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A Linguistic Versus a Traditional Grammar Program—The Effects on Written Sentence Structure and Comprehension¹

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THE value of teaching English grammar in the traditional way in the elementary school has been questioned for years. A substantial body of research has indicated that such a program does little to increase fluency and precision in written composition (Pooley, 1957; Strom, 1960; Sherwin, 1969) or to improve skill in reading comprehension (Barnett, 1942). Recognizing from research and from observation that the time usually devoted to a traditional English grammar program in the elementary

grades has questionable practical value, some teachers are exploring the possibilities of various theories and approaches to studying language which have grown out of the work of linguists.

Research in the contributions of linguistics to improving the writing of elementary students is rather limited. Sherwin (1969) states that the contribution linguistics can make to the teaching of writing "... is a story just now beginning to unfold." In reviewing the research in this field, he

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reports the view that linguistics "... is about as effective as traditional grammar in improving writing."

It has been predicted by some linguists and English educators that reading comprehension will most likely improve if students are taught something about the organization of the basic units within the total sentence. However, DeLancey (1962) found that knowledge of form classes as taught in structural linguistics had little relationship to reading comprehension. O'Donnell (1963) reported no conclusive evidence to support the teaching of structural relationships of words in sentences as a means of developing reading comprehension of twelfth grade students.

Purpose

This project sought to explore and assess the effects of an experimental grammar program for fourth grade students on selected skills in writing and reading utilizing a linguistic approach, as compared with a control grammar program utilizing a traditional approach. These questions were asked:

1. Will fourth grade students who receive instruction in a linguistic approach to studying English grammar write sentences showing greater variety in structure than will a comparable group who receive the same amount of instruction in a traditional approach to studying English grammar?

2. Will fourth grade students who participate in a linguistic grammar program show greater improvement in silent reading comprehension than a comparable group who participate in a traditional grammar program?

Design and Methodology

Five experimental classes (110 students) and five control classes (115 students) of fourth graders were selected which represented urban, suburban, and rural areas of Florida. The experimental-control pairs were randomly selected and assigned from different schools serving comparable groups. All students received 45 minutes per day of

instruction, three days per week from October through May.

The control group received instruction using materials which were essentially traditional in their approach. That is, they devoted a considerable amount of time to learning the parts of a sentence and the parts of speech by definition and identification, and to drill on correction and/or completion of contrived sentences in conventional workbooks and textbooks.

The experimental group followed for the most part materials included in two books entitled *A Linguistic Approach to Writing Discovery 1* and *Discovery 2* (Allen, 1967) and additional worksheets devised by the project director. The grammar in these materials is basically a structural analysis of written English sentences, but it utilizes some of the principles of transformational grammar and of tagmemic grammar. Included is instruction in the recognition and the construction of the various units within a total sentence which are shiftable. The students learned that by rearranging these shiftables into different positions in relation to the two essential sentence parts, the subject and the predicate, greater variety in sentence structure results. The students were also instructed in ways to expand both the basic sentence parts and certain ones of the shiftable parts to add clarity and variety to structure.

These language understandings were presented by inductive, step-by-step procedures and were immediately followed by activities which provided opportunities for practical application of the understandings which were being taught.

The experimental materials and approach were taught to the participating teachers in periodic work sessions. Teachers in the control classes were given no training, but were told to teach grammar 45 minutes per day, three days per week in the same way that they had taught it in previous years.

All students participating in the study received the same approach to the teaching of reading and other language arts. Only the grammar instruction received special treatment in the experimental group. No effort

was made to relate the teaching of grammar to the teaching of reading.

Pre and post writing samples were taken from each student in order to assess the progress in variety in structure. "Variety in structure" was defined as referring to diversification of sentence structure as evidenced by the student's ability to rearrange the various shiftable units of a sentence into different positions in relation to the basic sentence parts. Thus, a student would achieve variety in structure in writing a story by arranging the shiftable units in the first sentence in his story one way, by rearranging these units another way in the next sentence, and still another way in the sentences that followed.

A score for "variety in structure" was arrived at by breaking the stories into what Hunt (1965) calls T-units—one main clause or a subject and a time-oriented verb sometimes expanded by structures that are modifiers or complements. Each T-unit was analyzed by making a frequency count of the number and type of sentence units which were taught in the experimental program and which appeared in the writing samples. A list of the sentence units which the children were taught and for which they received points follows:

Front and End Shifters: a single word or word group, usually called a sentence adverbial, which is shiftable from the beginning to the end or from the end to the beginning of a sentence. For example, in the sentence "Last week I visited my Aunt Mary" the words "Last week" are shiftable to the end of the sentence.

Prepositional Phrase: any word group beginning with a preposition and having an object.

Phrase Inside a Phrase: a phrase cluster. For example, "on the table in the hall" contains a phrase inside a phrase.

Middle Adverb: an adverb which comes between an auxiliary and a main verb and which is shiftable.

Joiner: a word such as *and*, *but*, *so*, or *or* used to join two words or related ideas. Because fourth grade students tend to overuse joiners, the investigator was careful to give points only when the joiner actually connected related ideas.

One-and-a-Half Sentence: a sentence containing as a front or an end shifter a word

group beginning with an -ing word. For example, in the sentence "Running through the rain, the woman slipped and fell" the word group "Running through the rain" is shiftable to the end of the sentence.

Clause: a unit of modification or subordination beginning with such words as *that*, *which*, *because*, *until*, and so on.

Progress in reading comprehension was measured by comparing pre and post scores on the Gates-MacGinitie Reading Tests, Survey D, Form 1 and Form 2 respectively, which were obtained for each student.

All data were analyzed by individual change scores. The students' t-scores were calculated for (a) changes by all classes, before and after, (b) changes between pairs of experimental and control classes, and (c) changes between all experimental students and all control students.

Results

Variety in Structure. Analysis of the data as shown in Table 1 indicates the gains made in scores in variety in structure of the sentences in the students' writing samples.

School	N	\bar{X}	t	p
A (Exp)	22	-1.05	-1.06	>.20
B (Con)	15	5.20	5.43	<.001
C (1) (Exp)	24	10.58	7.29	<.001
D (1) (Con)	28	7.43	7.05	<.001
C (2) (Exp)	22	8.91	4.52	<.001
D (2) (Con)	15	5.93	4.51	<.001
E (Exp)	23	17.83	11.41	<.001
F (Con)	27	1.78	1.27	>.20
G (Exp)	22	11.68	5.50	<.001
H (Con)	25	5.36	2.60	<.02

Table 1. Gains in Scores in Variety in Structure of Students' Writing Samples

Table 1 indicates that scores in variety in structure reached significance at the <.001 level in four classes in the experimental group—Schools C (1), C (2), E, and G—and in three classes in the control group—Schools B, D (1), and D (2).

Table 2 reports a comparison of change in variety in structure between pairs of classes.

School	d.f.	$\bar{X}_e - \bar{X}_c$	t	p
A (Exp) and B (Con)	35	-6.25	-4.49	<.001
C (1) (Exp) and D (1) (Con)	50	3.15	1.70	<.10
C (2) (Exp) and D (2) (Con)	35	2.98	1.26	>.20
E (Exp) and F (Con)	48	16.05	7.67	<.001
G (Exp) and H (Con)	45	6.32	2.13	<.05

Table 2. A Comparison of Change in Variety in Structure Between Pairs of Classes

As reported in Table 2, gains in variety in structure favored, at the <.001 level, the control class when comparing Schools A and B, and the experimental class when comparing Schools E and F. In one pair of classes (Schools G and H) the experimental class was favored at the <.05 level.

d.f.	$\bar{X}_e - \bar{X}_c$	t	p
221	4.61	4.37	<.001

Table 3. Changes in Variety in Structure Between Experimental and Control Groups

A comparison of the changes in variety in structure of all children in the experimental group with those in the control group is reported in Table 3.

As noted in Table 3, the changes in variety in structure of all children in the experimental group with those in the control group reached significance at the <.001 level of confidence, favoring the experimental group. Thus, in answer to the first question asked in the beginning of the study, the fourth grade students who received instruction in a linguistic approach to the study of English grammar as utilized in the experimental program wrote sentences which

School	N	\bar{X}	t	p
A (Exp)	23	4.48	4.15	<.001
B (Con)	16	4.31	3.73	<.01
C (1) (Exp)	23	1.74	.97	>.20
D (1) (Con)	29	6.13	6.41	<.001
C (2) (Exp)	22	2.27	2.35	<.05
D (2) (Con)	18	4.28	3.38	<.01
E (Exp)	28	2.54	2.84	<.01
F (Con)	30	5.23	5.45	<.001
G (Exp)	24	1.00	.65	>.20
H (Con)	30	2.63	2.37	<.05

Table 4. Gains Made in Comprehension on the Gates-MacGinitie Reading Tests

showed greater variety in structure than a comparable group who received instruction in traditional grammar.

Reading Comprehension. Analysis of gains made in reading comprehension on the Gates-MacGinitie Reading Tests, Survey D is recorded in Table 4.

As noted in Table 4, significant gain was made in one experimental class—School A—and two control classes—Schools D (1) and F—at the <.001 level; and one experimental class—School E—and two control classes—Schools B and D (2)—made significant gains at the <.01 level.

A comparison of changes in reading between pairs of experimental and control classes is reported in Table 5.

As indicated in Table 5, gains in comprehension favored two control classes at the <.05 level.

School	d.f.	$\bar{X}_e - \bar{X}_c$	t	p
A (Exp) and B (Con)	37	-.17	-.10	>.20
C (1) (Exp) and D (1) (Con)	50	-4.39	-2.16	<.05
C (2) (Exp) and D (2) (Con)	38	-2.005	-1.26	>.20
E (Exp) and F (Con)	56	-2.69	-2.05	<.05
G (Exp) and H (Con)	52	-1.63	.86	>.20

Table 5. A Comparison of Changes in Reading Between Pairs of Classes

Gains in reading comprehension test scores for all students in the experimental and control groups are reported in Table 6.

d.f.	$\bar{X}_e - \bar{X}_c$	t	p
241	-2.18	-2.87	<.01

Table 6. Changes in Reading Comprehension Between Experimental and Control Groups

Table 6 indicates that gains in comprehension favored the control group at the <.01 level of significance. Thus, the answer to the second question at the beginning of the study is that students receiving the linguistic approach to English grammar did not receive higher scores in reading comprehension, as measured by the Gates-MacGinitie Reading Tests, Survey D, than did students receiving the traditional approach to English grammar.

Summary and Conclusions

This study sought to compare the effects of an English grammar program utilizing a linguistic approach with one using a traditional approach as measured by the performance of five experimental-control pairs of fourth grade classes on (a) construction of sentences which show variety in structure, and (b) comprehension of silent reading as measured by the Gates-MacGinitie Reading Tests, Survey D. On the basis of the findings, these conclusions were made:

1. Fourth grade students seem to be able to put to practical use in sentence construction the understandings derived from a study of English grammar that focuses on identification

of units within the total sentence structure which are shiftable.

2. Language understandings seem to mean more to fourth grade students when these are presented by inductive, step-by-step procedures and are immediately followed by activities which provide opportunities for practical application of the understandings taught.

3. Studying English sentence structure as it was taught in this experimental program does not appear to contribute to skill in silent reading.

This study further suggests that elementary teachers should become acquainted with new approaches to teaching English grammar and should test their suitability to teaching students in their own classrooms.

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