

1971

A Study of Lower Class and Middle Class Students' Sentence Conjoining and Embedding

Gerald W. Walton
University of Mississippi

Follow this and additional works at: https://egrove.olemiss.edu/ms_studies_eng

Recommended Citation

Walton, Gerald W. (1971) "A Study of Lower Class and Middle Class Students' Sentence Conjoining and Embedding," *Studies in English*: Vol. 11 , Article 5.
Available at: https://egrove.olemiss.edu/ms_studies_eng/vol11/iss1/5

This Article is brought to you for free and open access by the English at eGrove. It has been accepted for inclusion in *Studies in English* by an authorized editor of eGrove. For more information, please contact egrove@olemiss.edu.

A STUDY OF LOWER CLASS AND MIDDLE CLASS STUDENTS' SENTENCE CONJOINING AND EMBEDDING¹

by Gerald W. Walton

I. Introduction

Long before they had any knowledge of kernel sentences or the formal concept of sentence embedding or transformational rules—indeed, long before Chomsky's important 1957 publication²—elementary-school teachers were clearly aware that a pupil who wrote "I see the red ball" was using a more adult, more sophisticated sentence than the person who used "I see the ball and it is red" to express the same idea. This study joins many others that have investigated, in various ways, students' abilities to perform the task of producing the more adult sentences. It seems unnecessary to comment on the other studies because of the excellent summaries provided by such writers as Loban,³ Hunt,⁴ Bateman and Zidonis,⁵ O'Donnell, Griffin, and Norris,⁶ and Mellon⁷ in their recent NCTE Research Reports. (See especially their sections on Related Research, Related Studies, Background Research, etc.)

¹I am grateful to the pupils, the teachers, and the school principals at Elliott School, Randolph School, Whittier Junior High School, and Lefler Junior High School (all in Lincoln, Nebraska) for allowing me to conduct this study. The research was supported by the University of Nebraska segment of Tri-University Project and by the University of Mississippi, which granted me a sabbatical leave during the 1969-70 academic year.

²Noam Chomsky, *Syntactic Structures* (The Hague: Mouton & Company, 1957).

³Walter Loban, *The Language of Elementary School Children* (Champaign, Illinois: National Council of Teachers of English, 1963.)

⁴Kellogg W. Hunt, *Grammatical Structures Written at Three Grade Levels* (Champaign, Illinois: National Council of Teachers of English, 1965).

⁵Donald R. Bateman and Frank J. Zidonis, *The Effect of a Study of Transformational Grammar on the Writing of Ninth and Tenth Graders* (Champaign, Illinois: National Council of Teachers of English, 1966).

⁶Roy C. O'Donnell, William J. Griffin, and Raymond C. Norris, *Syntax of Kindergarten and Elementary School Children: A Transformational Analysis* (Champaign, Illinois: National Council of Teachers of English, 1967).

⁷John C. Mellon, *Transformational Sentence-Combining: A Method for Enhancing the Development of Syntactic Fluency in English Composition* (Champaign, Illinois: National Council of Teachers of English, 1969).

II. The Experiment: the Procedures and Purposes

Although my analysis is a semi-transformational grammar approach, the study itself is quite different from most of those referred to above and most of the ones summarized in them (Menyuk⁸ and C. Chomsky⁹ should be added to the list also). I had no control groups and no experimental groups; I took no account of the students' intelligence quotients or the education of the students' parents; to my knowledge, none of the students had formally practiced the combining of two kernel sentences. None of the students had any knowledge of transformational-generative grammar; all of them had used English textbooks with a fairly traditional approach. My study was a one-shot examination, with no follow-up of any kind.

It might be said, then, that the present study differs from others mostly in that my purpose was to compare sentences written by lower class children and middle class children (cf., for example, Osser, Wang, and Zaid,¹⁰ and Lawton¹¹).

Two elementary schools in Lincoln, Nebraska, were used. Elliott School has over 60 percent disadvantaged youth (poor whites, blacks, American Indians, and Spanish-Americans); Randolph School is an all-white middle-class school. Samples were also taken from two junior high schools: Whittier Junior High School is the neighborhood school to which most of the Elliott children go; Lefler is the neighborhood school attended by most Randolph children.

During the middle of the 1969-70 school year I used subjects from the second, third, fourth, fifth, and sixth grades at Elliott School and Randolph School (at least twenty students from each). I then administered the same exercise to one seventh grade English class at Whittier and one at Lefler. Each student was given a list of five groups of sen-

⁸Paula Menyuk, *Sentences Children Use* (Cambridge, Massachusetts: The MIT Press, 1969).

⁹Carol Chomsky, *Acquisition of Syntax in Children from 5 to 10* (Cambridge, Massachusetts: The MIT Press, 1969).

¹⁰Harry Osser, Marilyn D. Wang, and Farida Zaid, "The Young Child's Ability to Imitate and Comprehend Speech: A Comparison of Two Sub-Cultural Groups," *Child Development*, XL (December, 1969), 1063-1075.

¹¹Denis Lawton, *Social Class, Language, and Education* (London: Routledge & Kegan Paul, 1968).

GERALD W. WALTON

tences, each group containing two kernel sentences with the same NP. The students were told: "Given below are five groups of sentences. Note that in each case there are two sentences about the same thing—for example, a ball and a ball, a man and a man, and so on. What you are to do is read the sentences carefully and then re-write them so that the two sentences are combined or made one sentence. You may leave out words, add words, or change things around, but you should be sure to do two things: (1) make the two sentences into one sentence, and (2) make your new sentence have the same meaning of the two sentences or say about the same thing the two said. Now, try number one and then stop to see some examples before you go on to number two." After the children did their writing for number one, I told them: "There's no right or wrong way to do these, but these are some of the best ways I think you could make these two sentences (I see the ball. The ball has a star on it.) into one sentence." I then showed them these examples:

I see the ball that has a star on it.

I see the ball which has a star on it.

The ball I see has a star on it.

I see the ball with a star on it.

I continued: "You might keep these examples in mind as you go on to the other exercises and finish them." The example sentences were erased so that they could not be seen during the rest of the examination.

The decision to use subjects from the second through the seventh grades was a somewhat arbitrary one. I experimented with some first graders who were able to handle the exercises quite adequately, but for the most part first graders were not able to read, write, or reason well enough to make me feel that my results would be worth their efforts. I have given the exercises to eighth graders and to some adults, but my reasoning was that I could use seventh-grade writing as a sample of adult writing.

The sentences used were these:

1. I see the ball.

The ball has a star on it.

2. I know the man.

The man is a teacher.

3. I see the boy.

The boy is playing in the street.

4. I see the ball.
The ball is red.
5. John has a ball.
I see a ball.

III. A Note on the Appendices

While I hope the appendices will stand alone, some remarks on them and their interpretation may be helpful before specific conclusions are listed. Appendices A through J are analyses of correct responses.

The "clauses connected with *and*" line (G in Appendix A and B) refers to the type of sentence made by the simple coordination of clauses (for example "I see the ball and the ball has a star on it"). *And* was the only coordinating conjunction used by any of the writers. The appendices show a sentence-by-sentence analysis of the usage. A grade-by-grade analysis shows no particularly interesting information except perhaps the seventh-grade decline.

Grade	Number of clauses connected with <i>and</i>
2	14
3	17
4	15
5	12
6	18
7	<u>5</u>
	81

The noun-clauses column is for those sentences which show the embedding of a kernel as a direct object—the type of construction Jacobs and Rosenbaum¹² call a clause complementizer and the type Lees¹³ refers to as a factive noun clause. Though there is probably a considerable change in meaning when the kernel sentences are combined in an "I see (that) ball is red" manner, I have counted such

¹²Roderick A. Jacobs and Peter S. Rosenbaum, *English Transformational Grammar* (Waltham, Massachusetts: Blaisdell Publishing Company, 1968).

¹³Robert B. Lees, *The Grammar of English Nominalizations* (Bloomington, Indiana: Indiana University Research Center in Anthropology, Folklore, and Linguistics, 1960).

constructions because of my emphasis on combining in my directions to the students. A grade-by-grade analysis is given here:

Grade	Number of noun clauses
2	6
3	16
4	26
5	28
6	18
7	<u>16</u>
	110

I believe that the various parts of the appendices are self-explanatory. For example, one might follow the line for response A in Appendix A across to see that one student, a boy, gave that response in the second grade, as compared to four boys and five girls the the seventh grade.

Appendix K is another sentence-by-sentence analysis showing the ratios and percentages of correct responses. For example, reading horizontally from left to right, one finds that only one out of the twenty lower class students (5%) correctly combined the clauses for sentence 1, whereas ten out of thirty-three (31%) middle class students performed well on the same exercise.

Appendix L is a sort of grand total or average for the information given in Appendix K. By using this table, one can easily see the comparative percentages for lower class and middle class groups. Note that overall the middle class students out-performed the lower class students on every sentence.

The grades are emphasized in Appendix M. Again an easy comparison can be made between lower class and middle class students. The superior performance of the middle class students can be seen.

Appendix N shows no really significant difference between the performances of girls and boys. The lower class boys were slightly above the lower class girls, the middle class girls above the middle class boys. Overall the girls outperformed the boys slightly.

IV. Conclusions

I believe all of the major conclusions to be drawn from this study

are readily apparent if one carefully considers all of the appendices provided. Some summary statements, however, in addition to what has already been said about coordinated clauses, noun clauses, and the performances of girls versus boys, seem to be in order.

First, one can probably assume that the transformational grammarian or the psycholinguist would argue that theoretically the A responses for each sentence would be the most difficult to produce; yet it was the single response given most often for sentence 1, sentence 3, and sentence 4. It might be noted also that second graders and third graders gave this response fairly often.

The assumption seems to be that in order to produce "I see the ball with a star on it" one first embeds to get a sentence with a relative clause—"I see the ball which has a star on it"—and then transforms the relative clause to a with-phrase—"with a star on it." This was the single response given most often by both lower class and middle class students for sentence 1.

The A response for sentence 2 was given only once by a lower class student and six times by middle class students. It seems clear that the A response here (*man teacher*) involves more complicated processes than the production of simple relative clauses. One must delete the WH and BE of the relative clause and place *man* before *teacher* in order to have this compound.

For sentence 3 the single response given most often by far was A. Here again one theoretically embeds the relative clause and then deletes the WH and BE (of course my providing *in the street* as part of one of the kernel sentences made it most unlikely that anyone would then place the present participle *playing* in front of the NP).

Once more, what might be regarded as the most difficult response was the one response given most often by both lower class and middle class students for sentence 4. For response A the transformational grammarian would speak of the procedures of deleting the WH and BE and obligatorily placing the adjective that was the predicate adjective of the kernel sentence in front of the NP of the main clause.

My conversations with some of the brighter students convinced me that many of the students, both lower class and middle class, felt that "I see John's ball" was a sentence which somehow meant something different from the two sentences "John has a ball" and "I see a

ball.” The grammarian, however, might argue that the complicated series of transformations necessary for the possessive or genitive is not apparent to the student. The argument seems to be that perhaps one first produces a relative clause (“a ball which John has”) which in turn somehow generates the possessive *John's ball*.

Second, it might be noted that students from both groups tended to prefer dropping the relative pronoun when it functioned as an inverted direct object in the relative clause. The pattern for clauses with relative pronouns as direct objects was this:

sentence	relative pronoun deleted	relative pronoun as object
1	18	3
2	34	0
3	26	1
4	39	1
5	47	54

Sentence 5, of course, is a somewhat unusual sentence pattern in this exercise since both of the kernel sentences given to the students had the NP in a direct-object position.

Third, when relative pronouns were used in a subject position in a relative clause (as they could be for the first four sentences), *that* was the pronoun used most often. This chart shows the relative pronoun preferred for subjects of relative clauses (the use of *NA* indicates that the NP to be modified was inanimate and that *who* would thus not have been expected):

sentence	that	which	who
1	32	2	NA
2	31	6	22
3	31	2	12
4	42	8	NA

I am aware that a sentence like “I know a man which is a teacher” is generally considered ungrammatical, but I have counted such responses as correct in this study.

Next, I feel that a few remarks should be made about the incorrect responses. Second and third graders most often simply repeated

the two kernel sentences exactly, except that they would place either a comma or no mark of punctuation between the two clauses. Younger children quite often simply did not understand the directions and wrote completely new sentences without the meaning of at least one of the kernel sentences. Older students who missed the questions most often changed one of the NP's to a pronoun and then put only a comma between the clauses—for example, "I see the ball, it has a star on it."

The outperformance of middle class students over lower class students in almost every sentence has already been observed. Last, as might have been expected, there was general increment among both groups as they progressed from grade to grade.

Appendix A
ANALYSIS OF SENTENCE NO. 1 AS WRITTEN BY LOWER CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals	Grand Total		
	G	B	G	B	G	B	G	B	G	B	G	B				
A. I see the ball with a star	1		3		1	3		2	2	5	2	4	5	12	16	28
B. The ball I see has a star					3	1				1	1		1	4	3	7
C. The ball that I see has a star												1		1		1
D. The ball which I see has a star							1	1	1	1	1	3	5	1	6	6
E. I see the ball that has a star													1	1	1	1
F. I see the ball which has a star			1	1		3			1	2	1	1	2	7	9	9
G. Clauses connected with <i>and</i>								2				1		3	3	3
H. Noun clauses																
I. Miscellaneous sentences			2					1						3	3	3
Total Correctly Combined	1		1	6	4	8	3	5	8	5	8	9	24	34	58	58

G=girls; B=boys.

Appendix B
ANALYSIS OF SENTENCE NO. 1 AS WRITTEN BY MIDDLE CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals	Grand Total	
	G	B	G	B	G	B	G	B	G	B	G	B			
A. I see the ball with a star	1	1	1	1	4	3	6	1	5	5	4	4	21	15	36
B. The ball I see has a star		1			1		1	1	2	2	2	1	5	6	11
C. The ball that I see has a star		1												1	1
D. The ball which I see has a star											1		1		1
E. I see the ball that has a star	1	1	2	2	2	1	4	2	1	1	4	5	14	12	26
F. I see the ball which has a star				1							1		1	1	2
G. Clauses connected with <i>and</i>	2	2	1	2	1	1	1	2	3			1	8	8	16
H. Noun clauses			1	1	3	1	1	1	1	1	1	1	5	5	10
I. Miscellaneous sentences									1					1	1
Total Correctly Combined	4	6	5	7	10	7	13	7	11	10	12	12	55	49	104

G = girls; B = boys.

Appendix C
ANALYSIS OF SENTENCE NO. 2 AS WRITTEN BY LOWER CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grand Total
	G	B	G	B	G	B	G	B	G	B	G	B	
A. I know the man teacher		1										1	1
B. The man I know is a teacher			1	1			2	2			2	1	6
C. The man who(m) I know is a teacher													5
D. The man that I know is a teacher													11
E. The man which I know is a teacher													
F. I know a man who is a teacher	1		1	1	1	1	1	1	1	1	2	1	4
G. I know a man that is a teacher			2	1	2		2		2	1	2	1	5
H. I know a man which is a teacher							1				1		1
I. Clauses connected with <i>and</i>	2		1	1	1			1	1	1		1	2
J. Noun clauses	1		1		1		2	2	1	2	1	1	4
K. Miscellaneous sentences	1						1						1
Total Correctly Combined	1	4	2	5	3	6	6	6	7	5	5	6	24
													32
													56

G=girls; B=boys.

Appendix D
ANALYSIS OF SENTENCE NO. 2 AS WRITTEN BY MIDDLE CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals		Grand Total
	G	B	G	B	G	B	G	B	G	B	G	B	G	B	
A. I know the man teacher	1	1	1	1					1	1			3	3	6
B. The man I know is a teacher					1				4	4	5	5	12	11	23
C. The man who(m) I know is a teacher															
D. The man that I know is a teacher															
E. The man which I know is a teacher															
F. I know a man who is a teacher	1		1				1	2	1	1	5		8	4	12
G. I know a man that is a teacher	2		1		3	1	2	2	1	3	4		7	12	19
H. I know a man which is a teacher			1	1					1		1		2	2	4
I. Clauses connected with <i>and</i>	1	1	1		1		2		1				4	3	7
J. Noun Clauses			3	1	5	2	1	1		3	2	3	11	11	22
K. Miscellaneous sentences															
Total Correctly Combined	3	5	5	5	9	5	9	6	9	12	12	13	47	46	93

G=girls; B=boys.

Appendix E
ANALYSIS OF SENTENCE NO. 3 AS WRITTEN BY LOWER CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals	Grand Total	
	G	B	G	B	G	B	G	B	G	B	G	B			
A. I see the boy playing	1	3	4		2	2	3	5	4	4	2	5	12	23	35
B. The boy I see is playing					2	1	1	1	1	1		1	4	4	8
C. The boy who(m) I see is playing															
D. The boy that I see is playing											1		1		1
E. The boy which I see is playing															
F. I see the boy who is playing							2	1	1	1	1		4		4
G. I see the boy that is playing					1	1	1	1	2	2			6	2	8
H. I see the boy which is playing												1	1	1	1
I. Clauses connected with <i>and</i>							1		1	1			1	1	2
J. Noun clauses							2	1	1	1			1	5	3
K. Miscellaneous sentences	2														8
Total Correctly Combined	3	3	4		7	4	9	8	8	7	6	8	33	34	67

G=girls; B=boys.

Appendix F
ANALYSIS OF SENTENCE NO. 3 AS WRITTEN BY MIDDLE CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals		Grand Total
	G	B	G	B	G	B	G	B	G	B	G	B	G	B	
A. I see the boy playing	1	1	6	4	1	4	3	3	3	3	5	3	17	17	34
B. The boy I see is playing	1	1				2	1	3	3	3	3	4	9	9	18
C. The boy who(m) I see is playing															
D. The boy that I see is playing															
E. The boy which I see is playing															
F. I see the boy who is playing			1	1		4	2	1	1	2	1	7	5	12	
G. I see the boy that is playing	1		1	3	5	2	1	3	1	1	5	10	13	23	
H. I see the boy which is playing			1										1	1	
I. Clauses connected with <i>and</i>	1	1											1	2	3
J. Noun clauses			2			2	2	1	1	1	6	5	11		
K. Miscellaneous sentences										1	1	1	1	1	
Total Correctly Combined	2	3	6	9	9	7	14	9	9	12	14	52	51	103	

G = girls; B = boys.

Appendix G
ANALYSIS OF SENTENCE NO. 4 AS WRITTEN BY LOWER CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals	Grand Total	
	G	B	G	B	G	B	G	B	G	B	G	B			
A. I see the red ball			1		2	4	4	6	3	3	4	5	13	19	32
B. The ball I see is red	1				2	1		1		1	2	1	2	4	11
C. The ball that I see is red															
D. The ball which I see is red			2		2	1	2	2	2			1	6	6	12
E. I see the ball that is red								1				1	1	2	3
F. I see the ball which is red						2			1				2	2	4
G. Clauses connected with <i>and</i>	1												3	3	6
H. Noun clauses			1		1		1	1	2				3	3	6
I. Miscellaneous sentences															
Total Correctly Combined	2	3	1	3	6	9	7	8	7	7	7	8	30	38	68

G=girls; B=boys.

Appendix H
ANALYSIS OF SENTENCE NO. 4 AS WRITTEN BY MIDDLE CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Grand Total		
	G	B	G	B	G	B	G	B	G	B	G	B	G	B	
A. I see the red ball	2	2	1	1	2	2	3	3	3	6	6	9	15	23	48
B. The ball I see is red	2		1		1		5	2	5	5	4	3	16	12	28
C. The ball that I see is red										1				1	1
D. The ball which I see is red															
E. I see the ball that is red	1	1	4	2	6	4	4	2	3	3	1	2	19	11	30
F. I see the ball which is red			1		1				1		1	1	3	2	5
G. Clauses connected with <i>and</i>	2		1		1		1						3	2	5
H. Noun clauses			1	1	2	1	2	2	1				5	6	11
I. Miscellaneous sentences															
Total Correctly Combined	5	6	6	6	11	8	15	9	12	13	12	15	61	57	118

G=girls; B=boys.

Appendix I
ANALYSIS OF SENTENCE NO. 5 AS WRITTEN BY LOWER CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals		Grand Total
	G	B	G	B	G	B	G	B	G	B	G	B	G	B	
A. I see John's ball		1												1	1
B. I see a ball of John's						1								1	1
C. I see John with a ball												1		1	1
D. I see a ball John has	1		1		1		2	2	2	3				6	6
E. I see a ball that John has			1		1		2	2	1			2	2	6	5
F. I see a ball which John has															
G. John has a ball I see					1	2	1					2		4	2
H. John has a ball that I see					1		1					1	1	2	2
I. John has a ball which I see													1	1	1
J. Clauses connected with <i>and</i>	1		4		2	2	1	1	3	2		1	5	9	14
K. Noun clauses					2	1	2		2			1	1	3	6
L. Miscellaneous sentences							1							1	1
Total Correctly Combined	2	1	6	5	7	8	6	6	7	7	6	29	32	61	61

G = girls; B = boys.

Appendix J
ANALYSIS OF SENTENCE NO. 5 AS WRITTEN BY MIDDLE CLASS STUDENTS

Responses	Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Grade 7		Totals	Grand Total	
	G	B	G	B	G	B	G	B	G	B	G	B			
A. I see John's ball			1		1			2				2	1	5	6
B. I see a ball of John's										1				2	2
C. I see John with a ball					1	1		1		3	3	4	3	9	10
D. I see a ball John has	1				1	1		7	1	2	6	5	1	17	11
E. I see a ball that John has	1	2	1		1	1								3	3
F. I see a ball which John has		1							1					3	3
G. John has a ball I see					3			1		3		3	4	6	10
H. John has a ball that I see			1		1			1				1	1	3	2
I. John has a ball which I see									1					2	2
J. Clauses connected with <i>and</i>			3		2	1		3	1	2		1	1	8	6
K. Noun clauses			1	3	2			4	1	1	3	1	3	9	10
L. Miscellaneous sentences	1	1								2				2	3
Total Correctly Combined	1	3	6	8	9	6	16	9	13	15	13	14	58	55	113

G=girls; B=boys.

Appendix K
ANALYSIS BY SENTENCES: RATIO AND PERCENTAGE

Grade	Sentence No. 1			Sentence No. 2			Sentence No. 3			Sentence No. 4			Sentence No. 5							
	Lower Class	Middle Class	Ratio %	Lower Class	Middle Class	Ratio %	Lower Class	Middle Class	Ratio %	Lower Class	Middle Class	Ratio %	Lower Class	Middle Class	Ratio %					
2	1/20	5	10/33	31	5/20	25	8/33	24	6/20	30	5/33	15	5/20	25	11/33	33	2/20	10	4/33	12
3	7/20	35	12/30	40	7/20	35	10/30	33	4/20	20	15/30	50	4/20	20	12/30	40	7/20	35	14/30	47
4	12/22	55	17/24	71	9/22	41	14/24	58	11/22	50	16/24	67	15/22	68	19/24	79	12/22	55	15/24	63
5	8/20	40	20/29	69	12/20	60	15/29	52	17/20	85	23/29	79	15/20	75	24/29	83	14/20	70	25/29	86
6	13/20	65	21/30	70	12/20	60	21/30	70	15/20	75	18/30	60	14/20	70	25/30	83	13/20	65	28/30	93
7	17/20	85	24/30	80	11/20	55	25/30	83	14/20	70	26/30	87	15/20	75	27/30	90	13/20	65	27/30	90

Appendix L
ANALYSIS BY SENTENCES: OVERALL RATIO AND PERCENTAGE

Sentence No.	Lower Class Ratio Percent	Middle Class Ratio Percent
1	58/122 48	104/176 59
2	56/122 46	93/176 53
3	67/122 55	103/176 59
4	68/122 56	118/176 67
5	61/122 50	113/176 64
Overall Avg.	310/610 51	531/880 60

Appendix M
ANALYSIS BY GRADES: OVERALL RATIO AND PERCENTAGE

Grade	Lower Class Ratio Percent	Middle Class Ratio Percent
2	19/100 19	38/165 23
3	29/100 29	63/150 42
4	59/110 54	81/120 67
5	66/100 66	107/145 74
6	67/100 67	113/150 75
7	70/100 70	129/150 86
Overall Avg.	310/610 51	531/880 60

Appendix N
COMPARISON OF PERFORMANCE BY GIRLS AND BOYS

	Lower Class Girls	Boys	Middle Class Girls	Boys	Total Girls	Boys
Number tested	57	65	86	90	143	155
Number of sentences attempted	285	325	430	450	715	775
Number of sentences correct	140	170	273	258	413	428
Total percent	49	52	63	57	58	55