistically tested and their results discussed with reference to the aims of the study. The findings with reference to those of other researchers in the field of research to which the present study belongs have been explained and related to. The relevant statistics and tables were similarly referred to where applicable.

The findings justified the research aims of the study which set out to investigate the relationship of densities of conjunctive cohesion and contiguous functional relations to students' compositions. It was discovered that conjunctive cohesion density shows a relationship with writing quality of students' compositions with respect to expository compositions, but not with respect to narrative compositions. Contiguous functional relations also have a positive relationship to teachers' holistic ratings. The use of densities of different types of conjunctive cohesion and contiguous functional relations were examined with a view to discover whether they differentiate high and low writing quality of students' compositions. Furthermore, when it comes to the relationship of different types of conjunctive cohesion to the genres considered here (see Hypothesis 3) – another aim of the present study – there was a significant association of conjunctive cohesion types with genres.

**Chapter 5: Conclusion**

**5.0 Introduction**

This chapter reviews the contribution of the study, focusing on conjunctive cohesion and one type aspect of coherence, namely contiguous functional relations. It also considers matters such as the study's implications for teaching, findings arrived at, insights derived, and suggestions for further research.

**5.1 Overview of the research study**

The main aim of this study was the identification of textual features which differentiate higher quality composition writing from lower quality writing. Writing quality, considered as the important determiner of the communicative success of a text, was investigated in terms of conjunctive cohesion density and contiguous functional relations density. Distribution of conjunctives over genres was also explored.

As a means of quantifying the functional relations, a new measure called the density of contiguous functional relations was developed in this study. This quotient was also found to be positively correlated to writing. Hubbard (1989) developed a measure called the Relational Coherence Quotient (a term explained earlier in Chapter 1) which was also based on functional relations and which was found to be similarly correlated with holistic ratings.

Chapter 1 situated the research problem and emphasised the focus of the study. The main aims of the study were mentioned and some of the important constructs were described. The relevant hypotheses were formulated and explained.

Three main hypotheses were posited. Hypotheses 1 and 2 are concerned with the relationship of density of conjunctive cohesion in students' compositions to writing quality and the relationship of contiguous functional relations to writing quality

respectively. Hypothesis 3 is concerned about which of the two genres, narrative and expository, reveals more use of each of the various categories of conjunctives: additive, causal, adversative and temporal.

With respect to Hypothesis 1, in the test of the conjunctive cohesion relationship to writing quality, cohesion was found to be significantly related to writing quality in the case of expository but not narrative texts.

With respect to Hypothesis 2, the density of contiguous functional relations (DCFR) was significantly higher in the high-rated texts than in the low-rated texts in each of the two genres of the study. The expository writers exhibited some degree of complex integration of semantic relations such as truth and validity compared to the very simple temporal relations in the narrative compositions. A similar finding was made by Hubbard (1989:261-262) although he compared linguistic and English literature groups in academic writing and used hierarchies of semantic relations as a measure.

Hypothesis 3, dealing with the relationship of narrative and expository genres to different types of conjunctives such as temporal, causal, adversative and additive, was also statistically tested. It was found that all types of conjunctives used showed differential distribution between the genres: this was carefully accounted for in the present sample. There was thus an association between types of conjunctives and genres.

## 5.2 Implications for teaching

The present study has revealed significant connections between writing quality, determined by teachers' ratings on the one hand, and with conjunctive cohesion and functional relation density on the other. The findings suggest that particular consideration should be given to the teaching of writing with reference to cohesion and functional relations. Some teaching implications which emerge from the study are now given.
To begin with, the teacher should consider the use of the functional unit of discourse in classroom instruction and how and why the incorrect use of conjunctives can  jeopardise

the relation between functional units. For example, when sentence combination exercises are often taught, it should be borne in mind that the appropriate connectives need to be used to ensure logical relations between sentences. Rather than adding new F-units to one another, students need to know the types of relations certain conjunctives signal to develop their topic convincingly and interestingly. Such awareness ensures that ideas are not ambiguous. Furthermore, it implies the identification of ideas in an essay which need conjunctive signals for clarification or for bridging the gaps in the movement from one sentence to another. For an exercise of this sort, teachers may give a passage full of simple sentences to students and ask them to provide the missing conjunctives to make sense of relations between sentences and F-units. Students can be made to do such exercises in pairs or small groups to develop competence in the use of appropriate signals.

The teacher should facilitate the use of cohesion by drawing students' attention to the way it is used in reading comprehension passages instead of teaching it in isolation. Cohesion signals can then be identified, and their importance and contribution to the logical development of a topic can consequently be stressed. In this way, conjunctives which are rarely used by students, or which are thought of as difficult, can be dwelt on. Although it is quite reasonable to teach students how the different categories of connectives operate grammatically, this is not enough in itself. According to Holloway (1981:215 cited in Zamel, 1984:113), this grammatical emphasis has "narrowed unduly our conception of conjunctive devices." Students should also learn to differentiate the linking devices found within each grammatical category as well as the semantic weight they carry. It is hence important for students to comprehend what happens, for instance, when *but* is used n the place of *and* or when *although* is used instead of *because.* Moreover, the part played by discontinuative relations and the conjunctives that signal them in the development of ideas in both narrative and expository genres needs to be taught. It has already been pointed out that low-rated narrative and low-rated expository texts exhibit the use of a narrow range of conjunctives. This points to the fact that students need to be exposed to the range of options available in English.

The tendency to overuse conjunctives such as *and*, *then*, and *as, because* to introduce temporal and causal relations respectively, should be controlled. The conjunctive *and*, if not properly used, can produce a vague and weak relation called "coupling". This relation should be avoided as far as possible or should be sparingly used rather than being sprinkled around in compositions. It follows that students should be guided on the correct conjunctives that can create successful semantic relations in terms of temporal, causal, matching, amplification and truth and validity relations: in fact, all relations considered strong in the present study's framework.

Once the teachers identify the types of cohesive ties employed by their students, they can present them with model paragraphs that demonstrate a variety of conjunctive ties, especially those that have not been used by students. Other kinds of exercises include instructing students to reorder scrambled sentences in which connectives themselves would supply clues as to the way sentences should be sequenced. All the same, the excessive use of linking devices can result in an artificial and mechanical piece of prose and despite the importance of such transition markers teachers should draw the attention of their students that learning when not to use them is as important as learning when to do so. Raimes (1979, cited in Zamel, 1984:117) underlined this when saying that overt markers are overused at the expense of communication; in such cases, she comments, the "glue" rather than what is conveyed, "stands out". What she actually means is that the writer is simply using cohesive ties for decoration and not for meaning. In short, the results of this study show that conjunctive cohesion is one remarkable feature of discourse that accounts for a text's readability and can therefore be of great help in teaching and evaluation.

The positive relation found between students' writing in terms of density of contiguous functional relations and holistic ratings (See Chapter 4, table 2(a) – 2(d)) implies that students should be made aware of relational coherence. Signalling mechanisms provided by the writer are part of the organisation of a text.

Learners should not only be made to identify the role of conjunctives as lexical terms in semantic relational realizations, but exercises should also be set to help them to produce affective and appropriate functional relations. The present study suggests that a knowledge of various types of contiguous functional relations, namely temporal, causal, alternation, matching and truth and validity, among others, might help students to enhance their writing quality. Such a knowledge of relational coherence is needed for avoiding confusion and coherence breaks. For example, the less able writer may fail to produce correct causal relations such as means-purpose, grounds-conclusion and reason-result if he cannot differentiate semantic relationships between F-units. Furthermore, although the presence of a particular relation may be signalled by conjunctives, the findings in the corpus suggest that sometimes functional relations break down because of inappropriate signals. This observation tallies with Crombie's warning that even though clues can provide certain identifiable semantic relationships, "sometimes our relational predictions will be accurate, sometimes they will not" (Crombie 1985:73). Textual units, that are vaguely related can render writing directionless. Students should therefore be given exercises where they can analyse how different patterns of functional relations are built up for the purpose of making communication successful and coherent.

Table 6 clearly indicates that abler writers made use of more discontinuative relations than weaker writers did. The majority of such discontinuative relations are of the categories of truth and validity relations, which are of the nature of concession-contra-expectation, signalled by the use of conjunctives like *but*, *although* and *howeve*r. A similar finding was applicable to the densities of functional relations in the categories of matching, especially with the use of discontinuative conjunctives like *but*, and *unlike*, signalling contrast. A high incidence of couplings in the low-rated versus the high-rated compositions upholds the view that it is the weakest relation and that students should be made aware that such relations should be sparingly used and instead other more meaningful relations should be provided to enhance writing quality. Such findings reconcile with those of Hubbard (1989:258-259).

The difficulties that can result from the identification and production of contiguous functional relations lead to the conclusion that the relation between form and meaning is a complex one. It is hence obvious that the design of English language programmes should take into account contiguous functional relation, which also imply the relationship between form and functions of interconnecting F-units.

## 5.3 Suggestions for further research

The relationship between cohesion and coherence in students' compositions in the narrative and expository genres has been investigated in the present study. The analytical process used here, and the findings emanating from it, suggest a lot of possibilities for future research that would illuminate how composing in a language occurs. This in turn leads to practical implications for teaching English as a second language.

An area of research that could be attempted is a comparative study of the performance of students in cohesion at varying levels of proficiency, in primary, secondary and even tertiary education. For example, do certain difficulties which tend to appear at certain levels, disappear at other levels?

My research shows that cohesion usually affects a reader's perception of the organisation of a written passage. Reader response studies could also clarify the distinction between types of errors that create serious breaks in coherence, and minor errors which do not. Such studies could help teachers with useful guidelines in deciding which problem areas should receive more immediate attention.

In studying developmental or stylistic aspects of students' writing, it is also important to account for errors in conjunctives. It would hence be meaningful to consider not just the F-units students use, but also the types of relations in which errors appear.

It is likely that different modes of discourse, such as descriptive accounts or compositions and analytical compositions or critiques may exhibit different patterns of cohesion and coherence. So, studies need be done in different types of texts.

Finally, an important limitation of the present study is that it only addresses how good and poor second language writers use cohesion and achieve coherence. It does not examine how native students of English use cohesion and achieve coherence. This could be investigated by other researchers.

# APPENDIX - Tables for hypotheses

**Hypothesis 1: Conjunctive Cohesion density and writing quality.**

**Table 1(a) and 1(b): High-rated narrative and low-rated narrative texts. [Test (i))].**

**Table 1(a)**

**Based on densities**      **Group Statistics**      **Hypothesis1**

|  | NARRATIVE | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
|  | High Narrative | 8 | 34.1125 | 7.56126 | 2.67331 |
|  | Low Narrative | 24 | 34.8500 | 8.16110 | 1.66588 |

**Table 1(b)**

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | | | Upper |
| TOTAL | Equal variances assumed | .186 | .670 | -.225 | 30 | **.823** | -.7375 | | | 5.95350 |

**Tables 1(c) and 1(d): High-rated expository and low-rated expository texts. [T-Test (ii)]**

**Table 1(c)**

Group Statistics

| | | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| TOTAL | High Expository | 16 | 46.8125 | 8.04163 | 2.01041 |
| | Low Expository | 16 | 40.6000 | 8.20861 | 2.05215 |

**Table 1(d)**

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | | | Upper |
| TOTAL | Equal variances assumed | .051 | .823 | 2.163 | 30 | **.039** | 6.2125 | | | 12.07957 |

**Hypothesis 2 – Contiguous functional relations density & writing quality**

**Tables 2(a) and 2(b): High-rated narrative and low-rated narrative texts. [T-Test (iii)]**

**Table 2(a)**

**Group Statistics**

|  | VAR00004 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| TOTDCFR | High Narrative | 8 | 37.3875 | 8.40874 | 2.97294 |
|  | Low Narrative | 24 | 29.1042 | 6.64186 | 1.35576 |

**Table 2(b)**

**Independent Samples Test**

|  |  | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | | | Upper |
| TOTDCFR | Equal variances assumed | .051 | .822 | 2.860 | 30 | **.008** | 8.2833 | | | 14.19766 |

**Tables 2(c) and 2(d): High-rated expository and low-rated expository. [T-Test (iv)]**


**Table 2(c)**

**Group Statistics**

| | VAR00004 | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| TOTDCFR | High Expository | 16 | 41.8750 | 5.40956 | 1.35239 |
| | Low Expository | 16 | 31.8813 | 5.53489 | 1.38372 |


**Table 2(d)**

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | | | Upper |
| TOTDCFR | Equal variances assumed | .429 | .517 | 5.165 | 30 | **.000** | 9.9938 | | | 13.94524 |

**Hypothesis 3: Conjunctive cohesion and genres.**

**Chi$^2$ Test to determine whether there are significant differences between Conjunctive cohesion and genres.**

**Observed frequencies**

| | | TYPES OF COHESIVE CONJUNCTIVES | | | | |
|---|---|---|---|---|---|---|
| | | Temporal | Causal | Adversative | Additive | Total |
| | Narrative | 14.97 | 10.5 | 3.8 | 9.09 | 38.36 |
| GENRES | Expository | 2.12 | 24.86 | 5.83 | 10.87 | 43.68 |
| | Total | 17.09 | 35.36 | 9.63 | 19.96 | 82.04 |

## Finding the expected frequency

$$\text{Expected frequency} = \frac{\text{row total} \times \text{column tot al}}{\text{grand total}}$$

For example:   Observed frequency = 14.97

$$\text{Expected frequency} = \frac{17.09 \times 38.36}{82.04} = 8.00$$

**Expected Frequencies**

| | | TYPES OF COHESIVE CONJUNCTIVES | | | | |
|---|---|---|---|---|---|---|
| | | Temporal | Causal | Adversative | Additive | Total |
| | Narrative | 8.00 | 16.53 | 4.50 | 9.33 | 38.36 |
| GENRES | Expository | 9.09 | 18.83 | 5.13 | 10.53 | 43.68 |
| | Total | 17.09 | 35.36 | 9.63 | 19.96 | 82.04 |

Degrees of freedom = [R-1] [C- 1] = [2-1] [4-1] = 3

$\chi^2$ (3) AT 5% = 7.815

Let $H_o$: There is no association between types of cohesive conjunctives and genres

So, we reject $H_o$ if $\chi^2$ > 7.815

Observed frequency: $f_o$    $\chi^2 = \dfrac{(f_o - f_e)^2}{f_e}$

Expected frequency: $f_e$

| $f_o$ | $f_e$ | $\chi^2$ |
|-------|-------|----------|
| 14.97 | 8 | 6.07 |
| 10.5 | 16.53 | 2.20 |
| 3.8 | 4.5 | 0.11 |
| 9.09 | 9.33 | 0.06 |
| 2.12 | 9.09 | 5.34 |
| 24.86 | 18.83 | 1.93 |
| 5.83 | 5.13 | 0.10 |
| 10.87 | 10.63 | 0.05 |
| | $c^2$ | **15.86** |

Since  $\chi^2$ > 7.815, we reject $H_o$ and we conclude at 5% level that there is an association between TYPES OF COHESIVE CONJUNCTIVES and GENRES.

**Tables of totals of findings of data corpus**

**TABLE 3**
**Types of conjunctives in narrative and expository compositions**

| | Temp | Cau | Adv | Add | Tot | F-Units | No. of Texts |
|---|---|---|---|---|---|---|---|
| **Narrative High** | 35 | 35 | 19 | 33 | 122 | 356 | 8 |
| | 9.83 | 9.83 | 5.33 | 9.26 | 34.3 | | |
| **Narrative Low** | 166 | 106 | 32 | 89 | 393 | 986 | 24 |
| | 16.83 | 10.75 | 3.24 | 9.02 | 39.9 | | |
| **Total in Narrative corpus** | 201 | 141 | 51 | 122 | 515 | 1342 | 32 |
| | 14.97 | 10.5 | 3.8 | 9.09 | 38.4 | | |
| | | | | | | | |
| **Expository High** | 23 | 221 | 52 | 99 | 395 | 863 | 16 |
| | 2.66 | 25.6 | 6.02 | 11.47 | 45.8 | | |
| **Expository Low** | 9 | 154 | 36 | 65 | 264 | 645 | 16 |
| | 1.39 | 23.87 | 5.58 | 10.07 | 40.93 | | |
| **Total in Expository corpus** | 32 | 375 | 88 | 164 | 659 | 1508 | 32 |
| | 2.12 | 24.86 | 5.83 | 10.87 | 43.7 | | |
| **High Narrative & High Expository** | 58 | 256 | 71 | 132 | 517 | 1219 | 24 |
| | 4.75 | 21.1 | 5.82 | 10.82 | 42.41 | | |
| | | | | | | | |
| **Low Expository & Low Narrative** | 175 | 260 | 68 | 154 | 592 | 1631 | 46 |
| | 10.79 | 15.94 | 4.16 | 9.44 | 36.3 | | |

**For table 3: Types of conjunctives**

Temp: Temporal conjunctives;

Cau: Causal conjunctives;

Add: Additive conjunctives

Adv: Adversaive conjunctives;

Tot: Total;

F-Units: Functional Units;

No of Texts: Number of texts analysed in the corpus.

**Where applicable, in each cell the first row refers to number and the second row refers to % density.**

**Keys for table 4**

Temp: Temporal;

C&E: Cause-effect;

 Alt: Alternation;

 P: Paraphrase;

 M; Matching;

Amp: Amplification;

 Tr&Va: Truth and Validity;

Total: Total number of relations (first column) and total percentage density (second column);

 F-units: Functional Units:

 Coup: Coupling

# Table 4: Contiguous functional relations.

**TABLE 4**
**Analysis of contiguous functional relations in narrative and expository compositions**

| | Temp | C&E | Alt | P | M | Amp | TR&Va | Total | F-units | Coup | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **High Narrative** | 66 | 48 | 1 | 10 | 6 | 17 | 13 | 161 | 356 | 27 | 8 |
| **%Density** | 18.53 | 13.48 | 0.28 | 2.8 | 16.85 | 4.77 | 3.65 | 45.2 | | 7.58 | |
| **Low Narrative** | 106 | 109 | 1 | 9 | 8 | 17 | 24 | 274 | 986 | 59 | 24 |
| **% Density** | 10.75 | 11.05 | 0.1 | 0.91 | 0.81 | 1.72 | 2.43 | 27.78 | | 5.98 | |
| **High Expository** | 21 | 208 | 3 | 13 | 18 | 61 | 32 | 354 | 863 | 38 | 16 |
| **% Density** | 2.43 | 24.1 | 0.34 | 15.06 | 2.08 | 7.06 | 3.7 | 41.01 | | 4.4 | |
| **Low expository** | 8 | 134 | 9 | 8 | 16 | 21 | 9 | 205 | 645 | 29 | 16 |
| **% Density** | 1.24 | 20.77 | 1.39 | 1.24 | 2.48 | 3.25 | 1.39 | 31.78 | | 4.49 | |
| **All Narrative** | 172 | 157 | 2 | 19 | 14 | 34 | 37 | 435 | 1342 | 86 | 32 |
| **% Density** | 12.81 | 11.69 | 0.14 | 1.41 | 1.04 | 2.53 | 2.75 | 32.41 | | 6.4 | |
| **All Expository** | 29 | 442 | 12 | 21 | 34 | 82 | 41 | 559 | 1508 | 67 | 32 |
| **% Density** | 1.92 | 29.31 | 0.79 | 1.39 | 2.25 | 5.43 | 2.71 | 37.06 | | 4.44 | |
| **All High Narrative & All High Expository** | 87 | 256 | 4 | 23 | 24 | 78 | 45 | 515 | 1219 | 65 | 24 |
| **% Density** | 7.13 | 21 | 0.32 | 1.88 | 1.96 | 6.39 | 3.69 | 42.24 | | 5.33 | |
| **All low Expository & All low Narratives** | 114 | 243 | 10 | 17 | 24 | 38 | 33 | 479 | 1631 | 88 | 40 |
| **% Density** | 6.98 | 14.89 | 0.61 | 1.04 | 1.47 | 2.32 | 2.02 | 29.36 | | 5.39 | |

**Keys for table 5: Density of contiguous functional relations**

No: Number of texts;

 Tot DCFR: Total density of contiguous functional relations;

Average % Density: average % density of functional relations.

The symbols for functional relations are as for table 2, except that here they refer to discontinuative relations.

**Table 5**
**Density of contiguous functional relations in narrative and expository compositions**

| | No | Tot DCFR | Average % Density |
|---|---|---|---|
| **High-rated narrative** | 8 | 301 | 37.62 |
| **Low-rated Narrative** | 24 | 699 | 29.12 |
| **High-rated Expository** | 16 | 669 | 41.81 |
| **Low-rated Expository** | 16 | 509 | 31.81 |
| **All high-rated texts in both genre** | 24 | 970 | 40.41 |
| **All low-rated texts in both genres** | 40 | 1208 | 30.2 |

**Table 6**
**Types of discontinuative relations in narrative and expository compositions**

| | Temp | C&E | Alt | M | Amp | T&V | TDR | F-units | No. of texts |
|---|---|---|---|---|---|---|---|---|---|
| **High Narrative Corpus** | 0 | 1 | 1 | 6 | 0 | 13 | 21 | 356 | 8 |
| **% Density** **Low Narrative Corpus** | 0 | | 0.26 | 1.68 | 0 | 3.65 | 5.89 | | |
| | 3 | 0 | 2 | 5 | 0 | 21 | 31 | 986 | 24 |
| **% Density** | 0.3 | 0 | 0.2 | 0.5 | 0 | 2.12 | 3.14 | | |
| **Total % Density** | 3 | 1 | 3 | 11 | 0 | 34 | 52 | 1342 | |
| | 0.22 | 0.07 | 0.22 | 0.81 | 0 | 2.53 | 3.87 | | |
| **High Expository Corpus** | 0 | 3 | 2 | 16 | 0 | 31 | 54 | 863 | 16 |
| **% Density** | 0 | 0.34 | 0.23 | 2.08 | 0 | 3.59 | 6.25 | | |
| **Low Expository Corpus** | 0 | 4 | 6 | 1.2 | 3 | 10 | 35 | 645 | 16 |
| **% Density** | 0 | 0.62 | 0.93 | 1.86 | 0.46 | 1.55 | 5.42 | | |
| **Total% Density** | 0 | 7 | 8 | 30 | 3 | 41 | 89 | 1508 | |
| | 0 | 0.46 | 0.53 | 1.98 | 0.19 | 2.71 | 5.9 | | |
| **All high Narrative & High Expository** | 3 | 4 | 3 | 24 | 0 | 44 | 75 | 1219 | 34 |
| **% Density** | 0.24 | 0.32 | 0.24 | 1.96 | 0 | 3.6 | 6.15 | | |
| **All low Narrative & low Expository** | 3 | 4 | 8 | 17 | 3 | 31 | 66 | 1631 | 40 |
| **% Density** | 0.18 | 0.24 | 0.49 | 1.04 | 0.18 | 19 | 4.46 | | |

**Keys for table 6**: No: Number of texts.    Tot DCFR: Total density of contiguous functional relations
               Average % density: average % density of functional relations
The symbols for functional relations are as for table 2, except that here they refer to the category of discontinuative relation.

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