Topical structure and writing quality: A study of students' expository writing

Hsiao-yu Chuang
TOPOCAL STRUCTURE AND WRITING QUALITY
A STUDY OF STUDENTS' EXPOSITORY WRITING

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
English Composition

by
Hsiao-yu Chuang
June 1993
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"Writing research has long sought to identify internal features of written discourse that can help to explain qualitative differences among texts, particularly those written by students" ("Topical Structure" 313). Recently, topical structure has become one of those internal features of importance.

The purpose of this paper is to investigate the relationship between the topical structure of students' expository essays and what is judged as their "quality."

The method of this study is based on Stephen P. Witte's study on "Topical Structure and Revision: An Exploratory Study" published in College Composition and Communication in 1983, in which he designs a system to analyze the relationship between topical structure and writing quality.

From seventy-three essays, which have been rated holistically by two readers on a six-point scale, eight essays of the lower score—"2" and eight essays of the higher score—"5" were used as the main data. The two groups of essays were compared with respect to several text features—length, syntax, and topical structure. The topical structure variables were shown to be highly useful in distinguishing between the two groups of texts. Particularly significant were the percentages of T-units in parallel, extended parallel and sequential progressions; average number of T-units per
parallel, extended parallel, and sequential progressions; mean number of T-units per topic, and mean number of words per topic. The importance of these findings is discussed, and their implications for teaching and research are suggested.
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Chapter 1: Introduction

1.1. Background

According to Stephen P. Witte, "writing research has long sought to identify internal features of written discourse that can help to explain qualitative differences among texts, particularly those written by students" ("Topical Structure" 313). Teachers of writing will be better able to serve their students if they can describe some of those internal features which most affect writing quality. Recently, topical structure has become such a feature of importance (Witte, 1983; Smith, 1985; Drust, 1990 etc.). According to Witte, topical progression, which is the progression of sentence topics and topical depth, re-combines with the number of different topics to represent the topical structure. "Topical structure is a way of indicating the relationship between the progression of sentence topics and the topical depth which indicates the semantic hierarchy" ("Topical Structure" 320).

From the topical structure, readers should be able to predict the "discourse topic" which indicates the overall gist of the essay itself (Witte 321). In addition, the different features of topical structure can reveal some qualitative differences among texts. Research has pointed out the importance of coherent ideas to writing quality (Lautamatti, 1978; Witte, and Faigley, 1981; Markels, 1984; Werth, 1984; Jafarpur, 1991). These researchers have conducted studies or
presented theoretical rationales suggesting that the ways writers use cohesive strategies can help distinguish between low and high quality texts. In addition, three sentence-combining studies (Stewart, 1978; Halloway, 1981; Crowhurst, 1983) suggest a positive and linear relationship between clause length and T-unit length and writing quality. Moreover, some research approaches semantic levels of generality (Christensen, 1965) and discourse "blocs" (Pitkin, 1969) and relationships across sentence boundaries to explain how groups of sentences combine to form units of meaning beyond the sentence. Grady’s (1971) and D’Angelo’s (1974) later studies extend and refine some of these concepts. The syntactic features of topical structure such as T-unit, clause length, topical depth, and percentage of T-units have some correlation with sentence and discourse level, for "Topical structure is a way of indicating the relationship between the progression of sentence topics and the topical depth which indicates the semantic hierarchy" ("Topical Structure" 320).

A more promising line of research has evolved from the study of topic in discourse. According to Mathesius, theme, which is used to identify "what the sentence about," and enunciation, which is used to identify "what is said about the theme," mainly constitute the sentence structure (Qtd in Witte 314). Later on, the term topic emerged as a synonym for theme. The term topic was first used by Hockett and has since
become the more common term; and the term comment is now often used in place of the term enunciation (Brown and Yule 70). However, the notion of topic has not been well defined at all. Some define it as what the sentence is about" (Witte 314). Some treat it as the grammatical subject of each independent sentence or clause (Chafe 151), while others, such as Danes (1974) and Halliday (1967) associate the notion of topic with the given information occurring in the preceding sentences (Vande Kopple 51). To deal with this problem, I will design an exercise to ask fifty native speakers to decide on the topics of sentences and then write down the number of persons choosing the identical topic of each sentence (Appendix A).

1.2. Purpose

The purpose of this paper is to investigate the relationship between the topical structures of students’ expository essays and what is judged as their "quality." In other words, I intend to find out whether high quality (or low quality) essays display a particular topical structure. If high quality essays share a certain type of topical structure which low quality essays do not, it can be said that a relationship exists between topical structure and writing quality. Thus, I will have identified an important feature of good writing.
1.3. Source

I will use students' essays on a topic designed for the English Placement Test (EPT) given on July 6-8, 1984, as the main data. From seventy-three essays, which have been rated holistically by two readers on a six-point scale, I will select eight essays of the lower score—"2" and eight essays of the higher score—"5".

1.4. Method

The method of this study is based on Stephen P. Witte's study on "Topical Structure and Revision: An Exploratory Study" published in College Composition and Communication in 1983, in which he designs a system to analyze the relationship between topical structure and writing quality. Specifically, I will do the following:

First, I will design an exercise to ask fifty native speakers to decide on the topics of sentences, either independent sentences or clauses. Then, I will write down the number of persons choosing the identical topic of each sentence (Appendix A). For example, if forty-eight people choose the topic, automobiles, in the following sentence, I will write down (48) after the topic. The form is as follows:

(e.g.) Automobiles (48) are four-wheeled and smog-producing creatures.

From the underlining of each sentence, readers can know the
choices of the native speakers for topic. From the written number after the topic of each sentence, readers can know how many native persons chose that topic. Briefly, I will discover the topical structures of the students' essays by relying upon native speakers' knowledge and intuition in identifying topics of T-units.

Second, I will discover the topical structures of these essays. Topical structure includes elements such as parallel progression, which is characterized by semantically identical topics across T-units, sequential progression, which refers to different topics in adjacent sentences, and extended parallel progression, which is a combination of parallel progression and sequential progression. For each essay, a diagram like those in Witte will be drawn and the above-mentioned elements will be counted.

Third, I will do some statistical analyses to determine the correlation (or the lack of it) between the topical structures and the overall ratings of those essays. For example, if I find a significant statistical difference in the number of parallel progressions between the two sets of essays, it will suggest a positive correlation between topical structure and writing quality.

1.5. Significance

This paper is important in the following ways: First, it
will yield evidence for or against existing theories of
topical structure, particularly that of Witte. Second, it
will have pedagogical implications for the teaching of
writing. For instance, if a correlation is found between
topical structures and writing quality, the project will
reveal an important aspect of good writing. The topical
structure that characterizes good writing can therefore be
taught in the writing classroom.
Chapter 2: Witte’s Study

2.1. Introduction

Witte explores the use of topical structure analysis as a way to understand some textual cues; especially, he designs a system to analyze the relationship between topical structure and writing quality. The different topical structure of high-rated and low-rated essays is as follows:

Diagram 1: Topical Structure of High-rated Essay

<table>
<thead>
<tr>
<th>T-unit no.</th>
<th>Topical Depth</th>
<th>Topical No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1-a)</td>
<td>aspects</td>
<td>1</td>
</tr>
<tr>
<td>(1-b)</td>
<td>They</td>
<td>1</td>
</tr>
<tr>
<td>(1-c)</td>
<td>critics</td>
<td>2</td>
</tr>
<tr>
<td>(1-d)</td>
<td>some</td>
<td>2</td>
</tr>
<tr>
<td>(1-e)</td>
<td>others</td>
<td>2</td>
</tr>
<tr>
<td>(1-f)</td>
<td>aspects</td>
<td>1</td>
</tr>
<tr>
<td>(1-g)</td>
<td>aspects</td>
<td>1</td>
</tr>
</tbody>
</table>

Diagram 2: Topical Structure of Low-rated Essay

<table>
<thead>
<tr>
<th>T-unit No.</th>
<th>Topical Depth</th>
<th>Topical No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1-a)</td>
<td>composition</td>
<td>1</td>
</tr>
<tr>
<td>(1-b)</td>
<td>understanding</td>
<td>2</td>
</tr>
<tr>
<td>(1-c)</td>
<td>creative</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>writing</td>
<td></td>
</tr>
<tr>
<td>(1-d)</td>
<td>purpose</td>
<td>4</td>
</tr>
<tr>
<td>(1-e)</td>
<td>ability</td>
<td>5</td>
</tr>
<tr>
<td>(1-f)</td>
<td>writing</td>
<td>6</td>
</tr>
<tr>
<td>(1-g)</td>
<td>ability</td>
<td>5</td>
</tr>
</tbody>
</table>
2.2. Interpretation of Diagram 1 and 2

Because the "Topical No." indicates the number of different topics, Diagram 1 shows that the high-rated essay contains two different topics, and diagram 2 shows that the low-rated essay contains six different topics. First, in diagram 1, because the topics of adjacent T-units (1-a) and (1-b) are the same, together they form a parallel progression as do T-units (1-c) through (1-e), T-units (1-f) and (1-g). No parallel progressions appear in the low-rated example. Second, in diagram 1, because the topic of each T-unit is different, (1-b) and (1-c) form a sequential progression. In the low-rated essay, sequential progressions are formed by T-units (1-a) through (1-f). Next, one extended parallel progression appears in the high-rated essay, and one appears in the low-rated essay. However, the main difference lies in the topical depth in which extended parallel progression occurs. Collectively, in diagram 1, T-units (1-a), (1-b), (1-c), (1-d), (1-e), (1-f) make up an extended parallel progression whose topical depth is at the highest level—"1". The progression of T-unit topics is called extended because the progression of the same topic through the text leaves off after (1-b), and picks up with (1-f). In diagram 2, T-units (1-e), (1-f), (1-g), constitute an extended parallel progression whose topical depth is 5. Finally, the topical depth of a passage is determined by the number of different
topics in the longest sequential progression. Thus, the high-rated essay contains a topical depth of 2, and the low-rated essay has a topical depth of 6.
Chapter 3: Method and Procedures

3.1. Sample Selection

The texts examined in the paper were chosen from seventy-three essays written in a controlled assignment at the California State University, San Bernardino on July 6-8, 1984. Seventy-three entering freshman students were required to write on a topic designed for the English Placement Test. "The English Placement Test is a valid instrument for the measurement of the writing skills of entering students and for placement in appropriate CSU composition courses" (Aycock, Flores, Stock, 9). The writing assignment asked students to select one change or invention which was intended as an "improvement" and then discuss the gains and losses resulting from the improvement.

The seventy-three essays were rated holistically by two raters on a one-to-six scale, with "six" being the highest score. According to White, holistic scoring achieves acceptably high reliability by adding a series of constraints. For example, the Scoring Criteria Guide defines the points on the score scale to facilitate the economically efficient practice of general impression scoring (White 403). From seventy-three essays, I selected eight essays of the lower score—"2" eight essays of the higher score—"5". I treated the low-rated essays as the low-quality group and the high-rated essays as the high-quality group. I examined the
writing assignment carefully and read the sixteen essays as a group, a procedure which gave me a rather clear sense of the main ideas or themes which could be expressed in response to the assignment.

3.2. Text Analysis

I read the texts individually and analyzed them for a number of text features. First, I counted the number of paragraphs and T-units. According to Hunt, the T-unit, or "minimal terminable unit," is a term to describe the "shortest grammatically allowable sentences into which...[writing can] be segmented" (Qtd. Braddock 291). In other words, "consideration of the T-units of writing permits the researcher to use a rather standard conception of a sentence, setting aside the differences occurring between writers when they use different styles of punctuation" (Braddock 292). A T-unit, then, "includes one main clause plus all the subordinate clauses attached to or embedded within it..." (Qtd Braddock 301). Briefly, T-units can be simply defined as independent (individual) sentences or clauses. Specifically, an independent clause beginning with coordinating conjunctions (and, but, or, for, so, either, nor) is a T-unit, but a dependent clause with subordinating conjunctions (after, when, if, etc.) is not a T-unit. Neither is the relative clause embedded in the sentence regarded as a T-unit. The following
three sentences can illustrate this.

Sentence A. John studies very hard, (first T-unit) and his mother is happy. (second T-unit) Sentence A. contains two T-units, which are independent clauses linked by the coordinating conjunction, and. In contrast, sentence B. contains only one T-unit although there are two complete sentences involved.

B. John studies very hard although he is not intelligent. (independent clause) (dependent clause) Sentence B. consists of one T-unit because there is only one independent clause involved. The clause beginning with the subordinating conjunction, although, is categorized as the dependent clause which is not regarded as one T-unit.

C. John is the boy who studies very hard. (T-unit) The embedded clause beginning with the relative clause, introduced by who, can not be regarded as one T-unit. Thus, there is only one T-unit in Sentence C.

To summarize, the number of T-units is determined by the number of independent clauses.

These two features, the number of paragraphs and the number of T-units, then allowed me to compute two variables: mean paragraph length and mean t-unit length with respect to text length. In addition, the researcher’s understanding of the gist of the writing studies can help to "determine how the
two groups of writers accommodated topics in individual sentences, how they developed their discourse topics, their main ideas, and how they mapped their discourse topics into individual sentences and sequences of sentences" (Witte 320). Thus, before I marked the topic of any text, I read the essay carefully and tried to create an abstract or "gist" for it—a procedure much easier to perform for high-score texts than for low-score ones. In effect a statement of an essay's main idea, the gist, provided a global context for interpreting individual sentences and for determining the topic of each. Within this larger framework, the semantic relationship between a particular sentence and the preceding sentence provided a local context for interpreting individual sentences.

Specifically, I used Lautamatti's classification of each T-unit as one of the five types of sentences. "These sentence types differ one from another according to the relationship among the initial sentence element, the topical subject and the grammatical subject" (Lautamatti 255). The classification and illustration of five types of sentences are as follows:

Type 1 sentences are those in which the initial sentence element (ISE), the topical subject (TS), and the grammatical subject (GS) are identical (Lautamatti 256). The following sentence is the Type 1 sentence.

(e.g.) Certain aspects of composition courses are
important and necessary.
The word, aspects, is the ISE, the TS, and the GS.

In Type 2 sentences, "the initial sentence element differs from the topical subject, while the topical subject and the grammatical subject are identical" (Lautamatti 257).

(e.g.) In high school composition courses, teachers also help students appreciate good writing.

In other words, in Type 2 sentences, the topical subject, teachers is identical with the grammatical subject which is different from the ISE, in high school composition courses.

According to Lautamatti, in Type 3 sentences, the initial sentence element and the grammatical subject are identical, but both differ from the topical subject (Lautamatti 257).

(e.g.) There are critics, however, who see composition courses as a waste of time and efforts.

Briefly, ISE is in accordance with GS, there, which is different from TS, critics.

In type 4 sentences, "the initial sentence element and the topical sentence are identical, but both differ from the grammatical subject" (Lautamatti 258).

(e.g.) However, when all aspects of high school composition courses are examined, it becomes clear that these courses can be useful to anyone who enrolls in them.

Aspects, the ISE and TS, is not in accordance with GS, it.
In type 5 sentences, the initial sentence element, the topical subject, and the grammatical subject are all different (Lautamatti 258).

(e.g.) Most importantly, it is essential that teachers show that they really care about the students' writing.

In this example of type 5 sentences, ISE, GS, and TS are different. The initial sentence element, most importantly, is different from the grammatical subject, it. Also, the TS, teachers, is different.

It is thus clear that distinguishing among the five types of sentences in real discourse and identifying the topical subject of each T-unit depends on one's understanding of the text as a whole.

In addition, the exercise designed for the choice of the topics of sentences was done by 50 native speakers. The topics of sentences chosen by the maximum number of persons were the basis of my decision for the topics. The topic of each sentence will be underlined and the number of persons choosing the identical topic will be written after the topic (Appendix A). Their choice for the topic was a good guideline for me in labeling the specific types of sentences.

Given a local context and a global context for each sentence, I asked the question, "What is this sentence about?" to determine the topic for each sentence. I first looked to
the grammatical subject of the main clause. If the particular noun phrase provided a satisfactory answer to the question, I labeled the T-units either a Type 1 or Type 2 sentence, depending on whether the subject was preceded by an initial sentence element such as a participial phrase, a subordinate clause, or a single-word adverb. "Adjectives and articles appearing before the grammatical subject of the main clause were not considered as initial sentence elements because they are elements of the subject" (Lautamatti 290). However, according to Lautamatti, "elements such as conjunctive adverbs and coordinating conjunctions appearing before the subject of the main clause were considered initial sentence elements because they are not grammatically a part of the subject" (291).

If the grammatical subject of the main clause did not provide a satisfactory answer to the question, I then looked for a suitable noun phrase either in an initial sentence element or in an element following the verb of the main clause. If a noun phrase in an initial sentence element other than the grammatical subject of the main clause satisfactorily answered the question, I labeled the T-unit a Type 4 sentence.

Next, if the suitable noun phrase appeared after the verb of the main clause, I labeled the T-unit either a Type 3 or a Type 5 sentence, depending on whether the initial sentence element was the same as the grammatical subject of the main
clause. According to Lautamatti, a Type 3 sentence typically begins with a "dummy" grammatical subject (either "it" or "there") and embeds its topical subject in a relative clause following the verb of the main clause (Lautamatti 292). Lautamatti claims that "A Type 5 sentence also usually contains a 'dummy' subject and embeds its topical subject in a relative clause following the verb of the main clause. However, the "dummy" subject in a Type 5 sentence follows an initial sentence element of some kind" (293).

The two passages which follow illustrate the five types of sentences and the results of the coding procedures used. The two example passages were selected at random from the two sets of essays. The first passage includes the initial 12 T-units of a high-quality essay, and the second passage includes the first 12 T-units of a low-quality essay. At the beginning of each T-unit, I have identified the sentence type it represents; and within each T-unit, I have indicated the topical subject with bold print.
Chapter 4: Study of Two Samples and Their Topical Structure

Graphs

4.1: Two Samples

4.1.1. Sample High-Quality Essay

(1-a) (Type 1) Automobiles are four-wheeled and smog-producing creatures. (1-b) (Type 1) The automobile was supposed to be a great invention, (Type 2)(1-c) and while it has only been around three-quarters of a century, it has already caused many problems and miseries. (1-d) (Type 1) The invention of the automobiles has in many ways, back-fired.

(2-a) (Type 2) When the automobile was first produced back in the early 1900's, it (the automobile) was mainly as a toy for the rich. (2-b) (Type 3) There were very few roads on which an automobile could be driven, (2-c) (Type 1) and many people, especially farmers, complained that automobiles scared their livestock and horses. (2-d) (Type 2) Slowly the acceptance of automobile grew, (2-e) (Type 2) and when Henry Ford developed the assembly line for mass production of automobiles, everyone, including farmers, could afford and had an automobile. (2-f) (Type 2) No longer were horses or carriage needed, (2-g) (Type 2) and as the day of the automobile grew, the horse and buggy trade slide downhill. (2-h) (Type 1) The automobile was heralded as a great invention (except by carriage makers)........
4.1.2. Sample Low-Quality Essay

(1-a) (Type 3) It was campaign time (1-b) (Type 1) and many were ignorant of the issues. (1-c) (Type 1) The only information they had about the many issues were from televisions, newspapers where the advertisers attempted to manipulate you into voting for their sides. (1-d) (Type 2) When Proposition B was announced, many were for it was their answer to high taxes. (1-e) (Type 1) Proposition B would cut everyone's tax bill. (1-f) (Type 2) On the other hand, Proposition B would also cut of many public services. (1-g) (Type 2) For example, many teachers would be laid off in public schools. (1-h) (Type 2) And since Proposition B has passed, we, the students of SFSU, were one of the many who has suffered for the public's mistake.

(2-a) (Type 2) Ever since Proposition B has passed, SFSU's fee has been rising enormously. (2-b) (Type 2) Due to the lack of funding, our fee has increased over 50% over the last two years. (2-c) (Type 1) The first year was approximately $225 per semester, (2-d) (Type 5) but now it has risen to approximately $360 per semester.
4.2. Introduction of Topical Structure Graphs

According to Witte's design for the graphic form of topical structure, I drew out the topical structure of one high-quality essay (graph 1) and of one low-quality essay (graph 2). The topical structure of a text is formed by three main elements: the concepts of topical progression (Topic No.), the progression of sentence topics, (Sentence No.) and the topical depth which is determined by the number of different topics in the longest sequential progression or combination of sequential progressions whose sentence topic of each T-unit is different. According to Witte, topical structure is a way of indicating the relationship between the progression of sentence topics and the topical depth which indicates the semantic hierarchy ("Topical Structure" 320).
Graph 1: Topical Structure of High-Quality Essay

<table>
<thead>
<tr>
<th>T-unit No.</th>
<th>Topical Depth</th>
<th>Topical No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>(1-a)</td>
<td>automobiles</td>
<td>1</td>
</tr>
<tr>
<td>(1-b)</td>
<td>automobiles</td>
<td>1</td>
</tr>
<tr>
<td>(1-c)</td>
<td>it</td>
<td>1</td>
</tr>
<tr>
<td>(1-d)</td>
<td>invention</td>
<td>2</td>
</tr>
<tr>
<td>(2-a)</td>
<td>automobiles</td>
<td>1</td>
</tr>
<tr>
<td>(2-b)</td>
<td>few roads</td>
<td>3</td>
</tr>
<tr>
<td>(2-c)</td>
<td>many people</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(farmers)</td>
<td></td>
</tr>
<tr>
<td>(2-d)</td>
<td>acceptance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>automobile</td>
<td>1</td>
</tr>
<tr>
<td>(2-e)</td>
<td>everyone</td>
<td>5</td>
</tr>
<tr>
<td>(2-f)</td>
<td>horses and carriages</td>
<td>6</td>
</tr>
<tr>
<td>(2-g)</td>
<td>horses+buggy trade</td>
<td>6</td>
</tr>
<tr>
<td>(2-h)</td>
<td>automobile</td>
<td>1</td>
</tr>
</tbody>
</table>
**Graph 2: Topical Structure of Low-Quality Essay**

<table>
<thead>
<tr>
<th>T-unit No.</th>
<th>Topical Depth</th>
<th>Topical no.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td>(1-a)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>campaign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1-b)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>many</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1-c)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1-d)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>many</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1-e)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Proposition B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1-f)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Proposition B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1-g)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>many teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2-a)</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2-b)</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>SFSU's fee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2-c)</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>our fee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2-d)</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>first year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2-e)</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>now</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.3. Analyses of Graph 1 and Graph 2

Graph 1 shows that the high-quality example contains six different topics because the highest topical number is six. Graph 2 shows that the low-quality example contains 9 different topics because the maximum topical number is 9. In Graph 1, the topics of adjacent T-units, (1-a), (1-b), and (1-c), are the same, which form a parallel progression. So do T-units (2-f) to (2-g). Graph 2 shows that (1-d) and (1-e) form a parallel progression —as do T-units (1-g) and (2-a), (2-b) and (2-c), (2-d) and (2-e). The main difference of the parallel progressions between Graph 1 and Graph 2 is seen in the different level of the topical depth. The parallel progressions appear at the highest level of the topical depth—"1" in Graph 1 while the parallel progressions appear at the lower level of the topical depth—"3", "4", and "6" in Graph 2. Because the topic of each T-unit is different, together T-units (1-c) and (1-d), (2-a) through (2-c), and (2-d) through (2-f) form sequential progressions in the high-quality example. In the low-score example, sequential progressions are formed by T-units (1-a) through (1-c), by (1-d) through (1-g), and by (2-a) through (2-d). Finally, three extended parallel progressions appear in the high-quality example, and one appears in the low-quality example. An extended parallel progression results when the same topic appears in at least two nonadjacent T-units. In other words, the sequence of a
given sentence topic is interrupted by at least one T-unit containing a different topic. In the high-score text, (1-c) and (2-a), (2-a) and (2-d), and (2-d) and (2-h) form three extended parallel progressions whose topical depth is 1. In the low-score text, (1-a) and (1-d) forms one extended parallel progression whose topical depth is 2. The topical depth of a passage is determined by the number of different topics in the longest sequential progression or combination of sequential progressions. Thus, while the high-score example contains six distinct topics, it has a topical depth of three; and while the low-score example contains nine different topics, it has a topical depth of six. According to Witte, the greater the number of topical depths, the less the coherence of ideas in the topical structure. (Witte, 316) Thus, the low-score example containing six topical depths suggests less coherence in the ideas of the text than the high-score example containing only three topical depths.

The second set of variables indicates how topical material is carried across T-unit boundaries and how T-units are linked to form a coherent text. These topical structure variables are the following: the mean number of paragraphs, the mean number of topical depths, the mean number of T-units, and the mean number of parallel, sequential, and extended parallel progressions. These variables are listed in the beginning of Chapter 5 and presented in Table 1.
Chapter 5: Statistic vs Topical Structure Variables

Table 1: Comparison of variable means between the two types of texts

<table>
<thead>
<tr>
<th>Topical Structure Variables</th>
<th>High Score Mean</th>
<th>Low Score Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics</td>
<td>11.9</td>
<td>14.4</td>
</tr>
<tr>
<td>repeated topics</td>
<td>4.9</td>
<td>4.4</td>
</tr>
<tr>
<td>nonrepeated topics</td>
<td>5.8</td>
<td>8.8</td>
</tr>
<tr>
<td>Word #</td>
<td>531</td>
<td>407</td>
</tr>
<tr>
<td>Topical Depth #</td>
<td>3.5</td>
<td>5.25</td>
</tr>
<tr>
<td>T-units #</td>
<td>30.375</td>
<td>17.75</td>
</tr>
<tr>
<td>T-units per Parallel Progressions</td>
<td>2.8</td>
<td>2.3</td>
</tr>
<tr>
<td>T-units per Sequential progressions</td>
<td>2.7</td>
<td>3.7</td>
</tr>
<tr>
<td>T-units per Extended Parallel Progression</td>
<td>5.6</td>
<td>1.6</td>
</tr>
</tbody>
</table>

5.1. Analyses of the Mean Number (Table 1)

a. Interpretation of the Mean number of Topic: From Table 1, the high-quality texts introduce on average about 2.5 fewer distinct topics at the sentence level, 11.9 compared to
14.4, than the low-quality essays do. Two other variables, mean number of units per topic and mean number of words per topic, present the combined effect of the greater length and the fewer topics of the high-quality essays. Once a topic is introduced in a high-quality essay, it will receive significantly more of the writer's attention than a topic introduced in a low-quality essay. These findings suggest three things about the two groups of essays. First, the writers of the high-score texts are more capable of "inventing" or "discovering" content for the topics they introduce. Second, the high-score writers prefer to elaborate more on fewer topics. Third, and perhaps most importantly, these findings suggest that the high-score writers can better distinguish than can the low-score writers between sentence topics which are crucial to the "main idea" of a text and those which are not important to the "gist."

This suggests that the writers of the high-quality essays are more capable of inventing or discovering content for the topics they introduce. Also, it suggests that high-quality writers can better distinguish between crucial and non-crucial topics.

b. Interpretation of mean number of words: The high-quality essays contain more words than the low-quality texts, about 531 words compared to about 407 words. Text length may
suggest that the writers of the high-score texts are more capable of developing their main ideas than those of the low-score texts. Clearly text length seems to be positively associated with writing quality, both in the essays examined in this study and in those examined in other studies (e.g. Morengerg, 1978; Witte and Faigley, 1981). However, text length cannot tell either the teacher or the researcher what features of texts contribute to apparent qualitative differences which are associated with it. Also, text length can not tell in what ways the invention skills of good writers differ from those of poor ones. Furthermore, text length cannot tell anything about differences in the ways the two groups of writers arrange or structure the semantic content they decide to include in their texts.

c. The Interpretation of Mean Number of Topical Depth: The problems that the writers of the low-score essays have in creating coherence in their texts are reflected in the mean "topical depth" of their essays. As Table 1 indicates, the low-score essays have a mean topical depth of 5.25, compared with a mean topical depth of 3.5 in the high-score essays. The difference between these means reflects the greater reliance of the writers of the low-score essays on sequential progressions as well as a greater number of topics introduced. Moreover, the difference indicates that the writers of the
low-score texts tend to introduce successively a larger number of topics than do the writers of the high-score essays.

In this connection, sequential progressions in the low-score texts average 3.7 T-units. Since sequential progressions by definition contain only T-units with different topics, each sequential progression in a low-score text contains an average of 3.7 different topics, compared with 2.7 in the high-score texts. The mean topical depth of the low-score texts tends to link sequential progressions in some ways. According to Witte, this linking of sequential progressions can be accomplished in two ways: first, by creating an intervening parallel progression, and second, by creating or adding to an extended parallel progression (Witte 329). Both of the extended parallel progressions in the low-score example illustrate the latter option. In the low-score essays, the linking of sequential progressions through the creation of intervening parallel or extended parallel progressions tends to increase the mean topical depth of the essays. In the low-score texts, greater topical depth indicates longer sequential progressions. Also, more topics may have the effect of distracting readers.

d. Interpretation of the mean number of T-units in each type of topical progression: These means of T-units in each of the types of topical progression tell quite specifically
how the writers of the high-quality essays manage to devote more words and more T-units to each of their topics. As Table 1 indicates, the means for each of these three variables differ as follows:

First, in the low-score texts, 2.3 T-units appear on the average in parallel progressions, but in the high-score texts 2.8 T-units do. In the low-score texts, 1.6 T-units appear on the average in each extended parallel progression, while 5.6 T-units appear in each extended parallel progression in the high-score essays.

Second, in the low-score essays, 3.7 T-units appear on the average in each sequential progression, while only 2.7 T-units appear on the average in each sequential progression in the high-score essays.

These findings support what we have already observed: that the writers of the high-score texts elaborate much more on a given topic and introduce fewer topics. These findings also support the observation that the writers of the low-score texts tend to elaborate less on a given topic than the writers of the high-score texts. A good deal of the difference between the ways the two groups of writers elaborate and structure the topics introduced in their respective texts is suggested by the differences among the average numbers of T-units per each type of topical progression. The highest average number of T-units per type of progression in the low-
score texts is 3.7, which is the percentage of sequential progressions. On the other hand, the highest average for the high-score essays is 5.6, which is the percentage of extended parallel progressions. Extended parallel progressions return repeatedly to previously introduced topics, adding new information about a particular topic. In contrast, sequential progressions are formed by introducing new topics to the discourse. In the low-score texts, these new topics are not always crucial, or sometimes even relevant to the essays.

The topics frequently introduced in sequential progressions contained in the low-score essays suggest two things: first, the writers do not know how to establish connections among topics. Second, "the writer's principal discovery or invention strategy is 'nonselective brainstorming'" (Witte 327). As a result of their heavier reliance on sequential progressions, the writers of the low-score essays generally produce texts which are less coherent than those of the writers of high-score texts. This heavier reliance on sequential progressions together with a tendency to use fewer parallel and extended parallel progressions, suggests the following phenomenon: the low-score writers do not know how to use invention strategies to develop a topic or to fit it into a semantic structure appropriate for a particular "main idea."

The last stage of analysis involved the creation of a
number of computed topical structure variables. These computed topical structure variables are the following: percentage of T-units in the parallel, sequential, and extended parallel progressions in the high-score and low-score essays; percentage of parallel and extended parallel progressions at the different levels of topical depth in these high and low quality essays. These variables are presented in Table 2 and Table 3.

**Table 2:** Percentage of Three Types of Progression in the high-score essays (N=8) and the low-score essays (N=8)

<table>
<thead>
<tr>
<th>Three Types of Progression</th>
<th>high score Percentage</th>
<th>low score Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Parallel Progression</td>
<td>51.44%</td>
<td>33.33%</td>
</tr>
<tr>
<td>(2) Sequential Progression</td>
<td>31.28%</td>
<td>50.94%</td>
</tr>
<tr>
<td>(3) Extended Parallel Progression</td>
<td>17.28%</td>
<td>15.73%</td>
</tr>
</tbody>
</table>
5.2. Analyses of Table 2

The mean percentages for the two groups of texts for parallel and extended parallel progressions differ significantly. In the low-quality essay, 33.33% of the T-units are in parallel progressions, while in the high-quality essays 51.44% are. Besides, in the low-quality essays, 15.73% of the T-units are in extended parallel progressions, but in the high-score texts, 17.28% are. The two example passages illustrate both parallel and extended parallel progressions which consist of T-units having the same topic. These findings suggest that high-score writers tend to connect their ideas by repeating the same topic to create the coherent text in the ideas or gist.

In addition, 50.94% of the T-units in the low-score texts appear in sequential progressions but only 31.28% percentage appear in the high-score texts. The difference in the percentages of T-units in sequential progressions indicates that the high-quality essays tend to introduce new sentence topics significantly less often than do the low-quality essays. Moreover, because low-score essays present the higher percentages of sequential progressions and lower percentages of extended parallel progressions, these findings indicate that the writers of low-score essays have little idea of what constitutes a focused essay and that they often become concerned with non-focused topics.
5.3. Introduction of Topical Depth

Topical depth is determined by the number of sequential progression. According to Witte, the preference use of smaller number of topical depth indicates the coherent use of repeated topics at the higher level of topical depth. Table 3 indicates the percentage of parallel and extended parallel progressions at the different levels of topical depth.

<table>
<thead>
<tr>
<th>Topical Depth</th>
<th>High Score (%)</th>
<th>Low Score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>78.57</td>
<td>4</td>
</tr>
<tr>
<td>Second</td>
<td>19.05</td>
<td>8</td>
</tr>
<tr>
<td>Third</td>
<td>2.38</td>
<td>44</td>
</tr>
<tr>
<td>Fourth</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Fifth</td>
<td>0</td>
<td>20</td>
</tr>
</tbody>
</table>

5.4. Analyses of Table 3

The smaller number of topical depth indicates the lower level of topical depth. For example, the first topical depth
is the lowest level of topical depth. The parallel and extended parallel progressions in the low-quality essays frequently differ from those in the high-score texts. In the high-score texts, parallel and extended parallel progressions typically appear at a lower level of topical depth than in the low-score essays, usually at a topical depth of "1" (78.57%), or "2" (19.05%). In the low-quality essays, something quite different happens. In those essays, parallel and extended parallel progressions usually occur at higher levels of topical depth, usually at a topical depth of "3" (44%), "4" (24%), or "5" (20%).

This difference in the use of parallel and extended parallel progressions suggests one thing: the writers of the low-score texts choose to elaborate on a given topic at a higher level of topical depth. My reading of the essays suggests that in the low-score essays, such elaborations of topics at higher levels of topical depth indicate something. Such elaborations front topical material which is not essential to the development of the main idea and they bury the most important topics introduced into the discourse. The writers of the high-score texts tend more often than those of the low-score texts to use parallel and extended parallel progressions to highlight important topical material at lower levels of topical depth. The writers of the high-score texts also more frequently return to their important sentence topics.
after intervening sequential progressions. The greater frequency with which the high-score writers return to their most important sentence topics affects their texts in two ways: first, it allows them to consistently front the most important sentence topic. Second, it allows them to elaborate more on those topics. These effects, in turn, help the writers to maintain a consistent and clear focus in the high-quality essays.
5.5. Types of T-units

The mean percentage of T-units classified under Lautamatti's five sentence types is presented in Table 4.

Table 4: Mean Percentage of Lautamatti's Five Sentence Types is presented for the High-Quality Texts (N=8) & the Low-Quality Texts (N=8).

<table>
<thead>
<tr>
<th>Sentence Types</th>
<th>Mean Percentage of T-units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High-Score Texts</td>
</tr>
<tr>
<td>Type 1</td>
<td>50.9</td>
</tr>
<tr>
<td>Type 2</td>
<td>18.2</td>
</tr>
<tr>
<td>Type 3</td>
<td>9.7</td>
</tr>
<tr>
<td>Type 4</td>
<td>10.1</td>
</tr>
<tr>
<td>Type 5</td>
<td>11.1</td>
</tr>
</tbody>
</table>

5.5.1. Results of Table 4

The mean percentages of total-T-units represented by Type 1, Type 2, and Type 4, sentences in the high-quality texts reveal higher percentages than the low-quality texts do. Moreover, some similar characteristics of Type 1, Type 2, and Type 4 sentences will be discussed in the following part. However, the mean percentages for Type 3 and Type 5 sentences

36
do differ with a higher percentage of Type 3 and Type 5 T-units appearing in the low-score essays.

5.5.2. Discussion of the Results (Table 4)

The results of the analyses indicate in what ways the two sets of essays are different and in what aspects they are similar. The meaningful or important differences / similarities is the major question addressed in this section. In addition, five sentence types represent the organization of sentence structure, namely the topic and comment relationship, across two sets of essays. According to Werth, topic-comment articulation gives focus to the sentence (Werth 125).

First, Table 4 indicates that the two sets of essays are similar with respect to the degree in which they rely on Type 1, Type 2, and Type 4 sentences, although sentences in the high-quality texts reveal higher percentages of Type 1, 2, and 4. In addition, the two sets of essays differ with respect to the use of Type 3 and Type 5 sentences.

5.5.3. Analyses of Type 1 Sentences

As Table 4 indicates, writers of both sets of essays display a preference for Type 1 sentences. In fact, between about 50.9% and 44.1% of all t-units in the two sets are type 1 sentences. Typically, Type 1 sentences are T-units in which the initial sentence element, the grammatical subject, and the
topical subject are identical. They are the least complex of the five types. Type 1 sentences, for example, never begin with introductory clauses or phrases, including adverbial phrases (such as "obviously", or "consequently"). Although writers of both sets of essays present a preference for Type 1 sentences, writers of the high-score essays use Type 1 sentences (50.9%) more often than low-score writers (44.1%). This phenomenon partly explains the difference in mean T-unit length. In addition, the relatively high percentage of Type 1 sentences in both sets of essays indicates a general tendency on the part of both good and poor writers; they place topical subjects at the beginning of sentences as subjects of main clauses. The frequent use of Type 1 sentences may result from writers' attempts, conscious or unconscious, to identify for readers the topics of sentences as soon as possible so that readers can process the text more easily.

5.5.4. Analyses of Type 2 Sentences

In addition, Table 4 suggests a tendency on the part of the writers of the high-score texts to rely more heavily on Type 2 sentences than the writers of the low-score texts do. Like Type 1 sentences, Type 2 sentences contain the identical topical subject and grammatical subject. Unlike Type 1 sentences, Type 2 sentences contain an initial sentence element which is different from the grammatical and topical
subject. In the majority of the Type 2 sentences appearing in the two sets, the initial sentence element consists of a transition word, such as "On the other hand" in (1-f) of the low-score example. In addition, a phrase or clause provides a content for the topical subject of the sentence such as in (2-b) of the low-score example. In (2-b), the phrase "Due to the lack of funding" is considered a topical adjunct because it re-establishes the topical subject of the sentence. In this case, "our fee" is to be considered.

The occurrence of Type 2 sentences may present another important difference between the two sets of essays. The Type 2 sentence is the second most frequently used sentence type in the high-score essays (18.2% of all T-units), but it is the fourth most frequently used in the low-quality essays (12.7% of all T-units). This observation suggests at least two possible interpretations.

First, besides Type 1 sentences, Type 2 sentences may be syntactically the least complex of the five types. The heavier reliance on them in the high-quality essays helps account for the shorter t-units in those essays. Second, the greater frequency of Type 2 sentences in the high-score essays suggests that the writers of those texts are perhaps more conscious of the need to help the reader through an essay by providing initial sentence elements for providing adjunct function or purpose.
When the percentages for Type 1 and Type 2 sentences are calculated together, we find that the writers of the high-score texts use T-units with identical topical and grammatical subjects about 69.1% of the time, while the writers of the low-score texts use such T-units much less frequently, in about 56.8% of their constructions. Perhaps the writers of the high-quality texts operate on the following assumption: "using sentence types in which the topical and grammatical subjects are identical can facilitate the reader's comprehension of the text" (Werth 135). Perhaps these same writers believe that using the sentence types which are usually less complex syntactically than the other three types can also facilitate comprehension.

5.5.5. Analyses of Type 4 Sentences

The mean percentages for Type 4 sentences in the two sets of essays differ in some ways. Type 4 sentences are those in which the topical subject and the initial sentence element are identical, but differ from the grammatical subject. In an extended text, such sentences can be used in two ways: "either to introduce a new topic or to establish cohesion across T-unit boundaries by fronting a topic previously given in the text and then adding new information as a comment in the main clause" (Witte 325). It is very interesting that neither the writers of high-score texts nor the ones of low-
score texts rely extensively on Type 4 sentences. Type 4 sentences are the least used sentence type in the low-quality essays and the next to the least used in the high-quality essays.

5.5.6. Analyses of Type 3 and Type 5 Sentences

The mean percentages for both Type 3 and Type 5 sentences differ significantly between the two sets of essays as Table 4 indicates. It is useful to discuss these two sentences types both collectively and separately because they are similar in some respects and different in some ways. In Type 3 and Type 5 sentences, the topical subject appears after the grammatical subject of the T-units. As Table 4 indicates, the total percentage of Type 3 and Type 5 of the T-units in the low-score essays is 35.8% while the percentage of these T-units in the high-score essays is 20.8%. These collective mean percentages differ significantly. In both sets of essays, the grammatical subject of a Type 3 or a Type 5 sentence is usually a "dummy" subject, either "it" or "there" (as in sentences (1-a), (2-b) of the example passages). One effect of "dummy" grammatical subjects is longer sentences. For example, more words are needed to say "It is basic to have a good understanding of writing" than are needed to say "A good understanding of writing is basic." In addition, the heavier reliance on Type 3 and Type 5 sentences in the low-quality
essays (35.8% compared with 20.8% in the high-score texts) probably influences some of the differences in sentence length between the two groups of essays.
### Table 5: Synthesis of Tables 1, 2, and 3

<table>
<thead>
<tr>
<th></th>
<th>High Score Mean #</th>
<th>Low Score Mean #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics</td>
<td>11.9</td>
<td>14.4</td>
</tr>
<tr>
<td>repeated topics</td>
<td>4.9</td>
<td>4.4</td>
</tr>
<tr>
<td>nonrepeated topics</td>
<td>5.8</td>
<td>8.8</td>
</tr>
<tr>
<td>word #</td>
<td>531</td>
<td>407</td>
</tr>
<tr>
<td>Topical depth#</td>
<td>3.5</td>
<td>5.25</td>
</tr>
<tr>
<td>T-units #</td>
<td>30.375</td>
<td>17.75</td>
</tr>
<tr>
<td>T-units per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>parallel progression</td>
<td>2.8</td>
<td>2.3</td>
</tr>
<tr>
<td>T-units per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sequential progressions</td>
<td>2.7</td>
<td>3.7</td>
</tr>
<tr>
<td>T-units per</td>
<td></td>
<td></td>
</tr>
<tr>
<td>extended parallel progressions</td>
<td>5.6</td>
<td>3.5</td>
</tr>
<tr>
<td>% of T-units in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>parallel progressions</td>
<td>51.44%</td>
<td>33.33%</td>
</tr>
<tr>
<td>% of T-units in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sequential progressions</td>
<td>31.28%</td>
<td>50.94%</td>
</tr>
<tr>
<td>% of T-units in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>extended parallel progression</td>
<td>17.28%</td>
<td>15.73%</td>
</tr>
</tbody>
</table>
percentages of parallel, sequential, and extended parallel progressions at the different levels of topical depth

<table>
<thead>
<tr>
<th>Topical Depth</th>
<th>High-Score</th>
<th>Low-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>first topical depth</td>
<td>78.57%</td>
<td>4.0%</td>
</tr>
<tr>
<td>second topical depth</td>
<td>19.05%</td>
<td>8.0%</td>
</tr>
<tr>
<td>third topical depth</td>
<td>2.38%</td>
<td>44.0%</td>
</tr>
<tr>
<td>fourth topical depth</td>
<td>0%</td>
<td>24%</td>
</tr>
<tr>
<td>fifth topical depth</td>
<td>0%</td>
<td>20%</td>
</tr>
</tbody>
</table>

6.1. Overall Topical Development and Structure

On the one hand, Table 4 reveals important differences in the way the two groups of writers handle topical focus at the sentence level. On the other, Table 5, the synthesis graph of table 1, 2, and 3, distinguishes between the ways the two groups of writers structure their essays around the topics they introduce. These differences are reflected in two related aspects of topical development: (1) the way in which a given topic is elaborated on and (2) the way topical progressions are used to advance the discourse topic, the main idea, or theme of the essay.

6.2. Overall Synthesis of Table 5

The topical structure variables used in the present study help to pinpoint rather precisely some important qualitative
differences between the two sets of essays. Most importantly, these variables are evidence of the kinds of decisions the writers of the two groups of essays made during composing. For example, writers of the high-quality essays tend to select sentence topics for their essays in somewhat different ways. A selection process affects both the number of topics and the number of times a given topic appears in the essays. Both the number of topics and the times each is repeated seem to bear directly on how coherent a given essay is.

As Table 1 indicates, the writer of the high-score texts are more capable of developing content for the topics they introduce and prefer to elaborate more on fewer topics. As Table 2 presents, the high-score writers tend to connect their ideas by repeating the same topic which results in the higher percentage of parallel progression and extended parallel progression. Table 3 shows the different percentage of parallel and extended parallel progressions at the different levels of topical depth. These differences suggest that the writers of the high-score texts tend to use parallel and extended parallel progressions to highlight important topics at lower levels of topical depth. Briefly, the writers of high-score texts use parallel and extended parallel progressions very often at a lower level of topical depth and tend to create coherent texts.
Chapter 7: Implications for Teaching Writing

The study of the correlation between topical structure and writing quality might provide a useful framework for examining the written texts of student writers. In the present study, I used this theoretical framework in an analysis of topical subjects, examining the influence of topical subjects on both sentence structure and discourse structure. At the sentence level, Lautamatti's five types of sentences were used to pinpoint some important differences between the high-quality and low-quality texts of students. It might be said that the analyses of topics at the sentence level yield quantifiable data about the "style" of the two sets of texts.

The present study tells about how the two groups of writers structured their sentences to accommodate their topical subjects. The use of Lautamatti's taxonomy of sentence types might yield valuable new insights into not only certain stylistic features of high- and low-quality student texts of different kinds, but also professional texts of different kinds.

When such research is completed, it may be possible to supplement our best intuitions about style with some understanding, although not totally accurate descriptions, of effective or functional style for different kinds of writing.

In the present study, the variables analyzed beyond the
sentence to development and structure in extended texts were able to distinguish among the two sets of essays in other important ways. For example, the use of those variables suggested not only that the invention strategies of the low-score writers were perhaps inappropriate to the task at hand, but also that these strategies seemed to affect in important ways the patterns of arrangement employed by the low-score writers. According to Witte, with the aid of topical structure analysis, teachers will be better able to show students where and why the coherence of their texts is threatened (Witte 337).

Topical structure analysis also seems potentially useful for identifying structural patterns which could distinguish among texts of different types written by writers of different abilities. The results reported and discussed in the preceding sections strongly suggest that the theoretical framework and the analytic method used in the present study might be fruitfully applied in subsequent research and provide a basis for certain pedagogical practices.
Appendix A: Questionnaire for Topic Decision

Please underline the topic of each individual sentence or clause across two sets of essays:

#1. high-score essay:

(1-a) **Automobiles** (48) are four-wheeled and smog-producing creatures. (1-b) **The automobile** (47) was supposed to be a great invention, (1-c) and while it has only been around three-quarters of a century, it (38) has already caused many problems and miseries. (1-d) The **invention** (42) of the automobiles has in many ways, back-fired.

(2-a) When the **automobile** (40) was first produced back in the early 1900's, it was mainly as a toy for the rich. (2-b) There were very few **roads** (37) on which an automobile could be driven, (2-c) and many **people** (43), especially farmers, complained that automobiles scared their livestock and horses. (2-d) Slowly the **acceptance of automobile** (45) grew, (2-e) and when Henry Ford developed the assembly line for mass production of automobiles, **everyone** (44), including farmers, could afford and had an automobile. (2-f) No longer were **horses or carriage** (39) needed, (2-g) and as the day of the automobile grew, the **horse and buggy** (41) trade slide downhill. (2-h) **The automobile** (49) was heralded as a great invention (except by carriage makers); (2-i) **everyone** (48) could afford one, (2-j) and **the assembly line** (46)
employed many men.

(3-a) Unfortunately, Americans (48) become overcome by their new toys. (3-b) Mass-production (47) turned into mass over-production--millions of cars had been made, (3-c) but by then everyone (42) already had a car. (3-d) Car makers (47) lost money. (3-e) Workers (46) were laid off, and could find no other jobs. (3-f) An estimated 60,000 employees (45) were laid off in a three month period. (3-g) Many people (45) who had bought automobiles and done so on credit-(3-h) but now they (40) had no job, and no way of paying off their debt. (3-i) From the glory of a new invention and new form of mass employment, the automobile (39) had turned into an albatross around American's neck.

(4-a) The down fall (37) of the automobile early in its life foreshadowed the Great Depression, (4-b) and it was not until post-World War II that America (34), with huge factories producing was goods, turned again to the automobile. (4-c) Many of the factories (47) were converted from airplane assembly plants to present day automobile manufacturing sites. (4-d) The automobile (48) again became quite the rage, (4-e) and all the way up to the early 1970's, the automobile (47) was America's way of life. (4-f) Then, the Japanese (46) moved in. (4-g) The Japanese (48) had newer factories than American's war-time dated ones. (4-h) The Japanese (43) also had an abundance of cheap labor.
and low-priced steel, (4-i) and soon the Japanese (45) were underselling the American car market. (4-j) Along with the invasion of Japanese cars came the energy crisis (35). (4-k) Gas (50) prices scared. (4-L) The American car industry (46) was in a rut once again.

(5-a) Not only has the invention (37) of the car wrecked among American industry, (5-b) but it (46) has also led to deaths. (5-c) In fact, more people die of automobile accidents (34) each year than anything else in this country. (5-d) Over 50,000 people (46) die every year in automobile accidents—that’s more Americans than died in the Vietnam was, which last lasted much longer than just one year. (5-e) A speeding death-trap (43) which can single handedly ruin American industry—that is what the automobile has become.

(6-a) The invention (48) of the automobile has not, however, been a total failure. (6-b) The invention (48) of the automobile forced America into building and making better roads and transportation systems. (6-c) Also, while the automobile industry (34) may be responsible for laying off the greatest number of workers at anyone time, (6-d) it (45) still continues to be one of the largest employers in all the U.S. (6-e) The automobile (48) has become American’s way of life, both good and evil.
#2: low-score essay:

(1-a) It was campaign time (37) (1-b) and many (47) were ignorant of the issues. (1-c) The only information (44) they had about the many issues were from televisions, newspapers where the advertisers attempted to manipulate you into voting for their sides. (1-d) When Proposition B was announced, many (40) were for it was their answer to high taxes. (1-e) Proposition B (44) would cut everyone’s tax bill. (1-f) On the other hand, Proposition B (46) would also cut of many public services. (1-g) For example, many teachers (48) would be laid off in public schools. (1-h) And since Proposition B has passed, we, the students of SFSU (39), were one of the many who has suffered for the public’s mistake.

(2-a) Ever since Proposition B has passed, SFSU’s fee (42) has been rising enormously. (2-b) Due to the lack of funding, our fee (44) has increased over 50% over the last two years. (2-c) The first year (38) was approximately $225 per semester, (2-d) but now (37) as risen to approximately $360 per semester. (2-e) Furthermore, there are rumors going around the schools saying that by next semester, the fee (36) will once again rise.

*Please answer the following question:

How do you choose the topic of each sentence or clause?
-- Works Cited --

Aycock, Linnea M. Flores, Juan M. and Stock. William P.  
A Study of English Placement Test Subscores and Their  
Use in Assigning CSU Fresno Freshmen to Beginning  

Sentences in Expository Prose." Research in the  

Brossell, Gordon., Ash, Barbara Hoetker. "An Experiment  
with the wording of essay topics." College Composition  

Brown, Gillian. and Yule, George. "Topic and  
representation of discourse content." Discourse  

Chafe, Wallace L. "Givenness, Contrastiveness,  
Definiteness, Subjects, Topics, and Point of View."  
Subject and Topic. Ed. Charles N. Li. New York:  

Christensen, F. "A generative rhetoric of the paragraph."  
College Composition and Communication. 16 1965: 144-  
156.

Crowhurst, Marion. "Sentence-Combining: Maintaining  
Realistic Expectations." College Composition and  

D'Angelo, F.  "A generative rhetoric of the essay." College  

Durst, Russel; and-others. "Appealing Texts: The  
Persuasive Writing of High School Students." Written-  

Grady, M. "A conceptual rhetoric of the composition."  
College Composition and Communication. 22 1971: 348-  
354.

Halloway, D. W. "Semantic Grammars: How they help us teach  
writing." College Composition and Communication.  


