DOCUMENT RESUME

ED 062 355

TE 002 909

AUTHOR TITLE

Trivette, A. C.; White, Kinnard Title III, Co-Op STEP: Statistical Report Showing the Effect of Individual Instruction and Team Teaching

upon the Academic Growth of High School Students in

English.

PUB DATE

1691

NOTE

6p.; An unpublished paper

EDRS PRICE DESCRIPTORS MF-\$0.65 HC-\$3.29

Academic Achievement; Control Groups; *Educational Research; *English Instruction; Experimental Groups;

High School Students: *Individual Instruction; *Statistical Data; Summer Schools; *Tables (Data);

Team Teaching

ABSTRACT

Research designed to discover the effect of individual instruction and team teaching upon the academic growth of students in high school English during a six weeks summer school session is discussed. Two control and experimental groups were used. Results are given in tabular form. (CK)



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Title III, Co-Op STEP
Statistical Report Showing the Effect of Individual
Instruction and Team Teaching Upon the Academic
Growth of High School Students
in English

Mrs. A. C. Trivette and Dr. Kinnard White*

In 1969, Title III, Co-Op STEP designed research intended to discover the effect of individual instruction and team teaching upon the academic growth of students in high school English during a six weeks summer school session.

Two Title I schools served as control groups (Group A Traditional). In these schools the English classes were organized in the traditional manner according to grade level. There was one teacher to a class of about 18 students. State adopted text books were used. Students in the controlled groups numbered 65 of whom 82% were repeating English. The ethnic and socio-economic composition of the control groups was comparable to that of the experimental group. The school population of all groups was prodominantly rural.

The experimental groups included 132 students of whom 67% were repeaters. These groups were organized in an essentially nongraded arrangement with teaching teams, made up of instructional specialists and teacher interns working with three groups of students.

Group B was Structured English in which the course objectives, units of study, and methods of lesson presentation were planned by the instructional team. No text books were used, but learning activity packages (LAPs) were developed by the teachers and given to the students. There was some large-group instruction, more small-group instruction, and individual instruction for each according to the particular weaknesses revealed by the student's pre test scores.

Group C classes were <u>Unstructured</u> English. Here students helped to determine objectives, units of study to be covered and methods to be used. Here again, as in the Structured English, class time was used for large-group instruction, small-group instruction and individual instruction using LAPs which were actually produced by students and teachers working cooperatively.

In Group D, Humanities, an interdisciplinary approach, English and Social Studies, was used and the learning packages were developed by the instructional teams. The approach to learning was essentially the

*Mrs. A. C. Trivette, Director of Co-Op STEP, Title III, Carthage, North Carolina Dr. Kinnard White, Professor of Research UNC, Chapel Hill, North Carolina

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same as in groups B and C, but the theme and units of study were not the same as in the Structured and Unstructured English. No text books were used. Much independent study was done by the students in the Humanities Group.

All students were pre tested using form Q of the Comprehensive Test of Basic Skills and administering the tests in Reading Vocabulary, Reading Comprehension, Study Skills (Reference), Study Skills (graphs, maps, etc.), Language, Mechanics, Language Expression and Language Spelling. All students included in this study were post tested using form R of CTBS.

Those students in the Experimental groups whose total scores on Reading fell below the 38th percentile, spent approximately 160 minutes a week in the Reading Lab with a reading specialist to guide their activities. Those whose score fell below the 38th percentile on total Study Skills received 40 minutes per week in the library under the instruction of the librarian. The reason for this lies in the theory that failure in English may be attributable to reading and/or study skill inadequancies.

The results of this study are tabulated in Tables 1, 2, and 3.

Table 1.

Mean I.Q., Mean Pre and Post Raw Scores, and Standard Deviation in Reading, Language, and Study Skills for Four Groups

V	ari	ab	le	s

			Group		
		(Control)	Experimental	Experimental	Experimental
		a (65)*	. B (12)∗	C (93)*	D (27)÷
	'	Traditional	Structured	Unstructured	Humanities
		English	English	English	. •
	Mean I.Q.	87.369	92.583	90.667	87.889
	Standard Deviation	9 <u>•757</u>	11.927	13.207	9.162
	Mean, Reading		Minimal Congress of the Paris Congress of the		
į	Vocabulary (Pre-test)	18.738 ^{%*}	20.917	19.323	17.926
•	S. D.	6.137	9.080	7.518	6.60lı
	Mean Reading				
	Vocabulary 2 (Post-test	3)18.062	21.917	20.151	18.370
	S. D	7.024	9.268	7.997	7.652
	Mean Reading	A COLUMN DESCRIPTION OF THE STATE OF THE STA	The Late Bull of the Party of t		
	Comprehension (Pre-test)	20.185	21.250	21.591	20.259
į	S. D.	7.303	7.44.8	8.661	5.815
ĺ	Mean Reading				
	Comprehension (Fost-test		22.167	21.935	19.333
	S. D.	7.693	9.666	9.203	6.737
	Mean Total				-0 -0-
	Reading (Prestest)	38.646	42.167	41.269	38.185
	S. D.	12.770	15.649	16.149	11.593
	Mean Total		11 -0-	10.000	05 50
	Reading (Post-test)	36.092	141:083	ji5.000	37.70li
	S. D.	13.270	18.002	15.895	13.301
1	Mean Language	e andrewe de Priese de L'autor de L'Alberte de la provincia de 1 después de la complexión de la participa de l 1 de la participa del participa de la participa			
	Mech. (Prestest)	با10.95	13.667	13.204	13.111
	S. D.	4.453	4.735	9.544	4.475
	Mean Language	40422	40 VV		·
	Mesh. (Post-test)	11.923	15.917	17.086	14.370
ı	S. D.	5.972	Ĺ; .907	6.li30	4.805
ı	Mean Language		WANTED THE STREET THE		
	Exp. (Pre-test)	13.200	15.667	16.656	13.519
	S. D.	4.845	3.985	10.266	4.552
	Mean Language	4,000	arren sain distribus sasan.		7,00
ł	Exp. (Post-test)	12.646	17.167	17.140	15.074
	S. D.	5.541	6.520	6.641	5.053
ı	Mean Language				
ı	Spell (Pre-test)	13.569	功.250	15.376	îlı.407
1	S. D.	5.477	6.283	9.818	6.393
1	Mean Language				
	Spell (Post-test)	13.500	17.500	15.559	15.481
	S. D.	5 . 937	6.113	5.1li2	4.995
	As a committees that the state of the state	79//	00117	J 0	

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I.Q.

Reading

Language

ERIC

	·	(Control)	Experimental		Experimental
		A (65)*	B (12)*		D (27)*
		Traditional	Structured English	Unstructured English	Humanities
	Mean I.Q.	English 87.569	92.583	90.667	87.889
I.Q.	Standard Deviation	9.757	11.927	13.207	9.162
. !	THE RESIDENCE OF THE PARTY OF T	/			
	Mean, Reading Vocabulary (Pre-test)	18.738 ^{%-¥}	20.917	19.323	17.926
	S. D.	6.137	9.080	7.518	6.604
	Mean Reading		A MALLY OF LANGE STATE OF STAT		<u>-</u>
	Vocabulary 2 (Post-tes	::\18.062	21.937	20.151	18.370
	S. D.	7.024	9.268	7.997	7.652
	Mean: Reading	THE RESERVE AND PROPERTY OF THE PERSON NAMED IN	A 1 fear Suide St. September 5 The St. Committee		: 00 0 7 0
·	Comprehension (Pre-test	20.185	21.250	21.591	20.259
	s. D.	7.303	7.41.8	8.661	5.815
Reading	Mean Reading		00 = / =	מז מפל	19.333
	Comprehension (Fost-tes	st) 18.062	22.167	21.935	6.737
	S. D.	7.693	9.666	9.203	00121
	Mean Total	-0 () (42.167	41.269	38.185
	Reading (Prestest)	38.646	15.649	16.149	11.593
	S. D.	12.770	T) a OH	TO 4 Trails	
	Mean Total	36.092	1,1;.083	և2.000	37.704
	Reading (Post-test)	13.270	18.002	15.895	13.301
	S. D.				1
	Mean Language			70 00l	13.111
	Mech. (Prestest)	10.954	13.667	13.204	4.475
	S. D.	4.453	4.735	9.544	40417
	Mean Language		1° 057	17.086	14.370
•	Mech. (Post-test)	11.923	15.917 L:.907	6. <u>Li</u> 30	4.805
	S. D.	5.972	4. e 70 (
	Mean Language	12 200	15.667	16.656	13.519
	Exp. (Pre-test)	13.200 4.8և5	3.985	10.266	4.552
	S. D. Mean Language	4 0 04	PROPERTY MEANY SERVICES SERVICES		
	Exp. (Post-test)	12.646	17.16?	17.140	15.074
	S. D.	5.541	6.520	6.641	5.053
Language	Mean Language				21 105
	Spell (Pre-test)	13.569	250 يا1	15.376	14.407
	S. D.	5.477	6.283	9.818	6.393
•	Mean Language		3 7 COO	זל ללס	15.481
•	SpeIL (Post-test)	13.500	17.500	15.559 5.11;2	4.995
	S. P.	5.937	6.113	عبيره ر	4•///
•	Mean Language	37.554	43.583	41.495	41.037
	Total (Prestest)	12.456	11.285	13.647	12.368
	S. D.	37.954	53.083	49.215	<u>щ.926</u>
•	Mean Language Total (Post-test)	11: ,690	11:.362	13.736	11.884
•	THE RESERVE THE PROPERTY OF TH			N ANDERS NOT THE CONTRACT OF THE PARTY OF TH	
	Mean Study Skilis		nn //n	11.280	10.296
	Reference (Re-test)	9.154	11.667	4.490	3.291
	S. D.	3.620	<u>li . 33li</u>	8.441	7.667
	Mean Study Skilis (Re	1) 7.185	8.750 3.769	3.518	2.587
	S. D. (Post-test)	3.553 12.508	13.417	14.698	12.481
•	Mean S. S. (Graph) S. D. (Pre-test)	5.072	5.854	5.538	4.191
C+11 Are	S. D. (Pre-test) Mean S. S. Graph	12.985	13.500	15.097	12.815
Stud y Skills	Mean S. S. Graph S. D. (Post-test)	5.343	5.808	5.754	5.241
OVTTTO	Mean Total Study Skil		25.083	25.247	22.778
	S. D. (Pre-test)	7.928	9.501	9.065	6,750
	Mean Total Study Skil	1 20,169	22.250	23.538	20.481
•	S. D. (Post-test)	8.013	9.077	8.322	7.15L
	The same transfer property is a second of the same of				

^{*}Number in each group for whom test information is complete. **See Appendix A for possible scores on this test.



Forms Q and R of the California Test of Basic Skills are equated by percentile scores. For this reason, it will be meaningful to compare the pre and post test scores to determine the amount of the difference in terms of percentiles. This information is presented in Table 2.

Table 2

Mean Percentile Scores

in Reading, Study Skills, and Language

Totals - Pre and Post Tests and

Standard Deviation

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Variables	(Fraditional)	Groups (Structureā)	(Unstructured)	(Humanities)
	A	B	- C	D
Reading Total	18.077	22.917	24.925	19.222
S. D. Pre-test	16.930	19.884	23.178	16.235
Reading Total	16.923	28,500	27.140	20.074
S. D. Post-test	18.ևև0 .	24.408	24.711	<u> 16.765</u>
Study Skills Total	17.385	27.333	30,172	19.015
S. D. Pre-test	17.525	25.812	25.492	<u> 15.497</u>
Study Skills	22.308	27.917	33.753	24.222
S. D.	22.115	29.355	26.252	21.288
Tanguage Total Pre test"	15,900	22.000	24.667	21.550
s. D.	16.317	20.609	21.126	17.165
Language Total	13.923	30.833	31.011	21.963
S. D. Post test	18.912	26.236	25.308	17.293

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Analysis of covariance was used to test the hypothesis of no difference among the organizational patterns of classes. For each post test criterion, the pre test score on the criterion measure and the student's I. Q. were used as covariates. This covariance adjustment controls for any differences between the groups on the post test that might have been attributable to either differential beginning points on the criteria under consideration or differences in general ability.

For purposes of program evaluation a probability level or .10 or less was considered as adequate to reject the hypothesis of no difference.

Table 3

Summary of Analysis of Covariance for Four Ireatment Groups: Traditional, Structured, Unstructured, and Humanities, on Each of the Reading, Language, and Study Skills Scores with I.Q. and Pre-test Scores as Covariates.

Variables	F
Vocabulary Comprehension Total Reading	1.26 2.93* 2.48*
Study Skills Reference Study Skills Graph Study Skills Total	0.18 0.46 0.57
Language Mechanics Language Expression Language Spelling Language Total	7.41* 4.63* 2.47* 9.65*

df = 3,191 *pl .10

By comparing the variables starred in Table 3 with the raw scores in Table 1 and the percentile scores in Table 2, it appears that the gains in Reading Comprehension, Total Reading, Language Mechanics, Language Expression, Language Spelling, and Language Total were significant with a likelihood that these differences were due to the treatment factor, team teaching with individualized instruction.

Much more research needs to be done along the lines of this study equalizing the size of each group and extending the time. A follow-up study is being planned to test for the Hawthorne Effect.