

**The Effects of Christensen's "Generative Rhetoric of the Sentence" on the Overall
Quality and Number of Complex Sentences in College Freshmen's Writing**

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Abstract

This experimental, statistical study investigated the effects that Francis Christensen's "Generative Rhetoric of the Sentence" (1967) would have on overall writing quality and the number of subordinate clauses attached to the main independent clauses for more complex sentences with supporting details in college freshmen's paragraphs making up the essays. In the experimental group of 42 students, the professor taught "cumulative-sentence" lessons based on Christensen's work. However, the other professor did not give these lessons on cumulative sentences to the 41 students in the control group.

On overall writing quality, the statistical results showed that the experimental group made very highly significant gains in overall writing quality. The control group also made highly significant gains in overall writing quality. However, the experimental group's posttest essay scores were still significantly higher than the control group's.

On complex sentences with supporting details, the results showed a statistically significant difference between the experimental and control groups in the gains of writing subordinate clauses attached to main independent clauses in these complex sentences. The experimental group made very highly significant gains over the control group. These statistics implied that lessons on Christensen's "Generative Rhetoric of the Sentence" contributed to the experimental group's remarkable gains and outcomes over the control group in writing quality and in the number of subordinate clauses, the majority of which came after the main independent clauses, for more detailed complex sentences to build paragraphs developing the entire essay.

Introduction

Over the past few decades, research has shown a strong relationship between good writing style and “free modifiers” in “cumulative” sentences, based on Francis Christensen’s “Generative Rhetoric of the Sentence” (1967). However, does this approach to syntactic style specifically include any relationship between college freshmen’s overall writing quality and the number of their “cumulative” complex sentences (i.e., subordinate clauses attached to independent clauses)? As far back as 1967 when Francis Christensen first published his work on “cumulative sentences” with “free modifiers,” research has examined and seriously questioned just how effective the “Generative Rhetoric of the Sentence” is on college students’ syntax and writing quality (Faigley, 1979b; Hillocks, 1984, 1986). During the last decade, various scholarly papers have emphasized sentence composing skills to improve writing style, particularly with sentence combining (Phillips, 1996; Myers, 1996; Gessell, 1997; Lovejoy, 1998; Fowler, 1999; Jenkinson, 1999; Myers, 1999; Killgallon & Killgallon, 2000). However, since 1989, hardly any experimental studies have statistically assessed how Christensen’s “cumulative” sentence-generating lessons have affected college freshmen’s writing quality by examining the relationship between the number of complex sentences and overall quality. This current experimental, statistical study investigated the effects that the “Generative Rhetoric of the Sentence” would have on the overall quality and number of complex sentences in first-year college students’ essays. In the experimental group of 42 students, the professor gave several lessons and exercises based on Christensen’s work. However, the other professor did not give these “sentence-rhetoric” lessons to the 41 students in the control group. By analyzing the 83 students’ pretest and posttest

essays, the researchers hypothesized that the students in the experimental group would show more significant gains and outcomes in overall writing quality and in the number of subordinate clauses attached to main independent clauses than what the control group would demonstrate in the posttest essays. Would Christensen's "cumulative-sentence" method significantly help college students write more detailed complex sentences.

Review of the Research Literature

One significant syntactic feature researchers have studied in writing fluency is "free modification," particularly final free (right-branching) modifiers based on Francis Christensen's "Generative Rhetoric of the Sentence" (1967). These "cumulative" sentences help students increase their syntactic fluency to express ideas more effectively (Winterowd, 1975). Free modifiers are any words, phrases, or subordinate clauses that come before (left-branched), embedded within (medial), or after the main independent clause (right-branched), usually set off by commas, dashes, or parentheses (Faigley, 1979a). Christensen felt that, while the T-unit (an independent clause and its subordinate, modifying elements) might be a useful gauge of syntactic complexity and maturity, it is inadequate to distinguish between good and bad adult writing, so he focused on two measures he felt indicative of good adult syntactic style: base independent clause length (relative shortness being a virtue); and high percentages of words in free modifiers following a base clause—"final position" (Broadhead, Berlin, and Broadhead, 1982).

Based on Christensen's research of professional writers' heavy use of final (right-branching) free modifiers, Nold and Freeman's study (1977) examined the number of words in final free modifiers. Their results supported Christensen's hypothesis that

detailed modifiers--especially final free modifiers--were indicative of good writing. Nold and Freeman's conclusions not only applied to narrative and descriptive discourse, on which Christensen based most of his work, but also in expository and argumentative discourse. Faigley's study (1979a), comparing college freshmen's essays with those of professional writers, further supported Christensen's conclusion that skilled writers use a higher percentage of words in free modifiers than do student writers, particularly modifiers in final position. In another study, Faigley (1979b) also found that teaching Christensen's "generative sentence rhetoric" of free modifiers bore a significant relationship to improvement in overall quality ratings of college freshman writing. Other studies also made claims for the effectiveness of this cumulative-sentence method for increasing the use of modifiers (Brooks, 1976; Palmer, 1971; Walshe, 1971). Ironically, however, Cooper et al. (1984) found in their study that final free modifiers, a characteristic of professional writing, appeared more frequently in poor freshman writing than in the best freshman writing.

In another study on free modifiers in professional writing, Broadhead, Berlin, and Broadhead (1982) stated, "For the teachers of generative rhetoric, syntactic complexity has been regarded as a virtue, as in Christensen (1978) and Faigley (1979a)" (p. 225). Broadhead et al. found that multi-structured sentences are apparently clearest (most readable) when writers add free modifiers to develop an idea expressed in a short base (independent) clause. They also found that final-position free modifiers played a substantially greater role than initial (left-branched) and middle-position (medial/embedded) modifiers for supplying details or other modifiers to develop ideas. They concluded that instruction in the use of free modifiers (whether through sentence-

combining, generative rhetoric, or traditional means) would be applicable to the entire range of college writing, even appropriate in technical/scientific writing.

Dr. Sylvia Phillips (1996) has provided a review of literature on Francis Christensen's "Generative Rhetoric of the Sentence" (1967) using sentence-expansion exercises of "cumulative sentences," defined by O'Hare (1971) as sentences with "a high proportion of final free modifiers" (71). According to Faigley (1978), these exercises encourage students to create or generate their own detailed sentences (95). Dr. Phillips goes on to explain the work of Christensen, the developer of the cumulative sentence:

The concept of the cumulative sentence evolved from Christensen's belief that written composition is an additive process in which a writer begins with a major idea and then adds to it so that the reader can grasp the meaning. Christensen says that a writer can add modifiers either before or after the main clause.

Christensen demonstrated his concept by using sentences written by several famous creative writers: Faulkner, Steinbeck, Hemingway, Fitzgerald, Welty, Updike, Ellison.

Dr. Phillips also reports, "The literature indicates that some scholars prefer cumulative-sentence exercises based on the principles devised by Francis Christensen" (p. 58). Marzano (1976) argues, "Francis Christensen's cumulative sentence technique, which is based on the concept of modification, is more effective at improving the quality of student writing than sentence combining" (p. 59). Lawlor (1983) also endorses cumulative-sentence exercises by stating, "[Free modifiers] are associated with mature prose, particularly when they are used in final position in cumulative sentences" (pp. 59-60). In addition, Phelps (1987) has found that students can use various cumulative sentences in their papers to make them more detailed and sound more professional.

Moreover, Swanson (1989) encourages her students to develop a more mature writing style by demonstrating that professional writers tend to use long, cumulative sentences. Packard (1986) also discusses the use of cumulative sentences in classroom teaching, saying that Christensen emphasized their relationship with effective writing style. A later study (Davis, 1989) showed statistically significant gains in college freshmen's use of right-branched free modifiers, strongly suggesting that teaching Christensen's "Generative Rhetoric of the Sentence" will lead students to significant gains in their use of right-branched free modification, especially when the theory and rationale of free modification become a central part of the classroom pedagogy. Overall, this review of research is significant to the present study on assessing the effects of Christensen's "cumulative sentence exercises" for generating complex sentences by attaching subordinate clauses in final position after the main (base) independent clauses, thus resulting in a more sophisticated writing style and quality in college freshmen's essays.

Design and Procedures

This experimental study used statistical analysis to assess the effects of Francis Christensen's "Generative Rhetoric of the Sentence" not only on syntactic style but also on the overall quality of college freshmen's essays. This study investigated any statistically significant differences in the gains and outcomes of 83 first-year college students between their pretest and posttest essays: 42 in the experimental group and 41 in the control group.

After both groups had initially written a pretest essay within 60 minutes before any instruction began, the professor then isolated the teaching treatment for the 42

students in the experimental group by giving the following instruction: (1) lessons on Francis Christensen's "Generative Rhetoric of the Sentence" (1967) by analyzing sentences of professional writers; and (2) exercises for the students to compose their own "cumulative" sentences, especially complex sentences by creating subordinate clauses attached to independent clauses. However, the 41 students in the control group did not do these "cumulative-sentence" lessons, nor did they do exercises to create sentences.

The 83 students' pretest and posttest essays served as the data to assess the effects of this instruction on the gains and outcomes in overall writing quality, measured in their writing samples before and after instruction (Sanders & Littlefield, 1975). Most theorists believe that a direct sample is the best way to measure writing ability (Dieterich, 1974; Cooper, 1975, 1977). Forty-two students in the experimental group and 41 students in the control group each wrote an impromptu essay, the best way they knew how, on a choice of four unannounced topics during the first 55-minute class. This writing sample served as the pretest in class at the beginning of the course before any instruction began. Then at the end of the course, each student in both groups chose one of four different unannounced topics and wrote another impromptu essay of about 500 words as a posttest essay after instruction, again using 55 minutes of class time to plan, compose, revise, edit and correct the essay. Researchers show that the pretest/posttest design is one effective way to assess the effects of an educational treatment (Bloom, Hastings, & Madaus, 1971; Campbell & Stanley, 1963; Cronbach, 1963).

In evaluating writing quality, a general-impression holistic rating session using expert readers—experienced English teachers trained to agree on certain global characteristics of a piece of writing—can produce acceptable reliability (Diederich, 1974;

Cooper, 1975, 1977). For this study two experienced college English faculty members served as raters.

The two faculty raters read and scored a total of 166 randomly sorted essays, without knowing which were the 83 pretests or 83 posttests. The raters scored these essays based on the following scale: “1” lowest failing score; “2” minimally passing score; “3” good passing score; “4” highest passing score. For any essay on which the raters disagreed by more than one point, a third experienced rater scored the piece in question; then the other raters used the two closest scores.

The study’s researchers then separately totaled the raw scores for each comparison group’s pretest and posttest set of essays to get the mean score. For rate of agreement on the test scores, calculating the “product-moment correlation” determined the reliability between the two raters. For both groups’ pretest scores, the correlation coefficient was .96, indicating good reliability. For both group’s posttest scores, the correlation was .81, implying adequate reliability between the two raters. In addition, the researchers counted the number of subordinate clauses attached to main independent clauses for complex sentences in all 166 pretest and posttest essays.

In the statistical analysis of these essay scores and the number of complex sentences, “paired T-tests” determined whether there were significant differences between the pretest and posttest scores and differences between the experimental and control groups’ posttest scores. The confidence levels of statistical significance for 95% of the time on the “paired T tests” were based on the following “p” values: (1) * $p < .05$, significant; (2) ** $p < .01$ highly significant; (3) *** $p < .001$, very highly significant. In addition, the analysis also showed “degrees of freedom” (df).

Analysis of the Results

In overall writing quality, each of the 83 students wrote two essays: one pretest essay before instruction began at the beginning of the course; one posttest essay after completing instruction at the end of the course. The two faculty raters scored each essay holistically on a scale of “one” (1—poor/failing) to “four” (4—superior/passing). This procedure resulted in two scores on each pretest writing sample and two scores on each posttest essay for each student in the study. For statistical analysis (paired T-tests), the raters combined their two pretest essay scores on each student, and then they combined their two posttest essay scores. This resulted in the lowest possible score of “two” (2) for a failing essay and the highest possible score of “eight” (8) for a superior, passing essay.

Between pretest and posttest essays, statistics measured the overall quality of the students’ writing. First, the experimental group started with a mean score of 2 on the pretest essay but ended with a mean score of 4.53 on the posttest essay, an improved change of + 2.53. The T-test in statistical analysis indicated that the difference between the experimental group’s pretest and posttest scores was very highly significant ($T = -10.663$; $df = 41$; $p = .000011$; *** $p < .001$) in the main effect for this method of teaching with the lessons in Christensen’s “cumulative sentences.” These students made very highly significant gains in writing quality in relation to their significant gains in writing complex sentences, influenced by Christensen’s lessons.

The 41 students in the control group did not receive the “Generative Rhetoric of the Sentence” to build more complex sentences. In writing quality this group started with a mean score of 2.66 on the pretest but ended the course with a mean score of 4.49 on the posttest, an improvement of +1.83. The T-test in statistical analysis still indicated that

the difference between these students' pretest and posttest scores was very highly significant ($T = -11.84$; $df = 40$; $p = .000058$; $*** p < .001$), even without any "cumulative-sentence" lessons. Statistically, the control group also made very highly significant gains in overall writing quality between pretest and posttest.

Statistical analysis on overall writing quality also indicated that the difference between each group's posttest scores was highly significant ($T = 2.65$; $df = 69$; $p = .0099$; $** p < .01$). The experimental group's mean posttest score was significantly higher than the control group's mean score on writing quality in their final essays. These outcomes strongly suggested that the students in the experimental group made greater gains in overall writing quality and significantly higher scores on the posttest essays than the students made in the control group, though both groups made high gains in quality.

Between pretest and posttest essays, the 42 students in the experimental group made remarkable gains in the number of subordinate clauses attached to the main independent clauses to generate more complex sentences. On the pretest essays, the experimental group had a mean number of 7.6 subordinate clauses, but after instruction on Christensen's free modifiers in cumulative sentences, the group had a mean posttest number 22.5 clauses, a gain of +14.9 subordinate clauses. Statistically, the experimental group's gain in the number of subordinate clauses was very highly significant ($T = -10.329$; $df = 41$; $p = .000028$; $** * p < .001$). The control group's mean number on the pretest essay was 12.6 subordinate clauses and a mean posttest number of 15.4 clauses, a gain of +2.8 subordinate clauses. Still, the control group's gains in subordinate clauses were significant ($T = -2.8$; $df = 40$; $p = .03$; $* p < .05$). Between both groups' posttest essays after instruction, however, statistics showed a very highly significant difference in

the number of subordinate clauses ($T = 6.558$; $df = 76$; $p = .000058$; $p > .001$). The experimental group's final essays showed significantly more subordinate clauses attached to the main independent clauses than in the control group's essays.

These results further implied that lessons in Christensen's "Generative Rhetoric of the Sentence" may have contributed to the experimental group's very highly significant statistical gains and outcomes in overall writing quality in relation to the dramatic gains in the number of complex sentences. The control group, without cumulative-sentence exercises, did make statistically significant gains between the pretests and posttests, but the results strongly suggested that the experimental group's additional skills in creating more "cumulative" complex sentences gave these students a statistically significant edge in the gains and outcomes on writing quality over the students in the control group. These findings support the researchers' hypothesis at the beginning of the study. Moreover, the students in the experimental group placed 75.6% of their subordinate clauses in the "right-branched" final position after the main independent clauses, a syntactic style indicative of good writers. For the other positions in sentence structure, 17% of the subordinate clauses were "left-branched" before the main independent clause, and 7.4% of the subordinate clauses were in "medial" position embedded within the main clause.

Conclusions and Implications

This study suggests further research on syntactic style, calling for more studies on Francis Christensen's "Generative Rhetoric of the Sentence" with free modifiers. The findings of this study recommend that educators directly teach Christensen's method to help their students make greater gains and outcomes in overall writing quality and style

by creating more detailed complex sentences. If students examine and analyze model sentences from professional writing, they too can practice creating their own. Then they will most likely generate more cumulative complex sentences in their essays, which the experimental group dramatically demonstrated in this study. The results will yield significant changes in their sentence structure to develop more supporting details for better clarity of their ideas. With Christensen's method, W. Ross Winterowd (1975) states, "We can help students with the problem of invention" and "increase syntactic fluency. . . Ideas cannot be expressed—adequately, at least—unless the writer has the ability to embody those ideas in appropriate structures. Syntactic fluency is the ability to use the syntactic resources of language in order to express ideas" (pp. 337-338).

Winterowd's comment shows how Christensen's "Generative Rhetoric of the Sentence" effectively combines the rhetorical arts of invention, arrangement, and style in each sentence. More lessons in creating cumulative complex sentences will help students develop clearer and more effective writing in college and professional communications.

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