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To determine the variety of syntactic patterns that potential English teachers would normally use and the possible differences in their oral and written discourse, 1000-word oral and written language samples were collected from 21 student teachers. These samples were divided into T-units and classified according to 23 sentence patterns based on Paul Robert's kernel rules with selected transformations. Significant differences in syntax were identified between the subjects' oral and written language. For example, the subjects used four times as many "subject-verb-direct object" sentences in written than in oral language and they utilized a greater variety of sentence patterns in oral than in written language. (Tables show the frequency of individual sentence patterns used in the samples, significant differences between oral and written syntax, and the intercorrelation of 19 variables considered to be indicators of syntactic maturity.) (JB)

A SYNTACTIC ANALYSIS OF THE ORAL CLASSROOM LANGUAGE AND WRITTEN DISCOURSE OF TWENTY-ONE STUDENT TEACHERS OF ENGLISH IN FIVE SECONDARY GRADE LEVELS

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Language samples of 1,000 words from both oral and written discourse were collected and analyzed syntactically for this study. The results of a pilot study which examined the oral language of teachers at two college levels indicated that a mature speaker has not accomplished all the variations of syntactic patterns at his command in the given situation in the first 500 words; whereas there was little or no change between 1,000, 1,500, and 2,000 word lengths. (6) Therefore, 1,000 word samples were deemed necessary and sufficient for the analysis since the subjects had demonstrated a relative degree of proficiency in language manipulation.

Participating in this study were twenty-one student teachers of English in Grades 7, 8, 9, 10, and 11. The student teachers were seniors at the University of Texas, drawn by representative sampling from the admitted teacher candidates during the Fall Semester, 1967. All of the participants were female and had established English as one of two major teaching fields for certification which indicates they had completed, or were in the process of completing, thirty-six semester hours of English. Successful completion of the required English courses attests to some proficiency in written discourse. To determine the speech adequacy of potential teachers the College of Education requires specified courses or

a satisfactory rating on the Speech Adequacy Test, designed and executed by the Department of Speech. Each of the participants had met this requirement also.

METHOD

Collecting the Data. The oral language sample was recorded during the seventh or eighth week of teaching by the student teacher's supervisor during her weekly visit. To minimize the disruption, the supervisor sat at the back of the room with a Dictaphone 751 recording machine and a unidirectional microphone nearby. This microphone, the Dictaphone Desk Master, is effective up to forty feet.

The written discourse sample was from an evaluative theme required of all the student teachers at the end of the semester. For purposes of this study, the students were required to structure their papers in terms of four specified questions.

When both had been accomplished, the twenty-one student teachers were informed of their selection and assured of anonymity by a devised code numbering system. They each signed a written release granting research privileges to the investigator.

Analyzing the Oral and Written Samples. Converting the oral language to typescripts was accomplished by typists using the Dictaphone 752, a transcribing unit complete with a headphone and a foot pedal to regulate speed and to allow playback. A photocopying process was utilized for the written discourse samples. The first thousand words, following rollcheck and office announcements, spoken by the student teacher and the first thousand words in the evaluative theme were designated as the language samples for each participant.

As in the Hunt (2) and O'Donnell, Griffin, and Norris (4) studies, the data bank was divided into segments, T-units, consisting of "a main clause with all the subordinate clauses attached to it." (2:21). Conjunctions joining two T-units were assigned to the second T-unit. A replay of the tapes determined segmentation as in the case of now in this example taken from a typescript at the ninth grade level.

> it is a myth/now the myths were handed down from generation to generation and were told one person to another/and the versions changed/one person would tell it one way/and another person would tell it another/

Each T-unit was numbered consecutively and transferred to an analysis sheet with the same number and matching code number. The number of words was counted, the number of clauses was determined, and the number of words classified as garbles was tallied and subtracted from the T-unit length. The garbles, identified as echoes, mazes, false starts, attention claimers, and redundancies, were deleted as being more indicative of disruptive classroom conditions and habit than the amount of syntactic control at the speakers' command. Sentence fragments were also subtracted from the total number of words since they could not be attributed to a lack of sophistication in basic sentence patterns.

The twenty-three sentence patterns to classify the main clause of each T-unit compose the most distinctive difference between the analysis sheet used in this study and the Linguistic Analysis Worksheets of the study at Peabody. (4:113-114). The sentence patterns are essentially an encapsulation of Paul Robert's Kernel Rules (5:62 and 397-402) with selected single and double base transformations. (1:17). The sentence patterns appear on Table I, page 6. Numbers 1, 3, 4, 7, 12, 13, and 14

are the seven main types of English Kernel sentences. The patterns were arbitrarily arranged with double string transformations, one obligatory transformation, and five single base transformations for ease of tabulation. The decision to use Question as a sentence pattern rather than the wh transformation patterns was an effort to include all questions.

An order of precedence was established to promote rater consistency when confronted with a main clause such as "Didn't you go?" which could be tallied as T-do, T-negative, Question, or noun + intransitive verb. Following the arbitrary rule to begin with Sentence Pattern Number 23 and to tally the first pattern in question in ascending order on the page, the example above would be tallied Number 22, Question.

Sentence-combining transformations within the T-unit were classified as embedded or conjoined structures with a total of eighty-one non-clausal elements to be considered. These structures were tallied separately with subtotal and totals in cardinal numbers which provided internal checks that tended to promote individual rater consistency.

The oral language samples of the twenty-one student teachers of English resulted in 2,474 T-units, ranging in quantity from 64 to 156 T-units for individual student teachers. The written discourse resulted in 1,276 T-units with an individual student teacher range of 33 to 106. A total of 3,750 T-units was analyzed.

Rater reliability was established to recognized confidence levels by two raters, experienced English teachers, tallying 3 percent of the T-units randomly selected from the thirty-six cell grid designed for the representative sampling procedure of subject selection. Interrater

reliability was ascertained separately on sentence patterns and seven subtotals of sentence combining transformations.

The devised code number system was stamped on each oral or written T-unit analysis sheet. The numbers were used in the card punching process and provided for a series of computer designs to be initiated for the study.

Frequency counts of sentence patterns and separate non-clausal structures were made. Nineteen variables were established as potentially significant indicators of syntactic maturity, and the oral and written language samples were examined for significant differences.

TABLE I

CLASSIFICATION BY SENTENCE PATTERNS OF THE ORAL AND WRITTEN LANGUAGE OF TWENTY-ONE STUDENT TEACHERS OF ENGLISH REPORTED IN PERCENTAGES OF THE TOTAL LANGUAGE SAMPLES

Sentence Patterns	Oral	Written
1. NP Aux be NP	10.19%	10.6 %
2. NP Aux be (Int) Adj	5.33	15.7
3. NP Aux be Adv-p	1.2	.57
4. NP Aux Vi1	1.2	.33
5. NP Aux Vi2 Prt	2.64	5.52
6. NP Aux Vi3 Comp	2.64	2.51
7. NP Aux Vt1 NP	4.54	9.08
8. NP Aux Vt2 Prt NP	7.78	26.2
9. NP Aux Vt3 Comp NP	8.29	5.11
10. NP Aux Vt to Comp NP	1.07	3.81
11. NP Aux Vt ing Comp NP	.14	1.3
12. NP Aux Vb NP	.14	.57
13. NP Aux Vb (Int) Adj	.05	1.46
14. NP Aux Vs (Int) Adj	.29	.97
15. NP Aux Vh NP	3.57	3.7
16. T-do	.37	.41
17. T-neg	5.33	7.14
18. T-affirm	.09	.0
19. T-passive	.14	.0
20. It V N	2.64	.89
21. There V N	1.57	2.11
22. Question	31.64	.97
23. Request, Command	9.17	1.05

RESULTS

Table I shows one type of comparison between the syntactic aspects of the oral and written discourse: the utilization of certain sentence patterns. This table indicates the percentage of the number of times each pattern was used divided by the total number of sentence patterns produced in one type of discourse. The interaction of teacher and students within the classroom situation result in the last two sentence patterns, Question and Request, exhibiting uneven comparisons with written discourse; therefore, Table I should be examined from Number 1 to Number 21.

The greatest difference in usage was the inclusion of almost four times as many subject-verb-direct object sentences, Number 8, in the written discourse than in the oral language. Second in comparison is the sentence pattern, Number 2, Noun + be + Adjective, which was used three times more often in written than in oral language. Interestingly enough, certain patterns such as Numbers 1, 6, 16, 18, and 19, remained constant in both types of discourse.

The oral language employed a greater number of different sentence patterns than the written language. The differences were significant ($p < .01$) in the two forms of discourse.

TABLE II

SIGNIFICANT DIFFERENCES BETWEEN TWELVE VARIABLES IN THE ORAL AND WRITTEN DISCOURSE OF TWENTY-ONE STUDENT TEACHERS OF ENGLISH

Variables	Oral Means	Written Means	p
1. Length of T-unit	112.22 *	60.846 *	.0000
2. Length of Clause	6.248	8.867	.0000
3. Number of Different Sentence Patterns	14.409	12.363	.0031
4. Number of T-units	112.409	57.863	.0000
5. Noun-Possessive	12.283	42.205	.0000
6. Adverbial Clause-Time	3.186	10.934	.0002
7. Adverbial Clause-Cause	2.564	5.340	.0010
8. Conjoined-Adjectivals	4.465	11.853	.0015
9. Conjoined-Nominals	18.0514	57.4029	.0002
10. Conjoined Predicate-Vi2-Prt	1.7842	3.544	.0094
11. Conjoined Predicate-Vt1-NP	1.9830	4.741	.0079
12. Conjoined Predicate-Vt2-Prt-NP	2.610	6.75	.0137

* Length of T-unit in oral and written is the number of T-units per 1,000 words: the larger the number, the shorter the T-unit.

Table II presents the means of twelve variables in written discourse and the means of twelve variables in the oral classroom language. In all twelve variables the differences were significant ($p < .05$) in the two forms of discourse. Student teachers composed significantly longer clauses ($p < .01$) in writing than in speaking. The number of possessives modifying nouns was significantly greater ($p < .01$) in written than in oral language. Significantly more adverbial clauses of time and of cause, more conjoined adjectivals and nominals, and more conjoined predicates ($p < .01$) were utilized in written than oral discourse.

Nineteen variables are presented in Table III, with the 1 percent and 5 percent confidence levels indicated by * and (*). The negative correlations in Column I are interpreted to mean that the larger number of T-units per 1,000 words indicates a decrease in the following variables:

mean number of words in the T-unit
length of T-unit
clause length
Noun + Relative Clause

The structure Noun + Possessive correlated significantly with four variables while three of the types of adverbial clauses, manner, cause, and concession, were significantly different from one variable each. One variable, Number of T-units, is essentially a redundancy of the T-unit length and should not be considered a separate potential indicator of syntactic maturity when both are reported.

TABLE III

INTERCORRELATION MATRIX OF THE WRITTEN AND ORAL LANGUAGE
TEACHERS OF ENGLISH--(Decima

	1	2	3	4	5	6	7	8	9	
1. T-Unit Length	..	(*)		(*)		*				
2. Clause Length	-72	...	*	(*)		(*)				
3. Different Sentence Patterns	18	-44	...			*				
4. Number T-Units	91	-77	34	...		(*)				
5. Garbles	02	-09	-01	-07	...					
6. Noun-Possessive	-49	62	-47	-59	03	...				
7. Adverbial Clause-Time	-41	34	-07	-29	-23	12	...			
8. Adverbial Clause-Place	01	-23	-06	-05	-02	-18	-07	...		
9. Adverbial Clause-Manner	-31	26	-27	-43	01	39	-02	-07	...	
10. Adverbial Clause-Cause	-07	-03	01	-14	-19	25	14	19	-15	.
11. Adverbial Clause-Condition	-38	18	07	-29	-13	27	22	-07	-14	
12. Adverbial Clause-Concession	-08	-07	-09	-17	24	-07	-03	22	14	
13. Conjoined Adjectives	-00	24	-13	-07	-07	24	07	-27	-07	
14. Conjoined Adverbs	-37	09	04	-35	-16	16	10	06	52	
15. Conjoined Nominals	-49	73	-46	-62	-04	58	-07	12	36	-
16. Conjoined Vt2-Prt	-31	03	09	-18	-00	-15	41	32	-09	-
17. Conjoined Vt1-NP	-04	-24	15	17	04	-28	-03	19	-08	-
18. Conjoined Vt2-Prt-NP	-22	03	-04	-08	11	11	-29	06	-06	
19. Noun-Relative Clause	-57	54	-02	-53	06	15	36	-21	-07	

* Significant Differences at 5 percent Confidence Level.
(*) Significant Differences at 1 percent Confidence Level.

LE III

ORAL LANGUAGE OF TWENTY-ONE STUDENT

LISH--(Decimals omitted)

7	8	9	10	11	12	13	14	15	16	17	18	19
								*				(*)
								(*)				(*)
								*				
								(*)				(*)
								(*)				
..												
-07	...											
-02	-07	...					*					
14	19	-15	...									
22	-07	-14	32	...								(*)
-03	22	14	05	-09	...				*			
07	-27	-07	16	-04	-15	...						
10	06	52	14	35	-09	09	...					
-07	12	36	-11	11	06	05	29	...				
41	32	-09	-00	09	48	19	17	-09	...	(*)		
-03	19	-08	-33	-19	18	-02	24	-04	60	...	*	
-29	06	-06	03	04	03	-05	07	16	06	44	...	
36	-21	-07	01	57	09	-12	-13	15	13	-31	-02	..

Thus, in three ways the syntactic aspects of the oral and written samples have been compared: the percentage of sentence patterns utilized, the significant differences of twelve variables with the means and probability levels reported, and the significant differences that exist between twenty-one pairs of nineteen variables indicated.

In general, the written discourse of the student teachers was more syntactically mature than was the oral classroom language. Length of T-unit, clause length, and the number of nouns with relative clauses tended to be the best indicators of syntactic maturity. The syntactic maturity in the written discourse, as indicated by the extended T-unit length, was found to be due to multiple subordination rather than expanded clauses.

One more comparison of the oral language of the student teachers assigned to five grade levels is presented in Figure 1. This graph is of the mean number of words per T-unit in the speech of elementary school children in Murfreesboro, Tennessee and the mean number of words per T-unit in the speech of teachers at seven grade levels. Grades 7, 8, 9, 10, and 11 are from this study, and Grades 13 and 16 are from the pilot study of this investigation. The graph is simply a description of the syntactic maturity levels of the twenty-one student teachers talking to school children who are capable of speaking in longer T-units than the teachers were utilizing. Interestingly enough, the increase from the teachers in Grade 11 to the teachers of Freshmen in college compares to the growth in T-unit length from Kindergarten to Grade 7 by the children. The small teacher population at all seven levels discourages any generalizations to the population at large.

Students' Oral Language in Murfreesboro, Tennesee (Ref.: O'Donnell, Griffin, and Norris, 1957, p. 45.)

Teachers' Oral Language in Austin, Texas

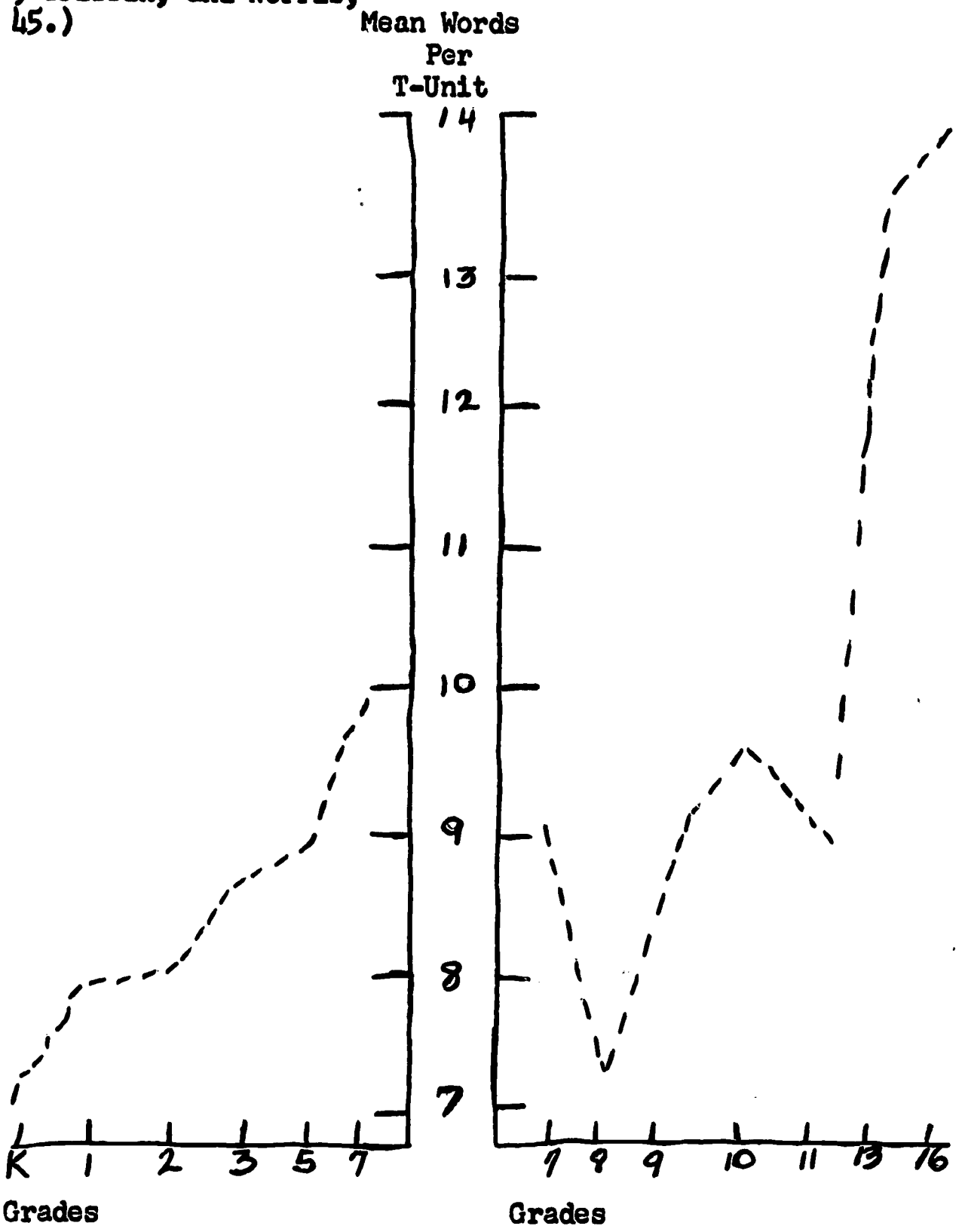

Figure 1. Mean Words Per T-Unit in the Oral Language of Students in Murfreesboro, Tennessee and Teachers at Seven Grade Levels in Austin, Texas.

DISCUSSION

The contrasts in syntactic maturity levels present in the oral and written language samples are possibly multicausative. The oral classroom language could indicate an audience-accommodation factor wherein the student teachers were attempting to adjust their language to the listening levels of the students. The fact that the student teachers consistently used less mature syntactic structures than the grade level is capable of producing could be the result of a lack of experience with the age group and/or a general lack of perceptiveness.

A second possibility for the variance could be the student teachers' recent experiences as college students. Whereas college students seldom are required to demonstrate verbal prowess; they must exhibit an ability to produce acceptable written discourse. The literature does not furnish a comparison of the oral and written syntactic maturity for college students; however, it is conceivable that the two forms of communication are at separate developmental stages of proficiency in college seniors who have a major emphasis in English.

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