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## ABSTRACT

Since July 1971, the Educational Testing Service has planned and conducted a study of compensatory reading programs in Onited States public schools. This document, an addendum to the final report for phase two of the study, includes a discussion of the relationship of classroom observations and effectiveness in the phase two sample of noteworthy schools, a description of the study conducted in the summer of 1973, and an appendix containing questionnaires for administrators and teachers in the summer-program survey. Forty-six tables of findings are included. (JM)

ADDENDUM I
TO THE
FINAL REPORT，VOLUME I

Contract No．OEC－0－71－3715

A DESCRIPTIVE AND ANALYTIC STUDY OF
COMPENSATORY READING PROGRAMS

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$\because$
The research reported herein was performed pursuant to a contract with the Office of．Education，U．S．Department of Health，Education， and．Welfare．Contractors undertaking such projects under Govern－ ment sponsorship are encouraged to express freely their professional judgment in the conduct of the project．Points of view or opinions stated do not，therefore，necessarily represent official Office of Education position or policy．

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2

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## Chapter I: THE RELATIONSHIP OF CLASSROOM OBSERVATIONS AND EFFECTIVENESS IN THE. "NOTEWORTHY" SAMPLE

Observational data were obtained from a group of schools supplementary to the 1972-1973 sample. The selection of these "noteworthy" schools is described in the Final Report, Volume I, pp. 34-35. The development and characteristics of the Student and Teacher Observation Scales are described in the Final Report, Volume I, pp. 26-31, and in three published monographs. $1,2,3$

The reading achievement and attitude toward reading measures administered to the entire 1972-1973 sample of schools were also administered to the "noteworthy" sample, which included 23 Title I funded schools out of a total of 34 . Thus it was possible to obtain correlations, using the class mean as the unit of analysis, between the proportion of time spent in various teacher and student activity categories and the class achievement and attitude effectiveness indices. Although the classroom observers coded individual student (and teacher) behavior, it was on a time-sampling basis. Thus the smallest unit for which valid observational measurements were obtained was the class. It was, however, possible to classify each student within each class as either CR or NUR, thereby enabling the computation of correlations between obscrvational variables and both CR and NCR effectiveness. These correlations were obtained, separately for $C R$ and NCR data, after removing the effects of the pretest and the pretest squared from both posttest and the observational variables.

For the Teacher Observations, correlations were obtained separately within each of the 330 cells of the following factorial design:

[^0]Grade (2, 4, 6):
Student status (CR/NCR)
Mode of Instruction (teacher-talk, other adult-talk, studenttalk, machine, and no-talk) ${ }^{1}$
Content of Instruction (comprehension, pronunciation and word recognition, language structure, reading silently, spelling, listening instruction, non-reading instruction, management instruction, positive feedback, negative feedback, extraneous) ${ }^{2}$
For the Student Observations, correlations were obtained separately within each of the 288 cells of the following factorial design:

Grade (2, 4, 6)
Student status (CR/NCR),
Group of Instruction (teacher, other adult, peer, alone) ${ }^{3}$
Content of Instruction (comprehension, pronunciation and word recognition, language structure, reading silently, spelling, writing, listening instruction, non-reading instruction, management instruction, positive feedback, negative feedback, extraneous) ${ }^{4}$

Uiserver reliabilities for the student observational variables, as determined on the last day of training, were as follows: ${ }^{5}$ reliabilities for the Group of instruction ranged from 81 to 1.0 with a median coefficient of .96 ; for the Content of instruction, the reliabilities ranged from. 67 to .99 with a median coefficient of .90 ; for the Group-Content dimensions, the reliabilities ranged from . 62 to . 99 with a median cuefficient of .86. Reliabilities for the Teacher observ̈ational variables were as follows: ${ }^{6}$ reliabilities for the Mode of instruction ranged from .79 to .99 with a median coefficient of . 94; for the Content of instruction, the reliabilities ranged from .54 to . 98 with a median coefficient of .88 ; for the Mode-Content dimensions, the reliablilities ranged from .63 to .98 with a.median coefficient of .85

[^1]Analyses of variance were performed for the following comparisons, using as the dependent variables the correlation (transformed to Fisher's $z$ coefficient) of (a) reading achievement effectiveness ${ }^{l}$ and (b) attitude toward reading effectiveness with the proportion of time spent in each of the activities defined by the above mentioned cells:

1. CR/NCR $x$ teacher content of instruction, separately by grade
2. $C R / N C R x$ teacher mode of instruction, separately by grade
3. grade $x$ teacher content of instruction, separately by CR/NCR
4. grade $x$ teacher mode of instruction, separately by CR/NCR
5. CR/NCR $x$ student content of instrūction, separately by grade
6. CR/NCR $x$ student group of instruction, separately by grade
7. grade $x$ student content of instruction, separately by CR/NCR
8. grade $x$ student group of instruction, separately by CR/NCR

Table 1 shows the results of these analyses, in the order of the comparisons listed above.

[^2]Table 1
Analyses of Variance of the Correlation Fetween Ob:iervational Variables and Effectiveness in the "Notewor thy". Sample


Grade 4

| Correlation with | CR/NCR | NS | 1 |  |
| :--- | :--- | :---: | :---: | :--- |
| Reading Achieve- | TC | $2.3^{1}$ | 10 | .19 |
| ment Effectiveness | CR/NCR x TC | NS | .10 |  |
|  | CR/NCR | NS | 1 |  |
|  | TM | $2.6^{1}$ | 4 | .09 |
|  | CR/NCR $\times$ TM | .$N S$ | 4 |  |

Grade 6
Correlation with Reading Achievement Effectiveness

| CR/NCR | NS | 1 |  |  |  |
| :--- | :--- | ---: | :--- | :--- | :--- |
| TC | $2.3^{1}$ | 10 |  | . | .19 |
| CR/NCR $\times$ TC | $2.2^{1}$ | 10 |  | .16 |  |
| CR/NCR | NS | 1 |  |  |  |
| TM | NS | 4 |  |  |  |
| CR/NCR $\times$ TM | NS |  | 4. |  |  |

## CR Effectiveness

| Correlation with | Grade | NS | 2 |  |
| :--- | :--- | :--- | :--- | :--- |
| Reading Achieve- | TC | $2.9^{2}$ | 10 | .16 |
| ment Effectiveness | Grade X TC | NS | 20 | $\cdot$ |

$$
-5-
$$

Table 1 (cont.)

| Grade | NS | 2 |
| :--- | :---: | :---: |
| TM | NS | 4 |
| Grade $\times$ TM | NS | 8 |

NCR Effectiveness
Correlation with Grade NS 2

Reading Achievement Effectiveness
TC

Grade x TC
Grade NS 2
TM NS 4

Grade $x$ TM $2.8^{2} 8$ *
Grade 2
Correlation with Reading Achievement Effectiveness

CR/NCR
NS
1
Student content(SC)
of instruction NS 11
CR/NCR $x$ SC NS 11
CR/NCR 4.11 $11^{1} 03$

Student group (SG)

| of instruction | $14.0^{3}$ | 3 | .31 |
| :--- | :--- | :--- | :--- |
| CR/NCR $\times$ SG | $11.2^{3}$ | 3 | .18 |

.18
Grade 4
Correlation with Reading Achievement Effectiveness

| CR/NCR | $\cdot$ | NS | 1 |
| :--- | :--- | ---: | ---: |
| SC | $\cdot$ | NS | 11 |

CR/NCR x S C NS . 11

| CR/NCR | NS | 1 |  |
| :--- | ---: | :--- | :--- |
| SG | $12.8^{3}$ | 3 | $.29^{\circ}$ |
| CR/NCR $\times$ SG | $9.0^{3}$ | 3 | .17 |

Grade 6
Correlation with
Reading Achievement Effectiveness

| CR/NCR | NS | 1 |
| :--- | :---: | ---: |
| SC | NS | 11 |
| CR/NCR $\times$ SC | NS | 11 |
| CR/NCR | NS | 1 |
| SG | NS | 3 |
| CR/NCR $\times$ SG | NS | 3 |

Table 1 (cont.)
CR Effectiveness

| Correlation with | Grade | NS | 2 |  |  |  |
| :--- | :--- | :--- | ---: | :--- | :--- | :--- | :--- |
| Reading Achieve- | SC | $2.2^{3}$ | 11 | .16 | $\cdot$ | $:$ |
| ment Effectiveness | Grade x SC | NS | 22 |  |  |  |
|  | Grade | NS | 2 |  | . |  |
|  | SG | NS | 3 |  |  |  |
|  | Grade $\times$ SG | $2.6^{3}$ | 6 | .10 |  |  |

NCR Effectiveness

| Correlation with | Grade | NS | 2 |  |
| :--- | :--- | :--- | ---: | :--- |
| Reading Achieve- <br> ment Effectiveness | SC | NS | 11 |  |
|  | Grade x SC | NS | 22 |  |
|  | Grade | $3.3^{1}$ | 2 | .04 |
|  | SG | $7.6^{3}$ | 3 | .14 |
|  | Grade $\times$ SG | $7.3^{3}$ | 6 | .21 |

Grade 2
Correlat
Attitude
ness

Grade 4

| Correlation with | CR/NCR | $4.4{ }^{1}$ | 1 | . 03 |
| :---: | :---: | :---: | :---: | :---: |
| Attitude Effectiveness | TC | $2.9{ }^{2}$ | 10 | . 21 , |
|  | CR/NCR x TC | NS | 10 |  |
|  | CR/NCR | NS | 1 |  |
|  | TM | NS | 4 |  |
|  | CR/NCR x TM | NS | 4 |  |
| Grade 6 |  |  |  |  |
| Correlation with | CR/NCR | NS | 1 |  |
| Attitude Effective- | TC | $2.0{ }^{1}$ | 10 | . 17 |
|  | CR/NCR x TC | $2.3{ }^{1}$ | 10 | . 17 |

Table 1 (cont.)

| $\cdots$ | CR/NCR | NS | 1 | - |
| :---: | :---: | :---: | :---: | :---: |
|  | TM | NS | 4 |  |
|  | CR/NCR $\times$ TM | NS | 4 |  |
| CR Effectiveness |  |  |  |  |
| Correlation with | Grade | NS | 2 |  |
| Attitude Effectiveness | TC | NS | 10 |  |
|  | Grade x TC | $2.4{ }^{2}$ | 20 | . 24 |
|  | Grade | NS | 2 |  |
|  | TM | NS | 4 |  |
|  | Grade x TM | NS | 8 |  |

NCR Effectiveness

| Correlation with | Grade | NS | 2 |  |
| :---: | :---: | :---: | :---: | :---: |
| Attitude Effective- | TC | $2.2{ }^{1}$ | 10 | . 15 |
|  | Grade x TC | $1.8{ }^{1}$ | 20 | . 18 |
|  | Grade | NS |  |  |
|  | TM | NS |  |  |
|  | Grade x TM | NS |  |  |

Grade 2

| Correlation with | CR/NCR | NS | 1 |  |
| :--- | :--- | :--- | ---: | :--- |
| Attitude Effective- | SC | NS | 11 |  |
| ness | CR/NCR $\times$ SC | NS | 11 |  |
|  | CR/NCR | NS | 1 |  |
|  | SG | $2.8^{1}$ | 3 | .08 |
|  | CR/NCR $\times$ SG | NS | 3 | . |

Grade 4
$\left.\begin{array}{llcrl}\text { Correlation with } & \text { CR/NCR } & \text { NS } & 1 & \\ \begin{array}{ll}\text { Attitude Effective- } \\ \text { ness }\end{array} & \text { SC } & \text { NS } & 11 & \\ & & \text { CR/NCR } \times \text { SC } & \text { NS } & 11\end{array}\right]$

Table 1 (cont.)

| CR/NCR x | SC | NS | 11 |
| :--- | :---: | :---: | ---: |
| CR/NCR | $:$ | NS | 1 |
| SG |  | NS | 3 |
| CR/NCR - $\times \mathrm{SG}$ | $\ldots$ NS | 3 |  |

CR Effectiveness

| Correlation with | Grade | NS | 2 |  |
| :--- | :--- | :---: | :---: | :---: |
| Attitude Effective- | SC | NS | 11 |  |
| ness | Grade $\times$ SC | NS | 22 |  |
|  | Grade | $3.4^{1}$ | 2 | .03 |
|  | SG | $9.9^{3}$ | 3 | .17 |
|  | Grade $\times$ SG | $2.2^{1}$ | 6 | .07 |

## NCR Effectiveness

Correlation with Attitude Effectiveness
Grade
$5.7^{2} \quad 2$
.07
SC NS 11
Grade x SC NS 22
Grade .
$5.5^{2} \quad 2$
07
SG
NS
3
Grade x SG
NS
6
${ }^{1} .05$ level $\quad{ }^{2} .01$ level $\quad{ }^{3} .001$ level

Examination of Table l reveals numerout significant relationships at both the main effect and interaction levels. In the discussion to follow, significant differences at the main effect level are interpreted only when the accompanying interaction is non-significant.

Cell Means For Statistically Significant Main Effects and Interactions
In grade 2, a significant interaction is shown between CR/NCR and teacher mode of instruction. Table 2 shows the CR/NCR x TM mean correlations (all analyses were performed on correlation coefficients transformed to Fisher's z coefficient; the means in $\sim \cdots$ the following tables have been retransformed into correlation coefficients).

Table 2
Grade 2 CR/NCR x TM Interaction Means
(Achievement Effectiveness)


Figure 1 shows graphically the CR/NCR x TM interaction of Table 2. The interaction is represented by the differences among the five patterns of the paired histograms.

Figure 1


Inspection of Figure 1 (and Table 2) shows that the difference between the "Other Adult Talk" and "No Talk" patterns (they are virtually opposites) is a major insluence contributing to the CR/NCR $x$ Teacher Mode of Instruction interaction. It seems that achievement of CR students is positively assoclated with talk by adults other than the teacher (e.g., teacher aides) and negatively associated with an absence of taik, while the revorse is irue for NCR students.

Table 3 shows means for the Teacher Content of Instruction main effect in grade 4 .

Table 3
Grade 4 TC Main Effect Means (Achievement Effectiveness)
Comprehension 02

Pronunciation and Word Recognition -. 06
Language Structure . . 14
Reading Silently -. 12
Spelling . . . . 09
Listening Instruction . . . . 06
Non-Reading Instruction -.... 09
Management Instruction . -. 05
Positive Feedback -.. 04
Negative Feedback . -. 07
Extraneous . 03

Reference to Table 3 shows the Teacher Content of Instruction categories of Language Structure and Spelling to have relatively large positive relationships to reading achievement effectiveness, and Reading Silently and Non-Reading Instruction to have relatively large negative relationships to reading achievement effectiveness.

Following are tables showing cell means for all the remaining significant interactions and all significant main effects unconfounded by significant interactions.

Table 4
Grade 6 CR/NCR x TC Interaction Means
(Achievement Effectiveness)


Table 5
CR TC Main Effect Means (Achievement Effectiveness)

| Comprehension | $\ddots$ | .05 |
| :--- | ---: | ---: |
| Pronunciation and Word Recognition |  | -.15 |
| Language Structure |  | .15 |
| Reading Silently |  | -.01 |
| Spelling |  | -.12 |
| Listening Instruction | $\ddots$ | -.09 |
| Non-Reading Instruction |  | -.10 |
| Management Instruction |  | .03 |
| Positive Feedback |  | .02 |
| Negative Feedback |  | -.07 |
| Extraneous |  | -.07 |

Table 6
NCR Grade x TC Interaction Means
(Achievëment Effectiveness)

|  | Grade 2 | Grade - 4 | Grade 6 |  |
| :---: | :---: | :---: | :---: | :---: |
| Comprehension | -. 02 | . 02 | . 16 |  |
| Pronunciation and Word Recognition | . 01 | -. 06 | -. 15 |  |
| Language Structure | . 06 | . 14 | . 03 |  |
| Reading Silently | -. 00 | -. 12 | -. 00 |  |
| Spelling | -. 01 | . 09 | -. 21 |  |
| Listening Instruction | -. 13 | . 06 | -. 11 | 0 |
| Non-Reading Instruction | -. 22 | -. 09 | -. 05 | $\cdots$ |
| Management Instruction | . 05 | -. 05 | . 14 |  |
| Positive Feedback | . 06 | -. 04 | -. 09 |  |
| Negatịve Feedback | -. 03 | -. 07 | -. 12 |  |
| Extraneous | -. 05 | . 03 | -. 04 |  |

Table 7
NCR Grade $x$ TM Interaction Means
(Achievement Effectiveness)
ramer
$\cdots$

| $\vdots$. | Grade 2 | Grade 4 | Grade 6 |
| :---: | :---: | :---: | :---: |
| Teacher Talk | -. 09 | -. 02 | -. 05 |
| Other Adult Talk | -. 07 | . 06 | -. 09 |
| Student Talk | -. 04 | . 04 | . 02 |
| Machine | . 04 | -. 07 | -. 01 |
| No-Talk | . 02 | -. 06 | -. 06 |

Table 8
Grade 2 CR/NCR x SG Interaction Means (Achievement Effectiveness)

|  |  | CR | NCR |
| :--- | ---: | ---: | ---: |
| Teacher |  | .16 | -.25 |
| Other Adult |  | .15 | .70 |
| Peer |  | -.21 | -.06 |
| Alone |  | -.18 | .00 |

Table 9
Grade 4 CR/NCR x SG Interaction Means
(Achievement Effectiveness)

| $\cdots \cdots$ |
| :--- |



Table 10
CR SC Main Effect Means
(Achievement Effectiveness)
Comprehension . . 09

Pronunciation and Word Recognition . 34
Language Structure $\quad \therefore \quad . \quad . \quad-.07$
Reading Silently . . -. 07
Spelling . -. . 00
Writing .. . 33
Listening Instruction . . -. 18
Non-Reading Instruction $\quad-.02$
Management Instruction -. 17
Positive Feedback -. 06
Negative Feedback . -. 08
Extraneous

Table 11
CR Grade x SG Interaction Means (Achievement Effectiveness)

|  | Grade 2 | Grade.4 | Grade 6 |
| :--- | ---: | :---: | ---: |
| Teacher | -.16 | .01 | -.11 |
| Other Adult | .15 | .15 | .01 |
| Peer | -.21 | -.08 | .33 |
| Alone | -.18 | -.07 | -.04 |

Table 12.
NCR Grade x SG Interaction Means (Achievement Effectiveness)

| $\cdot$ | Grade 2 | Grade 4 | . | Grade 6 |
| :--- | ---: | :---: | :---: | :---: |
| Teacher | -.26 | .05 | -.02 |  |
| Other Adult | .70 | .84 | -.45 |  |
| Peer | -.06 | -.41 | -.05 |  |
| Alone | .00 | -.14 | -.12 |  |

Table 13
Grade 2 CR/NCR x TM Interaction Means
(Attitude Effectiveness)

## 5

|  |  | $\underset{\underset{\sim}{\mathrm{H}}}{\underset{\sim}{n}}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} \text { N } \\ \underset{জ}{\text { Na}} \end{gathered}$ |  |  |
|  |  | $\begin{array}{r} \overleftarrow{4} \\ \stackrel{y}{む} \\ \stackrel{+}{\circ} \\ \hline \end{array}$ |  |  |  |
| CR | $-.03$ | \%01 | -. 07 | . 15 | . 10 |
| NCR. | -. 04 | -. 25 | . 08 | . 14 | 06 |

Table 14
Grade 4 CR/NCR Main Effect Means
(Attitude Effectiveness)

| CR | -.01 |
| ---: | ---: |
| NCR | .07 |

Table 15
Grade 4 TC•Main Effect Means (Attitude Effectiveness)

| Comprehension |  | . 15 |
| :---: | :---: | :---: |
| Pronunciation and Word Recognition |  | . 11 |
| Language Structure |  | -. 01 |
| Reading Silently |  | . 07 |
| Spelling |  | -. 02 |
| Listening Instruction | -- | . 07 |
| Non-Reading Instruction |  | . 19 |
| Management Instruction |  | . 10 |
| Positive Feedback |  | . 05 |
| Negative Feedback |  | . 00 |
| Extraneous |  | -. 17 |

Table 16
Grade 6 CR/NCR x TC Interaction Means: (Attitude Effectiveness)

|  | CR | NCR |
| :--- | ---: | ---: |
| Comprehension | -.01 | .01 |
| Pronunciation and Word Recognition | -.01 | .10 |
| Language. Structure | -.07 | -.42 |
| Reading Silently | .23 | -.34 |
| Spelling | .04 | .27 |
| Listening Instruction | -.12 | .21 |
| Non-Reading Instruction | .21 | .09 |
| Management Instruction | .01 | -.09 |
| Positive Feedback | -.30 | -.03 |
| Negative Feedback | .03 | .16 |
| Extraneous | -.11 | -.30 |

Table 17
Grade 6 CR/NCR x TM Interaction Means (Attitude Effectiveness)


Table 18
CR Grade x TC Interaction Means (Attitude Effectiveness)

|  | Grade 2 | Grade 4 | Grade 6 |
| :---: | :---: | :---: | :---: |
| Comprehension | -. 08 | . 17 | -. 01 |
| Pror:rnciation and Word Recognition | . 03 | . 21 | -. 01 |
| Language Structure | . 01 | -. 16 | -. 07 |
| Reading Silently | -. 01 | . 02 | . 23 |
| Spelling | -. 00 | -. 17 | . 04 |
| Listening Instruction | -. 03 | . 08 | -. 12 |
| Non-Readiñ Instruction | -. 08 | . 03 | $\therefore 21$ |
| Management Instruction | . 19 | -. 10 | . 01 |
| Positive Feedback | . 01 | . 04 | -. 31 |
| Negative Feedback | . 07 | -. 03 | . 03 |
| Extraneous | , | -. 19 | -. 11 |

Table 19
NCR Grade x TC Interaction Means (Attitude Effectiveness)

|  | Grade 2 | Grade ${ }^{4}$ | Grade 6 |
| :---: | :---: | :---: | :---: |
| Comprehension | . 23 | . 12 | . 01 |
| Pronunciation and Word Recognition | -. 29 | . 01 | . 10 |
| Language structure | . 04 | . 14 | -. 42 |
| Reading silently | -. 05 | . 12 | -. 34 |
| Spelling | -. 01 | . 14 | . 27 |
| Listening Instruction | -. 00 | . 06 - | . 21 |
| Non-Reading Instruction | . 17 | . 33 | . 09 |
| Management Instruction | . 02 | -. 11 | -. 09 |
| Positive Feedback | -. 07 | . 06 | -. 03 |
| Negative Feedback | -. 11 | . 04 | . 16 |
| Extraneous* | . 02 | -. 15 | -. 30 |

## Table 20

Grade 2 SG Main Effect Means (Attitude Effectiveness)

Teacher .00
Other Adult . 17
Peer -. 01
Alone -.04

Table 21
Grade 4 CR/NCR x SG Interaction Means (Attitude Effectiveness)

|  | CR | NCR |
| :--- | ---: | ---: |
| Teacher | .40 | .22 |
| Other Adult | .14 | .31 |
| Peer | -.16 | -.25 |
| Alone | -.29 | .10 |

Table 22
CR Grade x SG Interaction Means (Attitude Effectiveness)

|  | Grade 2 | Grade 4 | Grade 6 |
| :--- | :---: | :---: | ---: |
| Teacher | .11 | .40 | .21 |
| Other Adult | .21 | .14 | -.25 |
| Peer | .06 | -.16 | -.26 |
| Alone | -.13 | -.29 | -.22 |

Table 23
NCR Grade Main Effect Means (Attitude Effectiveness)

Grade 2 . -00
Grade 4 . . 10
Grade $6 \quad-.29$

## Relationships to Achievement Effectiveness

In general, the foregoing achievemènt results are characterized by interaction effects. Relatively few main effects unconfounded by accompanying interaction effects were significant. In particular, the CR/NCR comparison showed no significant differences, but served to moderate relationships among Teacher Content of Instruction, Teacher Mode of Instruction, and Student Group of Instruction categories. Teacher Content and Teacher Mode both had several relationships to effectiveness, but of the two corresponding student variables, student Group showed by far the largest number of relationships. Examination of the relevant means tables suggests a greater effectiveness of the "Other Adults" group with NCR.students in grade 4, and an increasingly beneficial effect of peer group interaction at the higher grade levels.

## Relationships to Attitude Effectiveness

As was pointed out with regard to achievement effectiveness, interactions are a prominent part of the entire picture of relationships to attitude effectiveness, either as effects by themselves or as confounding influences on main effects. Teacher Content of

Instruction seems to be a more frequent component of significant comparisons than does Teacher Mode of Instruction. As was the case with achievement effectiveness, Student Group of Instruction seems a more influential variable than does Student Content of Instruction. The CR/NCR distinction enters into relatively few significant comparisons, almost always as an interaction component. The trend noted with respect to achievement effectiveness of the beneficial effect of the "Other Adults" group with NCR students is also apparent in the attitude effectiveness data at grade 4.

The picture presented by the preceding tables and discussion is one of complexity, of interdependencies among what is being said, who is saying it, and in what social context it is being uttered. Because of this complexity, any generalization should be undertaken and considered only with great caution. Nevertheless, it does seem that relationships can be shown between observations of classroom activities and achievement and atticude effectiveness. Still more tentatively it appears that with respect to both achievement and attitude effectiveness, the composition of the group within which a student receives his instruction is more influential than is the content of that instruction. However, with respect to attitude effectiveness only, the content of instruction seems to be a more frequent influence than the source (teacher, "other adult," etc.) of that instruction.

## Chapter II: THE SUMMER STUDY

Preliminary screening questionnaires were sent in April 1973 to the 141 schools in the Phase II sample which had indicated in their Principal Questionnaire that they would or might have a summer reading program in 1973. The purpose of the screening questionnaire was to obtain a more recent decermination of which schools were planning to have or participate in a summer program, and to obtain a small amount of program descriptive information from those that were. Two screening questionnaires were not returned. Of the 139 that.were, 61 (44\%) reported that they would not offer a summer program, 25 (18\%) that they still did not know at that time whether they would offer a summer program, $9(7 \%)$ that they would offer a summer program but did not wish to participate in the summer study, and 44 (32\%) that they would offer a summer program and were willing to participate in the summer study. Of the 25 "do not know" schools, 13 eventually offered a summer program, but were too late to be included in the summer study. Of the 44 schools that were willing to participate in the summer study, 7 were eliminated because their program included too few students for meaningful analys $i s$, and 10 were eliminated for miscellaneous reasons, leaving a total of 27 participants. All 27 returned summer study questionnaires, but 2 schools did not provide usable student achievement and attitude scores, and were therefore excluded from analyses of those data.

Summer Study Schools vs. all other Phase II Schools. It is of interest to compare the 25 schools which participated in the summer study and produced usable, complete data with the 233 Phäse II schools which, for a varjety of reasons described above, did not. Table 24 sinows mean values for each of the two groups for a variety of descriptive continuous variables measured during the 1972-1973 school year.
Table 24
Comparisons of Summer Study and Non-Summer Study Schools: Continuous Variables

$$
\begin{aligned}
& \text { Variable } \\
& \text { Phase II Achievement } \\
& \text { Effectiveness } \\
& \text { SES Index } \\
& \text { Teacher Experience } \\
& \text { Teacher Satisfaction with } \\
& \text { Administration } \\
& \text { Teacher Attitude Toward } \\
& \text { Academic Capabilities of } \\
& \text { Disadvantaged Children } \\
& \text { \% CR Students } \\
& \hline
\end{aligned}
$$

\[

\]

| Grade 6 |  |  |  |
| :---: | :---: | :---: | :---: |
| Summer <br> Study $(\mathrm{N}=25)$ |  | $\begin{aligned} & \hline \text { Non-Summer } \\ & \text { Study } \\ & (\mathrm{N}=233) \\ & \hline \end{aligned}$ |  |
| Mean | S.D. | Mean | S.D. |
| -0.28 | 3.57 | -0.05 | 3.38 |
| 0.18 | 1.56 | 0.17 | 1.20 |
| 0.26 | 0.85 | 0.15 | 0.82 |
| 0.50 | 0.83 | -0.05 | 0.88 |
| -0.05 | 0.66 | 0.02 | 0.97 |
| 37 | 32 | 31 | 31 |

Examination of the Summer Study/Non-Summer Study differences relative to their standard deviations shows that Teacher Experience in grade 2 and Teacher Satisfaction with the Administration in grades 2 and:6, all higher for Summer Study schools, are worthy of some note.

In addition, the two groups of schools were compared in terms . of several categorical variables, also measured during the 1972-1973 school year. Table 25 shows the resulting response frequency distributions. These variables are descriptive of the school as a whole, and are therefore not shown separately by grade.

Examination of Table 25 shows few differences between summer study and non-summer study schools with respect to enrollment or percent white or Caucasian students. However, there seems to be a tendency for the summer study schools to be located more frequently (relative to non-summer study schools) in the suburbs and to be funded more frequently by Title $I$ during the regular school year.

Another way of assessing the differences between the summer study and non-summer study schools is to compute $95 \%$ confidence intervals within which the summer study achievement means would fall if summer data had been available for the non-summer study schools. This kind of analysis has been described in the Phase I Report, pages 17-29, and the Final Report, Volume I, pages 37-41. Table 26 shows the obtained confidence intervals and bias estimates for each reading achievement score. Since all the obtained confidence intervals are relatively large, only the results for relatively small values of the subjective coefficients $\theta_{1}$ and $\theta_{2}\left(\theta_{1}=\theta_{2}=.10\right)$ are given. ( $\theta_{1}$ is a subjective coefficient of variation representing the degree to which the regression coefficients of the non-summer study group differ from those of the summer study group. $\theta_{2}$ is a subjective coefficient of variation representing the degree to which the summer study and nonsummer study reading achievement means would differ if their predictor variables distributions were identical. It is thus an index of the predictive importance of all unmeasured independent variables.) The predictor variables used were school SES, enrollment, and percent white or Caucasian.

Table 25
Comparisons of Summer Study and Non-Summer Study Schools: Categorical Variables

| Variable | Categories | Summer |  | Non-Summer |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Freq. | \% | Freq. | \% |
| School enrollment | Less than 100 | 1 | 4 | 7 | 3.1 |
|  | 100-299 | 2 | 8 | 45 | 19.8 |
|  | 300-499 | 12 | 48 | 73 | 32.2 |
|  | 500-699 | 6 | 24 | 68 | 30.0 |
|  | 700-899 | 2 | 8 | 16 | 7.0 |
|  | 900 or more | 2 | 8 | 18 | 7.9 |
| \% White or Caucasian Students | None | 1 | $4 \cdots$ | 0 | 0.0 |
|  | 1-10\% | 1 | 4 | 13 | 5.7 |
|  | 11.-50\% | 2 | 8 | 23 | 10.0 |
|  | 51-90\% | 6 | 24 | 66 | 28.8 |
|  | 91-100\% | 15 | 60 | 127 | 55.5. |
| Urbanicity | Large city, over 500k | 0 | 0 | 3 | 1.6 |
|  | Large city, 200-500k | 0 | 0 | 12 | 6.5 |
|  | Suburb of a large city | 4 | 21 | 20 | 10.8 |
|  | Rural area near a large city | 1 | 5.3 | 24 | 12.9 |
|  | Middle-size city, 50-200K | 0 | 0 | 13 | 7.0 |
|  | Suburb of a middle-size city | 10 | 52.6 | 63 | 33.9 |
|  | Rural area near middle-size city | 0 | 0 | 8 | 4.3 |
|  | Small city or town, < 50 K | 1 | 5.3 | 12 | 6.5 |
|  | Rural area, not near city | 3 | 15.8 | 31 | 16.7 |
| Funding | Total Title I | 10 | 40 | 78 | 33.8 |
|  | Partial Title I | 5 | 20 | 16 | 6.9 |
|  | Non-Title I | 2 | 8 | 27 | 11.7 |
|  | NCR School | 8 | 32 | 110 | 47.6 |

$$
\text { Table } 26
$$

Bias Analyses: Summer Study Schools vs. Non-Summer Study Schools

| Grade | Test | Summer Study Reading Achievement Raw Score | Predictors/ Criterion Multiple |  | 95\% Confidence Interval Around Estimated Total Group Reading Achievement Mean |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mean | Correlation | \% Bias | Upper Limit | Lower Limit |
| 2 | Coop. Primary Reading | 30.9 | . 56 | -. 06 | 43.2 | 18.5 |
|  | MAT Word Knowledge | 29.9 | . 77 | $-.15$ | 35.8 | 24.0 |
|  | MAT Sentences | 10.3 | . 68 | -. 06 ' | 12.4 | 8.2 |
|  | MAT Stories | 19.6 | . 58 | -. 11 | 27.0 | 12.1 |
|  | MAT Reading | 29.9 | . 63 | -. 09 | 42.3 | 17.4 |
|  | MAT Total | 59.8 | . 69 | -. 12 | 83.8 | 35.7 |
| - - - - B |  |  |  |  |  |  |
| 4 | Coop. Primary Reading | 34.5 | . 56 | -. 18 | 44.9 | 24.0 |
|  | MAT Word Knowledge | . 31.1 | . 48 | -. 00 | 47.5 | 14.6 |
|  | MAT Reading | $22.3{ }^{\circ}$ | . 41 | $+.25$ | 37.2 | 7.6 |
|  | MAT Total | 53.3 | . 45 | +. 10 | 107.1 | -0.3* |
|  |  |  |  |  |  |  |
| 6 | STEP Reading | 34.8 | . 49 | -. 44 | 56.5 | 12.9 |
|  | MAT Word Knowledge | 39.9 | . 77 | -. 45 | 49.2 | 30.3 |
|  | MAT Reading | 29.5 | . 68 | -. 49 | 41.4 | 17.4 |
|  | MAT Total | 69.5 | . 73 | -. 47 | 102.9 | 35.4 |
|  | Battery Total | 104.1 | .64 | -. 45 | 204.3* | 3.0 |

*Negative means or means above the possible score range are a possible product of this analysis.

The entries in the "\% Bias" column of Table 26 are relatively small. They are to be interpreted in the following manner: e.g., "for grade 2, we estimate that the Cooperative Primary Reading mean for the combined summer study/non-summer study group would have been. $06 \%$ lower if the summer achievement data for the non-summer study group had been included."

Examination of the obtained $95 \%$ confidence intervals shows them to be very large. From this result it can be concluded that, with respect to Summer 1973 reading achievement scores, the summer study schools are importantly different from the remainder of the Phase II sample. The predominantly negative sign of the various \% bias estimates indicates that, in general, summer study schools have higher estimated achievement scores than do the other Phase II schools.

Summer Study Schools vs. schools which refused to participate in the summer study and schools which were excluded because of too few participants. Comparisons were made of the 25 summer study schools with the 9 schools which offered a summer program but refused to participate in the summer study, and with the 7 schools which were eliminated because their program included too few students for meaningful analysis. Table 27 shows mean values for each of these three groups for a variety of descriptive continuous variables measured during the 1972-1973 school year.

Comparing the summer study schools first to those schools which refused participation, examination of Table 27 shows the latter to be less effective at grade 2 , but more effective at grade 6. The schools which refused also seemed to have higher proportions of CR students in grades 2 and 4, but a lower proportion in grade 6. The summer study schools were of lower socioeconomic status, and had more experienced teachers in grade 2. Teachers in the summer study schools expressed greater satisfaction with the administration in grade 2, and better attitudes toward the academic capabilities of disadvantaged children in grädes 2 and 4.

$$
\text { Table } 27
$$



Comparing the summer study schools to those schoôls eliminated because of too few students; we find that the latter are more effective in grades 4 and 6 ; and have a higher socioeconomic status. Summer study schools have teachers which are more experienced and have better attitudes toward the administration in grade 2. Teacher attitudes toward the academic capabilities of disadvantaged children tend to be higher in the summer study schools in grade 2 , but lower in grades 4 and 6.

In addition, the three groups of schools were compared in terms of several categorical variables, also measured during the 1972-1973 school year. Table 28 shows the resulting response frequency distributions. These variables are descriptive of the school as a whole, and are therefore not shown separately by grade.

Examination of Table 28 should be undertaken with more than the usual amount of caution, because of the small numbers of schools in the "refused" and "inadequate $N$ " categories. It is of interest to note, however, an apparent relative tendency of large schools to refuse participation, and the concentration of schools with too few students in the $91-100 \%$ white or. Caucasian category. The "inadequate $N^{\prime \prime}$ schools also tend not to offer compensatory reading programs during the regular school year.

Bias analyses similar to the one previously reported for the Summer Study Schools/Non-Summer Study Schools comparison were performed to estimate the confidence intervals within which the various summer study achievement means would have fallen if summer achievement data had been available for the schools which refused to participate or for the schools which were eliminated because of too few students. Table 29 shows the obtained confidence intervals for the preceding analysis, $\theta_{1}=\theta_{2}=.10$; and the predictor variables used were school SES, enrollment, and percent white or Caucasian.

Table 28
Comparisons of Summer Study Schools; Schools Which Refused to Participate in The Summer Study, and Schools Which Were Eliminated Because of Too Few Participants: Categorical Variables

| Variable | Categories | Summer <br> Study <br> Schools |  | Schools Which Refused |  | Schools With Too Few Students |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Freq | . \% | Freq | . $\%$ | Freq. | \% |
| School enrollment | Less than 100 | $\therefore 1$ | 4 | 0 | 0 | 1 | 14.3 |
|  | 100-299 | 2 | 8 | 0 | 0 | 1 | 14.3 |
|  | 300-499 :- | 12 | 48 | 1 | 11.1 | 3 | 42.9 |
|  | 500-699 | 6 | 24 | 3 | 33.3 | 2 | 28.6 |
|  | .700-899 | 2 | 8 | 2 | 22.2 | 0 | 0 |
|  | 900 or more | 2 | 8 | 3 | 33.3 | 0 | 0 |
| \% White or Caucasian Students | None | 1 | 4 | 0 | 0 | 0 | 0 |
|  | 1-10\% | 1 | 4 | 1 | 11.1 | 0 | 0 |
|  | 11-50\% | 2 | 8 | 0 | 0 | 1 | 14.3 |
|  | 51-90\% | 6 | 24 | 2 | 22.2 | 0 | 0 |
|  | 91-100\% | 15 | 60 | 6 | 66.7 | 6 | 85.7 |
| Urbanicity | Large city, over 500K | 0 | 0 | 0 | 0 | 0 | 0 |
|  | Large city, 200-500K | 0 | 0 | 0 | 0 | 0 | 0 |
|  | Suburb of large city | 4 | 21 | 0 | 0 | 2 | 40 |
|  | Rural area near large city | 1 | 5.3 | 1 | 20 | 0 | 0 |
|  | Middle-size city, 50-200K | 0 | 0 | 1 | 20 | 0 | 0 |
|  | Suburb of middle-size city | 10 | 52.6 | 2 | 40 | $3_{2}$ | 40 |
|  | Rural area near middle-size city | 0 | 0 | 0 | 0 | 0 | 0 |
|  | Small city or town, < 50K | 1 | 5.3 | 1 | 20 | 0 | 0 |
|  | Rural area, not near city | 3 | 15.8 | 0 | 0 | 1 | 20 |
| Funding | Total Title I | 10 | 40 | 5 | 55.6 | 2 | 28.6 |
|  | Partial Title I | 5 | 20 | 2 | 22.2 | 0 | 0 |
|  | Non-Title 1 | 2 | 8 | 1 | 11.1 | 0 | 0 |
|  | NCR School | 8 | 32 | 1 | 11.1 | 5 | 71.4 |



Examination of Table 29 shows the percent bias estimates, to be almost uniformly positive for the schools which refused to participate, indicating that the additinn of these schools to the summer study group would have the effect of raising reading achievement means for the combined group. 'The percent bias estimates for the schools with too few students were uniformly negative, indicating that the addition of these schools to the summer study group would lower reading achievement means for the combined group. The $95 \%$ confidence intervals shown in Table 29 are all very large, indicating that the addition of either group of schools to the summer study group could have made a substantial difference in terms of summer program achievement means.

Questionnaires (see Appendix) similar to the ones used in the Phase II study, but designed specially for summer programs, were sent to participants in the 27 schools. Testing of the students was conducted once, during the next-to the-last week of each summer school. Test administrators were instructed that only those students who had participated in one or both of the 1972-1973 school year test administrations need be tested; since planned analyses. would only include those students.

Descriptions of the summer programs. Questionnaire descriptions of different facets of the 27 summer programs were obtained. According to the principals (or administrators) of the summer program, $33 \%$ of the schools had summer enrollments of $50-99$ students. Thirty percent had enrollments of $100-199$ students, $22 \%$ had less than 50 students, $7 \%$ had 200-299; and $7 \%$ had 300 or more.

All but one of the 27 schools had a shorter summer school day than the regular school year day. (The remaining school had the same length day.) Forty-eight percent of the schools had a six. week summer program, $30 \%$ had a five week summer program, $18 \%$ had a four week program, and $4 \%$ had an eight week program.

The principals also estimated what percent of the students in the summer program came from culturally, linguistically, and/or economically deprived backgrounds. Seven schools responded $11-50 \%$, five schools did not respond, four schools answered between 91-100\%, four schools between 51-90\%, four schools between $1-10 \%$, two schools answered "none," and one did not know.

The basis for determining pupil participation in the summer reading program, according to principals was: $24 \%$ depressed reading levels, $24 \%$ teacher (or staff) recommendation, $21 \%$ parent request, $10 \%$ aḷ students participating in the summer program, $9 \%$ membership in one or more target groups (i.e., migrants, etc.), $6 \%$ volunteer, $4 \%$ other, and $2 \%$ did not respond.

In $85 \%$ of the schools, the compensatory reading instruction in the summer program was funded totally or in part by funds supplementary to the regular on-going school budget. The category of level of funding most frequently checked was total funding by ESEA Title I, followed by partial funding at the local level, partial funding at the state level, and partial funding by ESEA Title I. Forty-six percent of the schools are funded totally or partially by ESEA Title I.

In response to the question, "What are the total funds allocated for compensatory reading in your summer program?", $59 \%$ of the principals (or administrators of a summer study) replied that they did not know or did not respond. For those who did answer the question, the range of the funds was from $\$ 2,200-\$ 613,917$. The median funding was $\$ 11,548$, and the mean was $\$ 71,208$.

Similarly, $59 \%$ of the responses to per pupil expenditure and cost per pupil of compensatory reading in the summer program were don't knows or no response. Of the remaining responses: (1) Cost per pupil in the summer program ranged from $\$ 24-\$ 475$, the median cost was $\$ 100$, and the mean cost was $\$ 126$. (2) Cost per compensatory reading pupil in the summer program ranged from $\$ 10-\$ 350$, the median cost was $\$ 62$, and the mean cost was $\$ 97$.

Sixty-two percent of the teachers in the summer programs taught during the regular year at the school which presented the summer program. Thirty-five percent were regular school teachers from another school. One percent responded "summer employee only," and $1 \%$ responded "other."

The major classroom approach to reading used by the teachers was a combination of linguistic-phonetic and language experience ( $63 \%$ ). Use of solely linguistic-phonetic approach (11\%), and of an eclectj.c approach (11\%) followed. Nine percent of the teachers used language experience approach and $6 \%$ checked the "other" category.

In response to what the teachers thought were the most outstanding features of their summer program, $17 \%$ had an individualized program. The next highest response ( $15 \%$ ) was that the teachers met with small groups and could work with the students on a one-to-one basis. Using a particular approach (such as language experience, a diagnostic approach, integration of reading into the language arts) was the third most frequent response (15\%). Two responses were mentioned as the fourth highest frequenty (9\% each); having a variety of good materials, and having a relaxed, flexible, unstructured atmosphere.

Other responses mentioned, in descending order of frequency, were: making reading fun and enjoyable (5\%), student choice in aspects of the program (4\%), naving high interest reading books (3\%), having welltrained teachers and good administration (3\%), not giving grades (3\%), the use of learning games (3\%), having a variety of activities and experiences (2\%), improving self-image of the student (2\%), student cooperation (2\%), developing a better attitude toward reading ( $2 \%$ ), relating reading to the real world ( $1 \%$ ), having a variety of approaches ( $1 \%$ ), and increasing vocabulary ( $1 \%$ ). Four percent of the teachers did not respond to this question.

Differences between summer reading programs and reading programs during the regular school year. Several of the questionnaire items dealt with the differences, noted by teachers and principals, between aspects of summer reading programs and regular school year reading programs.

When answering how the instruction during the summer program differed from that during the regular year, the teachers most frequently responded that, in the summer, they worked with smaller groups of students ( $21 \%$ ) and used more individualized instruction (22\%). The next most frequent response concerned the emphasis of the summer program. Several teachers. (9\%) reported that skills such as comprehension, word attack, story sequence, were emphasized more in the summer than during the regular year. Others ( $6 \%$ ) noted that there was more emphasis on activities, projects, and games during the summer. Other differences noted in the summer program, in descending order of frequency of response, were: no basic or basal text was used (7\%), less structure ( $6 \%$ ), more student choice in instruction (3\%), more intense instruction (3\%), more emphasis on reading ( $2 \%$ ), slower: rate of instruction ( $2 \%$ ), reading for enjoyment (2\%), team teaching used ( $2 \%$ ), more supervision and instruction needed ( $2 \%$ ), easier materials used ( $1 \%$ ), no grades given ( $1 \%$ ), and changing the students' self-image (1\%).

Administrators or principals also responded to the question, "How does the summer program differ from the regular year with respect to student population, location, instructional organization, staff, philosophy (goals) and instruction?"' The two most frequent responses were that there were fewer students in the summer (50\%), and that the summer students were either remedial students, students which needed special help, or only Title I eligible students (33\%). Other responses given were: the students came from all parts of town ( $10 \%$ ), students were not required to attend summer school (3\%), and the students were the same as the regular year students (3\%). Three percent did not respond.

With respect to the location of the summer program, the administrators reported that the summer program was held either in the stiiool building whirh was used throughout the school year ( $48 \%$ ), or at another building(s) with a centralized position in their community ( $48 \%$ ).

Responses to how instructional organization in the summer differed from the regular year centered around the grouping of students.

The most frequent response to this item was that the grouping or instructional organization was more flexible in the summer than during the regular year ( $26 \%$ ). Other res;onses, in descending order of frequency, were: students were grouped by grade level. (19\%), students were placed in smaller groups than during the regular school year ( $15 \%$ ), students were in an ungraded situation, unlike the regular year ( $15 \%$ ), students were grouped by ability ( $11 \%$ ), students were grouped by age ( $7 \%$ ), and students were grouped by needs ( $4 \%$ ).

According to administrators, the main ways in which the summer staff of a school's program differed from the regular staff were that only specific area/subject teacıers (i.e., reading, math) taught in the summer ( $24 \%$ ), or that the teaching staff was chosen from all the teachers in the district ( $19 \%$ ) . Another frequent response was that the teaching staff for the summer and the regular year was the same ( $19 \%$ ) . Other responses were that the summer staff was smaller ( $14 \%$ ), more specially trained ( $10 \%$ ), more experienced ( $10 \%$ ), and was made up of volunteers (4\%).

Regarding the philosophy or goals of the summer program differing from those of the regular year, the two most frequent responses were that the summer program was more concerned with remediation (38\%) and enrichment ( $31 \%$ ). Other responses, in descending order of frequency, were: the maintenance of skills (13\%), developing good attitudes (10\%), and catching the students up to grade level (7\%).

With respect to instruction, the responses showed that the summer programs are more individualized (34\%), more flexible ( $22 \%$ ), have small skill groups (19\%), and use more and different materials (16\%) than during the regular school year.

Comparison of Title I and Non-Title I summer study schools. Principals and teachers of schools in the summer study responded to questionnaire items regarding classroom emphases in reading instruction, length of the summer program, estimated proportions of summer students in various ethnic categories, teacher attitude toward the school administration, teacher attitude toward the academic capabilities of disadvantaged children, and source of Eunding for the
summer school program. Analyses of variance were performed, comparing the schools whose summer programs were funded by Title I to those which were not. The school mean was the unit of analysis. Table 30 shows the results.

Examination of Table 30 shows only one significant difference between Title I and Non-Title I funded summer programs, with respect to time spent improving motor abilities related to reading.

Table 30
Comparisons Between Title I and Non-Title I Funded Summer Programs

| Variable | \% | D.F. | $\begin{gathered} \text { Direction } \\ \text { of } \\ \text { Difference } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| Time spent by a typical summer reading clas pupil in: |  |  |  |
| Improving motor abilities related to reading | 3.1 | 21 | $\mathrm{T}>\mathrm{NT}$ |
| Increasing attention span | NS | 21 | : |
| Developing visual discrimination | NS | 21 |  |
| Matching letters or words | NS | 21 |  |
| Learning letter forms | NS | 21 |  |
| Developing a sight vocabulary | NS | 21 |  |
| Learning word meanings | NS | 21 |  |
| .Phonic and/or structural analysis | NS | 21 |  |
| Length of summer program | NS |  |  |
| Percentage of summer program students who are Caucasian or White | NS | 22 |  |
| Teacher attitude toward administration | NS | 21 |  |
| Teacher attitude toward academic capabilities of disadvantaged children | NS | 21 |  |

Characteristics of summer program students. It was of interest to describe students who attended summer reading programs with respect to their ethnicity, sex, socioeconomic status, and previous experience in compensatory reading programs, and to compare them in these respects to other $C R$ and NCR students in their own schools. Table 31 shows these data.

Looking first at the characteristics of summer students, they are seen to be predominantly Caucasian or white, and of relatively high socioeconomic status. They are approximately evenly divided with respect to sex and previous CR experience. Compared to regular year CR and NCR students, the summer student population proportions for many categories fall between those of $C R$ and NCR. Thus it seems that the most extreme within group differences during the regular year, whether they be in CR or NCR groups, are moderated in the summer program student population.

Achievement test results. As mentioned previously, students were tested once, during the next-to-last week of each summer school. Only those students who had participated in the 1972-1973 test administrations were tested. The same test battery administered in Fall 1972 was used, in order to avoid administering the same test forms in successive (Spring-Summer) administrations. Because summer school program enrollments were, of course, considerably smaller than those of the regular school year; and because the analysis presented is restricted to those students having both Spring and Summer achievement data, the number of usable cases is very small. Table 32 shows Fall 1972, Spring 1973, and Summer 1973 data for students in summer programs of all the 25 schools which produced usabie achievement data.

Examination of Table 32 shows the differences between Spring and Summer means for all tests at all grade levels to be small compared to the corresponding Fall-Spring differences. None of the SpringSummer differences was statistically significant. It should be noted that the Fall 1972 and Summer 1973 data reported in Table 32 are derived from identical test forms, but that the Spring 1973 data are derived from parallel forms. Although corresponding raw scores of

Table 31
Characteristics of Summer, Regular Year CR and NCR Students, all in Summer Study Schools

|  | Summer <br> Students |  | Regular <br> Year CR |  | Regular <br> Year NCR |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ethnicity | N | \% | N | \% | N | \% |
| Caucasian or white | 231 | 80.8 | 990 | 63.3 | 2374 | 88.5 |
| Negro or black | 34 | 11.9 | 409 | 26.2 | 225 | 8.4 |
| Spanish surnamed | 13 | 4.5 | 154 | 9.8 | 51 | 1.9 |
| Oriental | , | 0.7 | 0 | 0.0 | 18 | 0.7 |
| American Indian |  | 1.0 | 9 | 0.6 | 10 | 0.4 |
| Other | 3 | 1.0 | 2 | 0.1 |  | 0.2 |

Sex

| Male | 154 | 52.6 | 941 | 56.9 | 1401 | $\cdots$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Female | 139 | 47.4 | 714 | 43.1 | 1476 | 51.3 |

Socio-Economic Status*

| Low | 100 | 35.1 | 768 | 49.5 | 712 | 27.0 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| High | 185 | 64.9 | 774 | 49.9 | 1915 | 72.6 |
| Unclassified | 0 | 0.0 | 10 | 0.6 | 10 | 0.4 |

Previous CR Experience

| Yes | 136 | 47.9 | 956 | 61.8 | 358 | 13.3 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| No | 138 | 48.6 | 509 | 32.9 | 2201 | 82.1 |
| Unclassifiable | 10 | 3.5 | 82 | 5.3 | 123 | 4.6 |

[^3]






| Fall 1972 |  |  |
| :---: | :---: | :---: |
|  | Raw Score | Raw Score |
| $\underline{N}$ | Mean | S.D. |
| 136 | 22.9 | 7.2 |
| 134 | 7.3 | 3.1 |
| 134 | 11.7 | 6.0 |
| 134 | 19.0 | 8.6 |
| 134 | 41.8 | 14.8 |
| 137 | 20.9 | 8.6 |
| 134 | 62.7 | 21.8 |

10.8
7.9
17.7
8.5
25.4


$$
5+2
$$

[^4]$\begin{array}{lllll}n & y & n & 0 & -1 \\ & 0 & -i & 0 & \dot{-}\end{array}$
Grade 2 .

$$
\begin{aligned}
& \frac{\text { Grade } 4}{\text { MAT Word Knowledge }} \\
& \text { MAT Reading } \\
& \text { MAT Total } \\
& \text { Cooperative Rdg. } \\
& \text { MAT Total + Coop. }
\end{aligned}
$$

$$
\begin{aligned}
& \text { Test }
\end{aligned}
$$

parallel test forms are not necessarily equivalent, investigation shows negligible differences between the raw score. scales of the parallel test forms reported in Table 32. In the only instance where raw score differences between parallel forms amounted to more than one raw score point in any part of the score range (grade 4, Cooperative Reading), the differences served to make the non-significant Spring-Summer difference look larger than it reallÿ was, and thus did not affect the above conclusions. From. the data of this study, it is impossible to decide whether the summer programs investigated produced negligible effects on student achievement, or were successful in counteracting achievement losses possibly typical of the summer recess. In order to test these hypotheses; summer achievement scores would have to be obtained for students not attending summer programs, a procedure which was judged infeasible for this study.

It was also of interest to compare summer students to other regular year $C R$ and $N C R$ students, for Title $I$ and non-Title $I$ schools, in terms of Fall 1972 and Spring 1973 data. Two-way analyses of variance (student group $x$ funding category) were performed separately by grade, test, and test administration. The unit of analysis was the school, and the data were for students in the summer study schools only. The following student group comparisons were tested jointly:

1. summer students vs. other regular year $C R$ students
2. Summer students vs.. other regular year NCR students Students were also classified by the funding category of their school; summer students by the summer classification, and regular year students by the regular year classification. The following funding category comparisons were tested jointly:
3. Title I vs. Non-Title I
4. Title I vs. the average of Non-Title $I$ and Unclassifiable Table 33 shows the results of the analyses.

Reference to Table 33 reveals that none of the Funding $x$ Student Group interactions was significant. It is therefore appropriate to interpret all significant main effects. Looking first at the "Student Group" comparisons in grade 2 , it is of interest to note that for Cooperative Primary Reading, MAT Word Knowledge, and MAT Total, summer. students exceed CR students for the Fall data, but have fallen behind them by the Spring administration. This suggests that lack of progress in these skills in the second grade may be one reason for student participation in summer programs. For pretest and posttest achievement scores in grades 4 and 6, all summer student means exceed those for regular year $C R$ students and most are smaller than those of regular year NCR students.

Funding category significant achievement main effects are less frequent than are those for Student Group, and account for considerably smaller proportions of criterion variance where they do occur. Their direction is completely consistent across tests, administrations, and grade levels, with students in non-Title $I$ schools exceeding those in Title I schools, and the average of non-Title I and unclassifiable schools exceeding Title I schools.
, With respect to attitude toward reading scores, significant effects in girades 4 and 6 were predominantly in the same direction, with summer student scores exceeding those of both CR and NCR students. This is somewhat different from the most common achievement test result, where summer student scores fell between those of $C R$ and NCR students.

Analyses parallel to those described above were performed, but comparing summer students to other regular year CR and NCR students in all the Phase II schools. Table 34 shows the results.

$$
\text { Table } 33
$$

Table 33
efeg El6I suṭad pue zL6I Ited








 | Grade 2 |  |
| :--- | :--- |
|  |  |
| Comparisons ${ }^{4}$ |  |
| Funding | Coop. Primary Reading |
| Student Group |  |
| F x SG |  |
| Funding |  |
| Student Group |  |
| Fx SG Word Knowledge |  |
| Fundin: |  | $\qquad$

MAT Stories
MAT Reading Student Group
F $\times 3 \mathrm{G}$
Funding Student Group F x SG Funding Student Student Group
F x SG
$\qquad$




Table 33 (cont.)

| $\frac{\text { Comparisons }}{}{ }^{4}$ |  |
| :--- | :--- |
| Funding | Variable |
| Student Group |  |
| F $\times$ Primary Reading |  |
| Funding |  |
| Student Group |  |
| Fx SG Word Knowledge |  |
| Funding |  |
| Student Group |  |

## Table 33 (cont.)

Variable

Atcitude
Comparisons ${ }^{4}$
Funding
Student Group
F x SG.

Grade 4
$\frac{\text { Grade } 4}{\text { Funding }}$

Coop. Primary Reading

TE7OL $\mathrm{LWW}+\cdot \mathrm{doO}$

F x SG

|  |  | Spring 1973 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Combarisons ${ }^{4}$ | Variable | $F^{5}$ | D.F. | Direction of <br> Difference ${ }^{6}$ | Prop. <br> Var.Explained by Compar. | $\frac{\text { Raw }}{1}$ | $\frac{\text { Score : }}{2}$ | $\begin{array}{r} \text { Means }{ }^{7} \\ \hline \end{array}$ | $\begin{gathered} \text { Study } \\ \text { Sample } \\ \text { Rav } \\ \text { Score } \\ \text { S.D. } \\ \hline \end{gathered}$ | $\begin{gathered} 1-2 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \\ \hline \end{gathered}$ | $\begin{gathered} 1-3 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \\ \hline \end{gathered}$ |
| Funding | Attitude | NS | $(2,62)$ |  |  | 2.7 | 2.7 | 2.5 | 1.3 | 0.00 | 0.15 |
| Student Group |  | NS | $(2,62)$ | . |  | 2.8 | 2.4 | 2.7 |  | $0.31{ }^{\text { }}$ | 0.08 |
| F x SG | : | NS | $(4,58)$ |  |  |  |  |  |  |  |  |
| Grade 4 |  |  |  |  |  |  |  |  |  |  |  |
| Funding | Coop. Primary Reading | $8.0^{3}$ | $(2,49)$ | $\begin{aligned} & \text { NT }>T \\ & \text { NT/DK }>T \end{aligned}$ | . 25 | 36.0 | 40.2 | 41.0 | 8.2 | -0.51 | -0.61 |
| Student Group |  | $22.0{ }^{3}$ | $(2,49)$ | $\mathrm{S}>\mathrm{CR}$ | . 47 | 37.2 | 34.1 | 42.6 |  | 0.38 | -0.66 |
| F x SG |  | NS | $(4,45)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | MAT Word Knowledge | $4.8{ }^{2}$ | $(2,49)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK }>\mathrm{T} \end{aligned}$ | . 16 | 31.1 | 34.7 | 38.1 | 1.3 | -0.32 | -0.62 |
| Student Group |  | $20.2{ }^{3}$ | $(2,49)$ | $\mathrm{S}>\mathrm{CR}$ | . 45 | 31.1 | 28.5 | 40.9 |  | 0.23 | 0.87 |
| F x SG |  | NS | $(4,45)$ | $\mathrm{S}<\mathrm{NCR}$ |  |  |  |  | 1 |  |  |
| Funding | MAT Reading | $8.7{ }^{3}$ | $(2,49)$ | $\begin{aligned} & \mathrm{NT}>\mathrm{T} \\ & \mathrm{NT} / \mathrm{DK}>\mathrm{T} \end{aligned}$ | . 26 | 23.8 | 28.1 | 30.7 | 9.8 | -0.44 | -0.70 |
| Student Group |  | $26.7{ }^{3}$ | $(2,49)$ | $S>C R$ | . 52 | 23.7 | 22.0 | 33.0 | 9.8 | 0.17 | -0.95 |
| F x SG |  | NS | $(4,45)$ | $\mathrm{S}<\mathrm{NCR}$ |  |  |  |  |  |  |  |
| Funding | MAT Total | $6.6{ }^{2}$ | $(2,49)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT } / D K>T \end{aligned}$ | . 21 | 54.8 | 62.8 | 68.7 |  | -0.39 | -0.68 |
| Student Group | $\underline{6}$ | $24.3{ }^{3}$ | $(2,49)$ | $\begin{aligned} & S>C R \\ & S<N C R \end{aligned}$ | . 50 | 54.6 | 50.5 | 74.0 | \% | 0.20 | -0.95 |
| F $\times$ SG |  | NS | $(4,45)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | Coop. + MAT Total | $7.2{ }^{2}$ | $(2,49)$ | NT > T <br> NT/DK $>\mathrm{T}$ | . 23 | 90.8 | 103.0 | 109.8 | 27.9 | -0.44 | -0.69 |
| Student Group |  | $24.4{ }^{3}$ | $(2,49)$ | $S>C R$ | . 50 | 91.8 | 84.5 | 116.7 |  | 0.26 | -0.89 |
| F x SG |  | NS | $(4,45)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | Attitude | $3.2{ }^{1}$ | $(2,49)$ | $\begin{aligned} & \mathrm{NT}>\mathrm{T} \\ & \mathrm{~T}>\mathrm{NT} / \mathrm{DK} \end{aligned}$ | . 11 | -0.74 | -0.33 | -1.23 | 1.3 | -0.31 | 0.38 |
| Student Group |  | $10.0^{3}$ | $(2,49)$ | $\mathrm{S}>\mathrm{CR}$ | . 29 | -0.44 | -0.61 | -1.36 | 1.3 | 0.13 | 0.71 |
| F $\times$ S ${ }^{\text {a }}$ |  | NS | $(4,45)$ | $\mathrm{S}>\mathrm{NCR}$ |  |  |  |  | . |  |  |

51

|  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |



|  |  |  |  |  | Sprin | ng 1973 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Comparisons ${ }^{4}$ | Variable | $\mathrm{F}^{5}$ | D.F. | $\begin{gathered} \text { Direction } \\ \text { of } \\ \text { Difference } 6 \\ \hline \end{gathered}$ | ```Prop. Var.Ex- plained by Compar.``` | $\frac{\text { Raw } S c}{1}$ | Score | $\frac{\text { Means }{ }^{7}}{3}$ | Study <br> Sample <br> Raw <br> Score <br> S.D. | $\begin{aligned} & 1-2 \\ & \text { Diff. } \\ & \text { in } \\ & \text { S.D. } \\ & \text { Units } \end{aligned}$ | $\begin{gathered} 1-3 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \\ \hline \end{gathered}$ |
| Funding | STEP II Reading | NS | $(2,39)$ |  |  | 35.7 | 39.4 | 38.6 | 11.9 | -0.31 | -0.24 |
| Student Group |  | $10.3^{3}$ | $(2,39)$ | $\begin{aligned} & S>C R \\ & S<N C R \end{aligned}$ | . 35 | 35.4 | 32.7 | 42.7 |  | 0.23 . | -0.61 |
| F x SG |  | NS | $(4,35)$ |  |  |  |  |  |  |  |  |
| Funding | Mat Word Knowledge | NS | $(2,39)$ |  |  | 40.0 | 43.3 | 41.9 | 9.4 | -0.35 | -0.20 |
| Student Group |  | $9.0{ }^{3}$ | $(2,39)$ | $\begin{aligned} & s>C R \\ & s<N C R \end{aligned}$ | . 32 | 40.7 | 37.5 | 44.8 | 9.4 | 0.34 | -0.44 |
| $0 \mathrm{~F} \times \mathrm{SG}$ |  | NS | $(4,35)$ |  |  |  |  |  |  |  |  |
| $\omega_{\text {Funding }}$ | MAT Reading | $5.0^{2}$ | $(2,39)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK }>\mathrm{T} \end{aligned}$ | . 20 | 30.8 | 35.8 | 32.9 | 9.3 | -0.54 | -0.23 |
| Student Group |  | $8.7{ }^{3}$ | $(2,39)$ | $\mathrm{S}>\mathrm{CR}$ | . 31 | 31.8 | 29.2 | 35.9 |  | 0.28 | -0.44 |
| F x SG |  | NS | $(4,35)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | MAT Total | $3.6{ }^{2}$ | $(2,39)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK > T } \end{aligned}$ | . 15 | 70.9 | 79.1 | 74.8 | 7.9 | -0.45. | -0.22 |
| Student Group |  | 9.23 | $(2,39)$ | $\mathrm{S}>\mathrm{CR}$ | . 32 | 72.4 | 66.8 | 80.7 | . 9 | 0.31 | -0.46 |
| F x SG |  | NS | $(4,35)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | STEP + MAT Total | $3.5{ }^{1}$ | $(2,39)$ | NT > T <br> NT/DK > T | . 15 | 106.6 | 119.3 | 113.6 | 8. | -0.44 | -0.24 |
| Student Group | I | $10.2{ }^{3}$ | $(2,39)$ | $\mathrm{S}>\mathrm{CR}$ | . 34 | 108.4 | 99.7 | 123.4 |  | 0.30 | -0.52 |
| F x SG |  | NS | $(4,35)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | Attitude | NS | $(2,39)$ |  |  | -0.80 | -0.74 | -0.76 |  | -0.46 | -0.31 |
| Student Group |  | $6.3{ }^{2}$ | $(2,39)$ | $\begin{aligned} & S>C R \\ & S>N C R \end{aligned}$ | . 24 | -0.41 | -0.53 | -1.25 |  | 0.09 | 0.62 |
| F x SG |  | NS | $(4,35)$ |  |  |  |  |  |  |  |  |
| ${ }^{\text {Significant }}$ a | t . 05 level |  | gnific | t at . 01 le |  |  |  | Signi | icant | . 001 | level |
| ${ }^{4}$ The compariso comparisons) | indicated are tho | scrib | in th | precepding | t (two | funding | g comp | arisons | and t | stude | nt group |

Table 33 (cont.)

| ${ }^{5}$ The F values given are for the joint test of the two funding comparisons or the two student group comparisons. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| $\mathrm{CR}=$ other regular year compensatory readirg students in summer study schools |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| NT $=$ studerits in non-Title I funded schools |  |  |  |  |  |  |
| DK = average of non-Titile I funded and "don |  |  |  |  |  |  |
| ${ }^{7}$ In each of the "Funding" rows, raw score means 1,2 , and 3 correspond to Title I, non-Title I, and Unc groups, respectively. <br> In each of the "Student Group" rows, raw score means 1,2 , and 3 correspond to Summer, CR, and NCR stu respectively. |  |  |  |  |  |  |


Table 34 (cont.)
Grade 2

|  |  | Spring 1973 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Comparisons ${ }^{4}$ | Variable | $\mathrm{F}^{5}$ | D.F. | $\begin{aligned} & \begin{array}{c} \text { Direction } \\ \text { of } \\ \text { Difference }^{6} \end{array} \\ & \hline \end{aligned}$ | Prop. <br> Var.Explained by Compar. | $\frac{\text { Raw }}{1}$ | $\frac{\text { Score M }}{\text { a }}$ | $\frac{\text { Means }{ }^{7}}{}{ }^{\text {a }}$ | Study <br> Sample <br> Raw <br> Score <br> S.D. | $\begin{gathered} 1-2 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \end{gathered}$ | $\begin{gathered} 1-3 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \\ \hline \end{gathered}$ |
| Funding | Coop. Primary Reading | 4.92 | $(2,269)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK }>\text { T } \end{aligned}$ | . 04 | 34.0 | 36.4 | 36.0 | 9.9 | -0.24 | -0.20 |
| Student Group | . ${ }^{\text {c }}$ | $105.8{ }^{3}$ | $(2,269)$ | $\mathrm{S}<\mathrm{CR}$ | . 44. | 29.9 | 31.2 | 39.9 |  | 0.13 | -1.01 |
| F x SG |  | NS | $(4,265)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | MAT Word Knowledge | - $8.3{ }^{3}$ | $(2,269)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK }>\text { T } \end{aligned}$ | . 06 | 30.6 | 32.4 | 31.9 | 5.7 | -0.32 | -0.23 |
| Student Group |  | $45.6{ }^{3}$ | $(2,269)$ | $\mathrm{S}<\mathrm{CR}$ | . 25 | 29.7 | 29.8 | 33.1 |  | -0.02 | -0.60 |
| F x SG |  | NS | $(4,256)$. | S < NCR |  |  |  |  |  |  |  |
| Funding | MAT Sentences | $4.8{ }^{2}$ | $(2,269)$ | $\hat{N T}>T$ NT/DK > T | . 03 | 11.2 | 11.8 | 11.7 | 2.5 | -0.24 | -0.21 |
| critudent Group |  | $47.0{ }^{3}$. | $(2,269)$ | $\mathrm{S}=\mathrm{CR}$ | . 26 | 10.8 | 10.8 | $\cdot 12.3$ |  | 0.00 | -0.60 |
| OFF $\times$ SG |  | NS | $(4,265)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | MAT Stories | $5.0^{2}$ | $(2,269)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK > T } \end{aligned}$ | . 04 | 21.9 | 23.7 | 23.1 | 6.9 | -0.26 | -0.17 |
| Student Group |  | 77.0 | $(2,269)$ | $\mathrm{S}>\mathrm{CR}$ | . 36 | 20.3 | 20.0 | 25.5 |  | 0.04 | -0.75 |
| $\mathrm{F} \times \mathrm{SG}^{8}$ |  | $2.9{ }^{1}$ | $(4,265)$ | S < NCR | . 04 |  |  |  |  |  |  |
| Funding | MAT Reading | $5.1{ }^{2}$ | $(2,269)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK }>\mathrm{T} \end{aligned}$ | . 04 | 33.1 | 35.5 | 34.7 | 9.0 | -0.27 | -0.18 |
| Student Group |  | $71.4{ }^{3}$ | (2.269) | $\mathrm{S}>\mathrm{CR}$ | . 35 | 31.1 | 30.8 | 37.8 |  | 0.03 | -0.97 |
| F x SG ${ }^{8}$ |  | $2.6{ }^{1}$ | $(4,265)$ | $\mathrm{S}<\mathrm{NCR}$ | . 04 |  |  |  |  |  |  |
| Funding | MAT Total | $6.4{ }^{2}$ | $(2,269)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK > T } \end{aligned}$ | . 05 | 63.7 | 67.9 | 66.7 | 14.1 | -0.30 | -0.21 |
| Student Group |  | $64.0{ }^{3}$ | $(2,269)$ | $\mathrm{S}>\mathrm{CR}$ | . 32 | 50.8 | 60.7 | 70.9 |  | 0.01 | 0.72 |
| F x SG. |  | NS | $(4,265)$ | S < NCR |  |  |  |  |  | 1 |  |
| Funding | Coop. + MAT Total | $6.2{ }^{3}$ | $(2,269)$ | $\begin{aligned} & \text { NT > T T } \\ & \text { NT/DK > T } \end{aligned}$ | . 04 | 97.7 | 104.2 | 102.7 | 23.1 | -0.28 | -0.22 |
| Student Group |  | $84.3{ }^{3}$ | $(2,269)$ | $\mathrm{S}<\mathrm{CR}$ | . 39 | 90.7 | 91.9 | 110.9 |  | -0.05 | -0.87 |
| F x SG |  | NS | $(4,265)$ | $\mathrm{S}<\mathrm{NCR}$ |  |  |  |  |  |  |  |

Table 34 (cont.)

| Grade 2 |  | Fall 1972 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Combarisons ${ }^{4}$ | Variable | $\mathrm{F}^{5}$ | D.F. | $\begin{gathered} \text { Direction } \\ \text { of } \\ \text { Difference }{ }^{6} \\ \hline \end{gathered}$ | Prop. Var.Ex- plained by Compar. | $\frac{\text { Raw } \mathrm{S}}{1}$ | $\frac{\text { core M }}{}$ | $\frac{\text { eans }{ }^{7}}{3}$ | Study <br> Sample <br> Rain <br> Score <br> S.D. | $\begin{gathered} 1-2 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \\ \hline \end{gathered}$ | $\begin{gathered} 1-3 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \\ \hline \end{gathered}$ |
| Funding | Attitude | NS | $(2,371)$ |  |  | 2.42 | 2.57 | 2.50 | 1.3 | -0.15 | -0.08 |
| Student Group |  | 9.93 | $(2,371)$ | $\begin{aligned} & \text { S > CR } \\ & \mathrm{S}<\mathrm{NCR} \end{aligned}$ | . 05 | 2.52 | 2.34 | 2.61 |  | 0.15 | -0.08 |
| F x SG |  | NS | $(4,367)$ |  |  |  |  |  |  |  |  |
| Grade 4 |  |  |  |  |  |  |  |  |  |  |  |
| Funding | Coop. Primary Reading | $6.2{ }^{2}$ | $(2,340)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK > T } \end{aligned}$ | . 04 | 30.7 | 32.8 | 32.6 | 9.5 | -0.22 | -0.20 |
| Student Group |  | $207.6{ }^{3}$ | $(2,340)$ | $\mathrm{S}>\mathrm{CR}$ | . 55 | 28.3 | 27.0 | 37.0 |  | 0.14. | -0.92 |
| F x SG |  | NS | $(4,336)$ | S < NCR |  | I |  |  |  |  |  |
| Funding | MAT Word Knowledge | $8.4{ }^{3}$ | $(2,340)$ | $\begin{aligned} & \text { NT > T } \\ & \text { NT/DK }>\mathrm{T} \end{aligned}$ | . 05 | 26.4 | 29.8 | 29.3 | 12.5 | -0.27 | -0.23 |
| Student Group |  | $199.4{ }^{3}$ | $(2,340)$ | $\mathrm{S}>\mathrm{CR}$ | . 54 | 24.4 | 21.5 | 35.1 |  | 0.23 | -0.86 |
| F x SG |  | NS | $(4,336)$ | $\mathrm{S}<\mathrm{NCR}$ |  |  |  |  |  |  |  |
| Funding | MAT Reading | $6.6{ }^{2}$ | $(2,340)$ | $\begin{aligned} & N T>T \\ & \text { NT/DK }>\text { T } \end{aligned}$ | . 04 | 20.9 | 22.9 | 22.8 | 9.8 | -0.20 | -0.19 |
| Studè̀nt Group |  | $220.4{ }^{3}$ | $(2,340)$ | $\mathrm{S}>\mathrm{CR}$ | . 56 | 18.2 | 17.3 | 27.2 |  | -0.09 | -0.92 |
| $\mathrm{F} \times \mathrm{SG}$ |  | NS | $(4,336)$ | $\mathrm{S}<\mathrm{NCR}$ |  |  |  |  |  |  |  |
| Funding | MAT Total | $7.8^{3}$ | $(2,340)$ | NT > 'T <br> NT/DK > T | . 04 | 47.3 | 52.8 | 52.1 | 21.5 | -0.26 | -0.22 |
| Ştudent Group |  | $216.0^{3}$ | $(2,340)$ | $\mathrm{S}>\mathrm{CR}$ | . 56 | 42.6 | 38.8 | 62.3 |  | 0.18 | -0.92 |
| F x SG |  | NS | $(4,336)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | Coop. + MAT Total | $7.5^{3}$ | $(2,340)$ | $\begin{aligned} & \mathrm{NT}>T_{1} \\ & \mathrm{NT} / \mathrm{DK}>\mathrm{T} \end{aligned}$ | . 04 | 78.0 | 85.5 | 84.8 | 30.2 | -0.25 | -0.23 |
| Student Group |  | $219.7{ }^{3}$ | $(2,340)$ | $\mathrm{S}>\mathrm{CR}$ | . 56 | 70.9 | 65.9 | 99.3 |  | 0.17 | -0.94 |
| F x SG |  | NS | $(4,336)$ | S < NCR |  |  |  |  |  |  |  |
| Funding | Attitude | NS | $(2,337)$ |  |  | -0.76 | -0.78 | -0.85 | 1.2 | 0.02 | 0.07 |
| Student Group |  | $146.9{ }^{3}$ | $(2,337)$ | $\begin{aligned} & S>C R \\ & S>N C R \end{aligned}$ | . 47 | -0.33 | -0.45 | -1.22 |  | 0.10 | 0.74 |
| F x SG |  | NS | $(4,333)$ |  |  |  |  |  |  |  |  |

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \& \& \& \& \& Sprin \& g 1973 \& \& \& \& \& \\
\hline Comparisons \({ }^{4}\) \& Variable \& \(\mathrm{F}^{5}\) \& D.F. \& \[
\begin{gathered}
\text { Direction } \\
\text { of } \\
\text { Difference }
\end{gathered}
\] \& Prop. Var.Explained by Compar. \& \[
\frac{\text { Rav: }}{1}
\] \&  \& \[
\begin{array}{r}
\text { Means }{ }^{7} \\
-3 \\
\hline
\end{array}
\] \& \begin{tabular}{c} 
Study \\
Sample \\
Raw \\
Score \\
S.D. \\
\hline
\end{tabular} \& \[
\begin{gathered}
\hline 1-2 \\
\text { Diff. } \\
\text { in } \\
\text { S.D. } \\
\text { Units } \\
\hline
\end{gathered}
\] \& \[
\begin{gathered}
\hline 1-3 \\
\text { Diff. } \\
\text { in } \\
\text { S.D. } \\
\text { Units } \\
\hline
\end{gathered}
\] \\
\hline Funding
Student Group \& \multirow[t]{2}{*}{Attitude} \& \[
\begin{aligned}
\& \text { NS } \\
\& 3.9^{1}
\end{aligned}
\] \& \[
\begin{aligned}
\& (2,266) \\
\& (2,266)
\end{aligned}
\] \& \multirow[t]{2}{*}{\[
\begin{aligned}
\& S>C R \\
\& S \gg N C R
\end{aligned}
\]} \& \multirow[t]{2}{*}{. 03} \& \multirow[t]{2}{*}{2.76} \& \& \multirow[t]{2}{*}{2.70} \& \multirow[t]{2}{*}{1.3} \& \multirow[t]{2}{*}{\[
-0.16
\]} \& \multirow[t]{2}{*}{\[
-0.05
\]} \\
\hline F x SG \& \& NS \& \((4,262)\) \& \& \& \& \[
2.55
\] \& \& \& \& \\
\hline Grade 4 \& \& \& \& \& \& \& \& \& \& \& \\
\hline Funding \& Coop. Primary Reading \& \(4.5^{2}\) \& \((2,256)\) \& \[
\begin{aligned}
\& \text { NT > T } \\
\& \text { NT/DK > T }
\end{aligned}
\] \& . 03 \& 36.9 \& 38.8 \& 38.7 \& \multirow[t]{2}{*}{8.2} \& -0.23 \& -0.22 \\
\hline Student Group \& \& \(112.4{ }^{3}\) \& \((2,256)\) \& \(\mathrm{S}>\mathrm{CR}\) \& . 47 \& 37.2 \& : 34.1 \& 41.7 \& \& \multirow[t]{2}{*}{-0.38} \& \multirow[t]{2}{*}{-0.55} \\
\hline F \(\times\) S \(G\) \& \& NS \& \((4,252)\) \& \(\mathrm{S}<\mathrm{NCR}\) \& , \& \& \& \& \& \& \\
\hline Funding \& \multirow[t]{3}{*}{MAT Word Knowledge} \& \(\begin{array}{r}4.3 \\ \hline 1 \\ \hline 12.5\end{array}\) \& \((2,256)\) \& \multirow[t]{3}{*}{\[
\begin{aligned}
\& \text { NT > T } \\
\& \text { NT /DK > T } \\
\& S>C R \\
\& S<N C R
\end{aligned}
\]} \& . 03 \& 32.8 \& 35.2 \& 35.4 \& \multirow[t]{3}{*}{11.3} \& -0.21 \& -0.23 \\
\hline © Student Group \& \& \(124.5^{3}\) \& \((2,256)\) \& \& \multirow[t]{2}{*}{. 49} \& \multirow[t]{2}{*}{31.1} \& \multirow[t]{2}{*}{28.6} \& \multirow[t]{2}{*}{40.0} \& \& \multirow[t]{2}{*}{--0.2?} \& \multirow[t]{2}{*}{-0.79} \\
\hline \(\bigcirc\) F x SG \& \& NS \& \((4,252)\) \& \& \& \& \& \& \& \& \\
\hline Funding \& \multirow[t]{3}{*}{MAT Reading} \& 4.7

3 \& $(2,256)$ \& $$
\begin{aligned}
& \text { NT. > T } \\
& \text { NT/DK > T }
\end{aligned}
$$ \& . 04 \& 25.9 \& 28:0 \& 28.0 \& \multirow[t]{3}{*}{9.8} \& -0.21 \& -0.21 <br>

\hline Student Group \& \& $138.4^{3}$ \& $(2,256)$ \& $\mathrm{S}>\mathrm{CR}$ \& . 52 \& 23.7 \& 22.3 \& 32.1 \& \& \multirow[t]{2}{*}{0.14} \& \multirow[t]{2}{*}{-0.86} <br>
\hline F x SG \& \& NS \& $(4,252)$ \& S < NCR \& \& \& \& \& \& \& <br>

\hline Funding \& \multirow[t]{3}{*}{MAT Total} \& $4.6{ }^{2}$ \& $(2,256)$ \& $$
\begin{aligned}
& \mathrm{NT}>\mathrm{T} \\
& \mathrm{NT} / \mathrm{DK}>\mathrm{T}
\end{aligned}
$$ \& . 03 \& 58.6 \& 63.2 \& 63.4 \& \multirow[t]{2}{*}{20.4} \& -0.23 \& -0.24 <br>

\hline Student Group \& \& $134.5^{3}$ \& $(2,256)$ \& $\mathrm{S}>\mathrm{CR}$ \& . 51 \& 54.6 \& 50.9 \& 72.2 \& \& \multirow[t]{2}{*}{0.18} \& \multirow[t]{2}{*}{-0.86} <br>
\hline F x SG \& \& NS \& $(4,252)$ \& $\mathrm{S}<\mathrm{NCR}$ \& \& \& \& \& \& \& <br>

\hline Funding \& \multirow[t]{3}{*}{Coop. + MAT Total} \& $4.8{ }^{2}$ \& $(2,256)$ \& \multirow[t]{3}{*}{$$
\begin{aligned}
& \text { NT > T } \\
& \text { NT/DK > T } \\
& S>C R \\
& S<N C R
\end{aligned}
$$} \& \multirow[t]{2}{*}{.04

.51} \& \multirow[t]{2}{*}{95.61

91.8} \& \multirow[t]{3}{*}{$$
\begin{array}{r}
102.0 \\
84.9
\end{array}
$$} \& \multirow[t]{3}{*}{\[

$$
\begin{aligned}
& 102.1 \\
& 113.9
\end{aligned}
$$

\]} \& \multirow[t]{2}{*}{27.9} \& \multirow[t]{3}{*}{\[

$$
\begin{array}{r}
-0.23 \\
0.25
\end{array}
$$

\]} \& \multirow[t]{3}{*}{\[

$$
\begin{aligned}
& -0.23 \\
& -0.79
\end{aligned}
$$
\]} <br>

\hline Student Group \& \& $131.0^{3}$ \& $(2,256)$ \& \& \& \& \& \& \& \& <br>
\hline F x SG \& \& NS \& $(4,252)$ \& \& \& \& \& \& \& \& <br>

\hline Funding \& \multirow[t]{3}{*}{Attitude} \& NS \& $(2,256)$ \& \multirow[t]{3}{*}{\[
$$
\begin{aligned}
& S>C R \\
& S>N C R
\end{aligned}
$$

\]} \& \multirow[t]{3}{*}{\[

$$
\begin{aligned}
& .46 \\
& .07
\end{aligned}
$$

\]} \& \multicolumn{3}{|l|}{\multirow[t]{3}{*}{\[

$$
\begin{array}{lll}
-0.92 & -0.88 & -1.09 \\
-0.44 & -0.62 & -1.41
\end{array}
$$
\]}} \& \multirow[t]{3}{*}{1.3} \& -0.03 \& 0.13 <br>

\hline Student Group \& \& $110.8{ }^{3}$ \& $(2,256)$ \& \& \& \& \& \& \& \multirow[t]{2}{*}{-0.14} \& \multirow[t]{2}{*}{0.75} <br>
\hline F $\times \mathrm{SG}^{8}$ \& \& $4.7{ }^{3}$ \& $(4,252)$ \& \& \& \& \& \& \& \& <br>
\hline
\end{tabular}

| $\mathrm{F}^{5}$ | D.F. | $\begin{gathered} \text { Direction } \\ \text { of } \\ \text { Difference } \end{gathered}$ | Prop. Var.Explained by Compar. | $\frac{\text { Raw } \mathrm{Si}}{1}$ | $\frac{\text { Score }}{2}$ | $\begin{aligned} \text { Means }{ }^{7} \\ \hline \end{aligned}$ | $\begin{gathered} \text { Study } \\ \text { Sample } \\ \text { Rav } \\ \text { Score } \\ \text { S.D. } \end{gathered}$ | $\begin{gathered} 1-2 \\ \text { Diff. } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \end{gathered}$ | $\begin{gathered} 1-3 \\ \text { Diff } \\ \text { in } \\ \text { S.D. } \\ \text { Units } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NS | $(2,247)$ |  |  | 33.3 | 35.1 | 35.0 | 12.4 | -0.15 | -0.14 |
| $131.8{ }^{3}$ | $(2,247)$ | $\begin{aligned} & S>C R \\ & s<N C R \end{aligned}$ | . 52 | 30.8 | 28.0 | 40.8 |  | 0.23 | -0.81 |
| NS | $(4,243)$ |  |  |  |  |  |  |  |  |
| $3.7^{1}$ | $(2,247)$ | $\mathrm{NT}>\mathrm{T}$ | . 03 | 37 | 38.9 | 39. | 0.6 | -0.18 | -0.20 |
| $91.9{ }^{3}$ | $(2,247)$ | $\mathrm{S}>\mathrm{CR}$ | . 43 | 36.0 | 33.3 | 43.0 |  | 0.25 | -0.66 |
| NS | $(4,243)$ | s < NCR |  |  |  |  |  |  |  |
| $3.3{ }^{1}$ | $(2,247)$ | $\mathrm{NT}>\mathrm{T}$ | . 03 | 28.7 | 30.3 | 30.5 | 9.9 | -0.16 | -0.18 |
| $118.2{ }^{3}$ | $(2,247)$ | $\mathrm{S}>\mathrm{CR}$ | . 49 | 26.7 | 24.9 | 34.6 |  | 0.18 | -0.80 |
| NS | $(4,243)$ | $\mathrm{S}<\mathrm{NCR}$ |  |  |  |  |  |  |  |
| $3.6{ }^{1}$ | $(2,247)$ | NT > T | . 03 | 65.6 | 69.2 | 69.6 | 19.6 | -0.18 | -0.20 |
| $108.5^{3}$ | $(2,247)$ | $\mathrm{S}>\mathrm{CR}$ | . 48 | 62.7 | 58.2 | 77.6 |  | 0.23 | -0.76 |
| ns | $(4,243)$ | S < NCR |  |  |  |  |  |  |  |
| $3.2{ }^{1}$ | $(2,247)$ | $\mathrm{NT}>\mathrm{T}$ | . 024 | 98.9 | 104.4 | 104.7 |  | -0.17 | -0.19 |
| $120.6{ }^{3}$ | $(2,247)$ | $\mathrm{s}>\mathrm{CR}$ | . 49 | 93.5 | 86.2 | 118.3 |  | 0.24 | -0.80 |
| NS | $(4,243)$ | S < NCR |  |  |  |  |  |  |  |
| NS | $(2,246)$ |  |  | -0.82 | -0.86 | -0.88 | 1.3 | 0.03 | 0.05 |
| $81.6{ }^{3}$ | $(2,246)$ | $\begin{aligned} & \mathrm{s}<\mathrm{CR} \\ & \mathrm{~s}>\mathrm{NCR} \end{aligned}$ | . 40 | -0.63 | -0.46 | -1.26 |  | -0.13 | 0.4 |
| NS | $(4,242)$ |  |  |  |  |  |  |  |  |


|  |  |
| :---: | :---: |
| Table 34 (cont |  |
| Grade 6 |  |
| Comparisons ${ }^{4}$ | Variable |
| Funding | STEP II Reading |
| Student Group |  |
| F x SG |  |
| Funding | MAT Word Knowledge |
| Student Group |  |
| F x SG |  |
| Funding | MAT Reading |
| Student Group |  |
| F x SG |  |
| Funding | Mat Total |
| Student Group |  |
| F x S ${ }^{\text {g }}$ |  |
| Funding | STEP + MAT Total |
| Student Group |  |
| - F x SG |  |
| Funding | Attitude |
| Student Group |  |
| F x SG |  |


Funding
F x SG
Funding
$\mathrm{F} \times \mathrm{SG}$.
Funding
F $\times$ SG
Funding
F x SG

60
Table 34 (cont.)

$$
\begin{aligned}
& { }^{8} \text { See Tables 35-38 for significant interaction means. }
\end{aligned}
$$

A few funding $x$ student group interactions were also significant. As was the case with the significance tests of main effects, the tests of interactions were joint tests. The following four tables show cell means and $t$ values for the four significant interactions appearing in Table 34.

Table 35
Funding $x$ Student Group Interaction: Grade 2 , Fall Cooperative Primary Reading

|  |  | Sumner | CR | NCR | $\mathrm{F}_{1}$ | $\mathrm{F}_{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Title I |  | 18.3 | 19.6 | 27.4 | 1 | 1 |
| Non-Title 1 |  | 23.8 | 20.2 | 31.8 | -1 | -1/2 |
| Unclassifiable |  | 16.0 | 19.8 | 30.2 |  | -1/2 |
| SG ${ }_{1}$ : | $\mathrm{SG}_{1}$ : | 1 | -1 |  | $\cdots$ |  |
|  | SG 2 : | 1 |  | -1 |  |  |
|  |  | $\mathrm{F}_{1}$ | : $t$ |  |  |  |
|  |  |  | 2 : $t$ |  |  |  |
|  |  |  | : $t$ |  | $\cdots$. . | - |
| $\cdots$ |  | $\mathrm{F}_{2}$ | 2 : | 0.9 |  |  |
|  |  |  | $=374$ |  |  |  |

Table 35 shows, in addition to the interaction cell means, the definitions of the various funding and student group contrasts (e.g., the first funding contrast, $F_{1}$, is defined as Title $I$ vs. Non-Title I; the first Student Group contrast, $3 G_{1}$, is defined as summer vs. $C R$ students). The relative contributions of tise various contrast combinations are reflected in the $t$ values given below the table (note that in Table 34 the joint interaction test was significant even though none of the individual $t$ values was significant). The double lines enclose those means which correspond to the comparisons associated with the highest $t$ value (in this case, $F_{1} \times S_{1}$ ). Thus it can be seen that the interaction represented above is caused to a substantial extent by the fact that $C R>S$ Sumer for Title $I$ schools, but $C R<$ Summer for Non-Title I schools.

Table 36
Funding $x$ Student Group Interaction: Grade 2, Spring MAT Stories

|  | Summer | CR | NCR |
| :--- | :---: | :---: | ---: |
| Title I | 18.2 | 19.9 | 24.9 |
| Non-Title I. | 24.9 | 20.4 | 26.7 |
| Unclassifiable | 19.5 | 20.1 | 26.1 |

$$
\begin{gathered}
\mathrm{F}_{1} \times \mathrm{SG}_{1}: \quad \mathrm{t}=-3.3 \\
\mathrm{~F}_{1} \times \mathrm{SG}_{2}: \mathrm{t}=-2.5 \\
\mathrm{~F}_{2} \times \mathrm{SG}_{1}: \mathrm{t}=-2.0 \\
\mathrm{~F}_{2} \times \mathrm{SG}_{2}: \mathrm{t}=-1.4 \\
\text { D.F. }=265
\end{gathered}
$$



Inspection of Table 36 shows that disproportionalities throughout most of the table contribute substantially to the significant interaction. The element of the interaction having the highest $t$ value ( $F_{1} \times \mathrm{SG}_{1}$ ) is enclosed in double lines. As was the case with the grade 2 Fall Cooperative Primary Reading data, CR > Summer for Title I schools, but CR < Summer for Non-Title I schools.

Table 37
Funding x Student Group Interaction: Grade 2, Spring MAT Reading

|  | Summer | CR | NCR |
| :--- | :---: | :---: | :---: |
| Title I | 28.4 | 30.6 | 36.9 |
| Non-Title I | 37.0 | 31.3 | 39.3 |
| Unclassifiable | 29.7 | 31.0 | 38.5 |

$\mathrm{F}_{1} \times \mathrm{SG}_{1}: \quad \mathrm{t}=-3.1, \quad$,
$\mathrm{F}_{1} \times \mathrm{SG}_{2}: \mathrm{t}=-2.4$
$\mathrm{F}_{2} \times \mathrm{SG}_{1}: \quad \mathrm{t}=-1.8$
$\mathrm{F}_{2} \times \mathrm{SG}_{2}: \quad \mathrm{t}=-1.2$
D.F. $=265$

Table 37 shows a situation for MAT Reading analogous to the preceding result for MAT Stories.

Table 38
Funding $x$ Student Group Interaction: Grade 4, Spring Attitude Toward Reading

|  | Summer | CR | NCR |
| :--- | :---: | :---: | ---: |
| Title I | -0.36 | -0.58 | -1.38 |
| Non-Title I | -0.15 | -0.62 | -1.44 |
| Unclassifiable | -1.68 | -0.68 | -1.43 |

$$
\begin{aligned}
& \mathrm{F}_{1} \times \mathrm{SG}_{1}: \mathrm{t}=-1.0 \\
& \mathrm{~F}_{1} \times \mathrm{SG}_{2}: \mathrm{t}=-1.1 \\
& \mathrm{~F}_{2} \times \mathrm{SG}_{1}: \mathrm{t}=2.1 \\
& \mathrm{~F}_{2} \times \mathrm{SG}_{2}: \mathrm{t}=2.1 \\
& \text { D.F. }=252
\end{aligned}
$$

. The interaction shown in Table 38 is somewhat complex, but it seems that an important contributing element is the extreme divergence of summer student attitudes in Non-Title I and Unclassifiable schools, as contrasted to the similarity of student attitudes in these school funding categories for both CR and NCR students.

Although Spring-Summer achieverent differences were negligible for the total group of schools, it was of interest to determine whether achievement differences existed among schools. Table 39 shows the results of analyses of variance performed on Spring (pretest for the summer study) achievement data of summer program students, separately by grade. The dependent variable is Total achievement score, the unit oi analysis is the individual student, and the effect tested is differences among schools.

Table 39
Pretest (Spring 1973) Total Reading Achievement Differences Among Schools Offering A Summer 1973 Program

| Grade | D.F. |  | Proportion of Variance <br> Explained by |
| :---: | :--- | :---: | :---: |
|  | 22,123 | $\frac{\text { F }}{}$ | Differences Among Schools |
| 4 | 16,63 | $6.0^{3}$ | .43 |
| 6 | 11,44 | $2.8^{2}$ | .60 |

${ }^{1} .05$ level
2
.01 level
3.001 level

Reference to Table 39 shows that significant pretest differences existed among summer study schools at all three grade levels.

Analyses of variance were also performed to assess the pretest (Spring 1973) and posttest (Summer 1973) Total R (\%ding Achievement differences among summer study schools, with the effects of the following funding category_contrasts removed:

1. Title I vs. Non-Title I
2. Title I vs. the average of Non-Title I and Unclassifiable schools
The unit of analysis is the individual student. Table 40 shows the results, based on pretest and posttest data for the same student sample.

Examination of Table 40 reveals that, within the various funding source strata, there are significant achievement differences among summer study schools at grades 2 and '6 in terms of Spring achievement data, and at grades 2 and 4 in terms of Summer achievement data.

Table 40
Pretest (Spring 1973) and Posttest (Sunmer 1973) Total Reading Achievement Differences Among Schools Offering A Summer 1973 Program, With The Effects of Funding Source Removed

| Dependent Variable | Grade |  |  | Proportion of Variance Explained By Differences Among Schools |
| :---: | :---: | :---: | :---: | :---: |
|  |  | D.F. | F |  |
| Pretest | 2 | 20;123 | $2.1{ }^{2}$ | . 25 |
|  | 4 | 13;57 | NS |  |
|  | 6 | 9;44 | $3.0^{2}$ | . 38 |
| Posttest | 2 | 20;123 | $2.6{ }^{3}$ | . 30 |
|  | 4 | 13;57 | $2.1{ }^{1}$ | . 32 |
|  | 6 | 9;44 | NS |  |

$\overline{1_{\text {significant }} \text { at } .05 \text { level }}$
${ }^{2}$ significant at . 01 level
3 significant at . 001 level

Analyses of covariance were performed on Summer (posttest for the summer study) achievement data of summer program students, separately by grade. The dependent variable is "Total score, the covariate is Spring Total score, the unit of analysis is the individual student, and the effect tested is differences among schools. Table 41 shows these results, and Table 42 gives the Spring and Summer total achievement means.

Table 41
Total Reading Achievement Gain Among Schools Offering A Summer 1973 Program

| Grade | D.F. | F | Proportion of Variance Explained by <br> Differences Among Schools |
| :---: | :---: | :---: | :---: |
| 2 | 22,122 | $2.5^{3}$ | . 06 |
| 4 | 16,62 | $1.9{ }^{1}$ | . 06 |
| 6 | 11,43 | NS | . |
| l. 05 level - |  |  |  |
| 2.01 level |  |  |  |
| 3.001 |  |  | - |

Table 42
Pretest (Spring 1973) and Posttest (Summer 1973) Total Reading Achievement Means (Summer Program Students Only) for Schools Offering A Summer 1973. Program
Total Reading Achievement Raw Score Means

| School | $\text { Grade } 2$ |  | Grade 4 |  | Grade 6 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Spring | Summer | Spring | Summer | Spring | Summer |
| A | 106.2. | 100, 2 | 83.3 | 81.8 | -- | -- |
| B | 100.9 | 100.9 | 92.2 | 88.2 | 115.0 | 105.8 |
| C | 83.5 | 68.7 | 67.2 | 65.0 | 92.5 | 94.7 |
| D | 108.4 | 106.9 | -- | -- | -- | -- |
| E | 89.5 | 89.1 | 81.1 | 77.9 | 101.0 | 99.9 |
| F | 87.9 | 89.4 | 94.8 | 92.6 | -- | -- |
| G | 111.4 | 111.1 | 114.2 | 108.1 | 145.5 | 142.5 |
| H | 106.9 | 107.0 | 108.3 | 108.0 | -- | -- |
| I | 88.0 | 95.3 | -- | -- | . -- | -- |
| J | 68.6 | 74.6 | -- | -- | -- | -- |
| K | 100.0 | 114.0 | 101.0 | 95.0 | 126.0 | 107.0 |
| L | 93.0 | 83.0 | 91.7 | 69.0 | 112.0 | 102.5 |
| M | 105.2 | 105.5 | 99.0 | 105.3 | 112.3 | 104.3 |
| N | 87.7 | 93.3 | 119.4 | 117.4 | 107.9 | 112.1 |
| 0 | 83.5 | 79.5 | 75.0 | 73.5 | -- | -- |
| $\dot{\mathrm{P}}$ | 97.6 | 92.8 | -- | -- | -- | -- |
| Q | 88.6 | 86.0 | 97.3 | 77.7 | 126.0 | 122.0 |
| R | 83.7 | 94.0 | -- | -- | -- | -- |
| S | 106.9 | 110.7 | 98.0 | 103.2 | 101.8 | 104.6 |
| T | 66.5 | 67.7 | 54.4 | 58.1 | -- | -- |
| U | 77.7 | 83.2 | 84.7 | 86.3 | -- | -- |
| v | 73.4 | 73.2 | -- | -- | -- | -- |
| W | 71.0 | 59.2 | -- | -- | -- | -- |
| X | -- | -- | 94.0 | 86.0 | 67.6 | 56.6 |
| Y | -- | -- | -- | -- | 90.0 | 101.8 |
| Total | 90.7 | 90.6 | 91.5 | 87.8 | 108.1 | 104.5 |

Table 41 shows significant reading achievement gain differences among schools in grades 2 and 4. "Individual school etfects were examined and ten outlier schools were identified (grade 2: three positive, three negative; grade 4 :. two positive, two negative) Of the five positive outlier schools, three had Title I funded summer programs, one was non-Title $I$ funded, and one did not respond to that questionnaire item. Of the five negative outlier schools, four had Title $I$ funded summer programs and $n=2$ was non-Title $I$ funded.

A content analysis of administrator and teacher questionnaires was performed, separately by positive and negative schools, with the following results:

1. positive schools concentrate more on grade 2 programs and less on multiage programs than do negative schools.
2. positive schools have more teachers who teach in another school in the district during the regular school year; negative schools have more teachers who teach in the same school.
3. positive schools have more experienced teachers than do negative schools.
4. teachers in positive schools were more likely to have been assigned to that summer program; teachers in negative schools were more likely to have chosen it.
5. teachers in positive schools were in general more satisfied with various aspects of the program than were those in negative schools.
6. teachers in positive schools tended to disagree with the following statement, teachers in negative schools to agree: "The pupils want to learn but they do not have the right background for school work."

Analyses of variance testing . The pretest and posttest Total Reading Achievement differences between Summe Title I and Non-Title I schools were also performed. Table 43 shows the results of these analyses.

Table 43
Pretest (Spring 1973) and Posttest (Summer 1973) Total Reading Achievement Differences Between Summer Title I and Non-Title I Schools

| Dependent Variable | Grade | D.F. | t | Difference | Title I |  | Non-Title I |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Mean | N | Mean | N |
| Pretest | 2 | 20 | $4.3{ }^{3}$ | NT > T | 84.1 | 14 | 104.5 | 7 |
|  | 4 | 14 | $3.4{ }^{2}$ | NT $>$ T | 81.2 | 9 | 102.1 | 6 |
|  | 6 | 9 | NS |  | 95.0 | 4 | 114.6 | 6 |
| Posttest | 2 | 20 | $4.0^{3}$ | NT > , T | 83.5 | 14 | 105.5 | 7 |
|  | 4 | 14 | $2.5{ }^{1}$ | NT > T | 78.8 | 9 | 98.1 | 6 |
|  | 6 | 9 | NS |  | 89.2 | 4 | 109.7 | 6 |

1.05 level
2.01 level
3.001 level

- Reference to Table 43 reveals that Summer Non-Title I schools exceeded Summer Title $I$ schools in terms of Spring and Summer total reading achievement in'grades 2 and 4.

Analyses of covariance testing the Total Reading Achievement Spring/Summer gain differences between Summer Title I and Non-Title I schools were also performed. There were no statistically significant differences at any grade level.

Analyses of covariance were performed to assess the Spring/Summer achievement gain differences among summer study schools, with the effects of funding category removed. The unit of analysis is the individual student. Table 44 shows the results.

Reference to Table 44 shows that, for grades 2 and 4 , there are significant achievement gain differences among summer study schools within the various funding source categories.

Table 44
Total Reading Achievement Spring/Summer Gain Among Schools Offering A Summer 1973 Program, With The Effects of Funding Source Removed

| Grade | D.F. | F | Proportion of Variance Explained by <br> Differences Among Schools |
| :---: | :---: | :---: | :---: |
|  | $20 ; 122$ | $2.7^{3}$ | .30 |
| 4 | $13 ; 56$ | $2.1^{1}$ | .33 |
| 6 | $9 ; 43$ | NS |  |

$1_{\text {significant }}$ at .05 level 2 significant at . 01 level
3
significant at . 001 level
Note: Regression lines for each of the above covariance analyses were parallel.

As a part of the cost study of summer programs, these programs were categorized by focus or thrust: ${ }^{1}$

1. Remedial--"'implies the program is designed to help children who are falling behind."
2. Enrichment--"implies the program is primarily for the enjoyment of the student and its primary objectives would be to make students like school and to improve the students' self-concept."
3. Remedial/Enrichment--"implies that aspects of both are used."
4. Compensatory--"similar to Reluedial, but with more emphasis on helping disadvantaged children."

Programs were thus classified by the cost study interviewer during his site visit, after consultation with the principal or program administrator. Linear analyses of covariance were performed separately by grade, using in turn each of the Summer 1973 reading achievement and attitude measures as the dependent variable, and the corresponding Spring 1973 measures as covariate. The school mean was the unit of analysis. The following contrasts, consisting of various combinations of the previously described program thrust categories, were tested:

[^5]1. Remedial vs. Enrichment
2. Remedial/Enrichment vs. Compensatory
3. Average of Remedial and Enrichment vs. average of Remedial/Enrichment and Compensatory

Toint tests of the above three contrasts, using grade 2 data, showed non-significant differences for each achievement and attitude measure. All slopes were parallel. From this result it may be cortcluded that the data showed no significant differences in Spring-Summer gain amorg the four summer program types for any achievement or attituic measure.

Because there was only one school in the "enrichment" category in each of grades 4 and 6, there were insufficient degrees of freedom to perform paraliel analyses for those grades. Therefore, in grades 4 and 6 the following set of contrasts were tested:

1. Remedial/Enrichment vs. Compensatory
2. Remedial vs. the average of Remedial/Enrichment and Compensatory

Joint tests of the above two contrasts, separately for grade 4 and grade 6 data, showed non-significant differences for each achievement and attitude measure. All slopes were parallel. Thus it was not possible to show significant differences in Spring-Summer gain among the Remedial, Remedial/Enrichment, and Compensatory summer program types for any fourth or sixth grade achievement or attitude measure.

Table 45 shows the pretest (Spring 1973)/posttest (Summer 1973) correlations for each reading achievement and attitude toward reading measure.

## Table 45

|  | Spring/Summer Correlations of Reading and Attitude Measures | Achievement |  |
| :---: | :---: | :---: | :---: |
| Grade | Measure | Correlation | N |
| 2 | MAT Word Knowledge .. | . 87 | 147 |
|  | MAT Sentences | . 73 | 146 |
|  | MAT Stories | . 77 | 146 |
|  | $\cdots$ Mat Reading | . 84 | 146 |
|  | MAT Total | . 89 | 146 |
|  | Cooperative Primary Reading | . 80 | 147 |
|  | Mat Total + Coop. | . 90 | 146 |
|  | Attitude * ${ }^{\circ}$ | . 63 | 124 |
| 4 | MAT Word Knowledge | . 87 | 81 |
|  | MAT Reading | . 77 | 81 |
|  | MAT Total | . 87 | . 80 |
|  | Cooperative Primary Reading | . 82 | 83 |
|  | MAT Total + Coop. | . 90 | 80 |
|  | Attitude | . 78 | 64 |
| 6 | MAT Word Knowledge | . 61 | 57 |
|  | MAT Reading | . 71 | 57 |
|  | MAT Total | . $70 \times$ | 57 |
|  | STEP II Reading | . 85 | 58 |
|  | MAT Total + STEP | . 81 | 56 |
|  | Attitude . | .81 | 51 |

Analyses of variance were performed, testing jointly the previously described set of three program focus contrasts separately for pretest (Spring 1973) and posttest (Summer 1973) data. The only significant differences obtained were for STEP II Reading in grade 6, as shown in Table 46.

It should be noted that in each of the two administrations shown in Table 46, the Remedial vs. Enrichment comparison was the only significant one of the set tested (Spring administration, $t=3.6$, D.F. $=7$; Summer administration, $t=4.1$, D.F. $=7$ ).


In assessing the implications of the foregoing results, readers must judge for themselves the validity of the process whereby program focus was determined. The Resource Management Corporation report ${ }^{1}$ describes this process thus:

During the site visits conducted to these programs, the interviewer-after consultation with the principal or similar program adminis-trator--classified the program thrust as remedial, enrichment, remedial/enrichment, or compensatory. There were programs on the boundaries between categories; however, they were assigned to the thrust category the interviewer felt was dominant.

[^6]APPENDIX

41
$\therefore$

SCHOOL
SCHOOL DISTRICT $\qquad$ STATE: $\qquad$
NAME OF SUMMER PROGRAM ADMINISTRATOR

DIRECTIONS: This questionnaire is in two parts. The first part is intended to elicit information about your summer program and the stadents in it. PLEASE FEEL FREE TO CONSULT OTHERS IN THIS SCHOOL OR SCHOOL DISTRICT IN ORDER TO PROVIDE THE INFORMATION REQUESTED, Tite second part of the questionnaire has to do with compensatory reading listyuction. sy compensatory reading instruction is meant any reading instruction provided tn students because they are reading below their grade level.

## PART I

PLEASE : $R$ ROVIDE THE FOLLOWING INFORMATION AROITT YOUR SUMMER PROGRAM. Answer all questions with reference to the current summer unless otherwise indicated.

1. Enrollment this summer (number of punils).

| $\square$ | Less than 50 |
| :--- | :--- |
| $\square$ | $50-99$ |
| $\square$ | $100-199$ |
| $\square$ | $300-299$ |

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2. Please indicate below the grades (or grade equivalents) included in your summer program. If you have a combination of graded and ungraded classes, indicate the instructional organization for each grade or, if ungraded, the equivalent grades in your school. (Check only one box in each row.)

Instructional Organization
Grade or Equivalent

| NOT i.ciluded |  |
| :---: | :---: |
| in. schesi |  |

(a) Kindergarten
(b) Grade 1
(c) Grade 2
(d) Grade 3
(e) Grade 4
(f) Grade 5
(g) Grade 6
(h) Grade 7
(i) Grade 8
3. Number of classes at each grade level:
$\qquad$ 3 $\qquad$ 6 $\qquad$
1 $\qquad$
$\qquad$ 7 $\qquad$
2 $\qquad$ 5 $\qquad$
8 $\qquad$

Special or ungraded $\qquad$
:
4. What is the length of the summer program?

- Three weeks or less
- 
- Four weeks
[i Five weeks
$\square$ Six weeks
I-S Seven weeks

5. How long is the school day in the summer?
$\square$ Same length as regular year school day
$\square$ Shorter than regular school day
5a. If the summer program day is a short one, is the program held in the morning or the afternoon?
$\square$ Morning
$\square$ Afternoon
6. Which of the following subject areas are offered in the summer program? (Mark one box for each area)

|  | For All <br> Students | For Some <br> Students | Not <br> Offered |
| :--- | :---: | :---: | :---: |
| Reading | $\square$ | $\square$ | $\square$ |
| Mathematics | $\square$ | $\square$ | $\square$ |
| Language Arts | $\square$ | $\square$ | $\square$ |
| Social Studies | $\square$ | $\square$ | $\square$ |
| Music | $\square$ | $\square$ | $\square$ |
| Arti | $\square$ | $\square$ | $\square$ |
| Crafts | $\square$ | $\square$ | $\square$ |
| Other sports | $\square$ | $\square$ | $\square$ |

6a. Aside from formal reading instruction, which of the following $\dot{\text { a }}$. : : r, consider to be reading-related activities as you define and exec $\iota_{r}$ them in your sumer program? (Mark all that apply)


Mathematics

Language Arts
Social Studies

Music


Art


Crafts
$\square$ Swimming
$\square$ Other sports
6b. Are there any other activities included in your summer program that you consider to be reading-related?


No
$\square$ Yes
If Yes, please describe briefly: $\qquad$
$\qquad$
$\qquad$
7. How does the summer program differ from the regular school year program with respect to each of the following items? (Describe differences briefly for each )

Student population: $\qquad$
$\qquad$
Location: $\qquad$
$\qquad$

7 7)

Instructional organization (class groupings): $\qquad$
$\qquad$
Staff:_
$\qquad$
Philosophy (goals): $\qquad$
$\qquad$
$\qquad$
Instruction: $\qquad$
$\qquad$
$\qquad$
7a. In approximate order of their importance, please list the goals of your summer program:

1. (Most important goal): $\qquad$
$\qquad$
2. (Second most important goal): $\qquad$
$\qquad$
$\qquad$
3. (Third most important goal): $\qquad$
$\qquad$
$\qquad$
4. Please estimate the percentage of students in the summer program who are of the following racial or national ory.gins. (Check only one box in each lettered row.)

|  | None | 1-25\% | 26-50\% | 51-75\% |
| :--- | :--- | :--- | :--- | :--- |
| (a) Caucasian or White |  |  |  |  |
| (b) Negro or Black | $\square$ | $\square$ |  |  |
| (c) Spanish surnamed |  |  |  |  |
| (d) Oriental |  |  |  |  |
| (e) American Indian | $\square$ | $\square$ |  |  |
| (f) Other (Specify) | $\square$ | $\square$ |  |  |

8a. Do you feel these are accurate estimates?
$1 \square$ Yes
$2 \square$ No
9. Are children enrolled in the summer program from schools not in your school's regular attendance area?

1 Y Yes
2 №
10. If children from other schools are enrolled, about what percentage of the total summer enrollment comes from outside of this school's regular attendance area?
1 - 1-10\%
1— 26-50\%
2 ■ 11-25\%
2 - More than half
11. Using your best professional judgment, rate eacl: of the following characteristics of the summer program.

12. Estimate the percentage of students in your summer program of the following grade levels who are reading one or more years below grade level according to current test data. The estimate should be based upon the concept of national norns for the grade for which you are reporting.
(a) Grade 2
$1 \square$ None
$4 \square 26-50 \%$. $7 \square$ 91-100\%
2 [ 1-10Z
$5 \square 51-75 \%$
$3 \square$ 11-25\%
6 — 76-90\%
(b) Grade 4
$1 \square$ None
4 - 26-50\%
7 ■ 91-100\%
2 1-10\%
5 51-75\%
$3 \square$ 11-25\%
$6 \square 76-90 \%$
(c) Grade 6

| $1 \square$ None | $4=26-50 \%$ | $7-$ |
| :--- | :--- | :--- |
| $2 \square 1-10 \%$ | $5-51-75 \%$ | $=$ |
| $3 \square 11-25 \%$ | $6 \square$ | $76-90 \%$ |

13. Does your summer program include at least some compensatory reading instruction as defined?

1 Yis If so, please go to question 14 and complete the remainder of this quesitonnaire.

2 No If not DO NOT COMPLETE THE REMAINDER OF THIS QUESTIONNAIRE. Instead, return the questionnaire to ETS in the postage-paid envelope provided. Thank you for your cooperation.
14. Please describe briefly below the compensatory reading instruction that takes place in your summer program.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
14a. Is the compensatory reading instruction in your summer program funded totally or in part by funds (federal, state, local, or other) supplementary to the regular ongoing school budget?
$\therefore$ Yes

- No
$\square$ Don't know

15. What is the per pupil expenditure for your summer program?
$\qquad$

- Check here if you don't know

16. What are the total funds allocated for compensatory reading in your summer program?
$\qquad$
— Check here if you don't know
17. What are the costs per pupil of compensatory reading in roue summer school?
$\qquad$
$\square$ Check here if you don't know
18. How are the costs of the summer compensatory reading program broken down?

Staff costs $\qquad$

## Materials

Other $\qquad$

Total $\qquad$
Check here if you cannot
break down costs for program -]
19. About what percentage of the students participating in the sumer reading program in your school are from culturally, linguistically, and/or economically deprived backgrounds? (Mark one box in each lettered row.)
$\square$
$\square 1-10 \%$
$\square$ 11-50\%
$\square 51-90 \%$
91-100\%Don't Know

20: Indicate the approximate level of funding for the sumer reading program in your school by each source indicated bélow.

| FEDERAL | Total | Partial |
| :--- | :---: | :---: |
| ESEA Title I |  |  |

STATE (Specify)


OTHER

21. What is the basis for determining pupil participation in summer reading program(s)? (Mark all that apply.)
$\square$ All students in the summer program participate

- Membership in one or more specific target groups (i.e. economically disadvantaged, migrants; non-English speaking)
I Depressed reading levels (as indicated by test results)
I Teacher (or other staff) recommendation
I Parent request
I Volunteer
$\square$ Other (Specify)

22. Does the summer reading program use parents or other volunteers (paid or unpaid) to help in the classroom?
$1 \square$ Yes
$2 \square$ No
23. Does the summer reading program use pupils as tutors?

1


Yes
2 $\square$ No
24. Did you fill out a questionnaire like this for the Compensatory Reading Project during the 1972-73 school year?
$\square$ Yes
$\square$ No

- Don't know $=$

PLEASE CHECK TO MAKE SURE ALL QUESTLQNS HAVE BEEN ANSWERED.
then return your questionnaire to ets in the postage-paid
ENVELOPE PROVIDED. THANK YOU FOR YOUR COOPERATION.


## C.R.P. SUMMER PROGRAM SURVEY

## CLASS AND PROGRAM CHARACTERISTICS QUESTIONNAIRE

This questionnaire is designed to elicit information about your reading instruction and the group (s) to which you provide such instruction. Because reading instruction and instructional groups are so variable, some definitions are given below. Please keep the definitions in mind as you answer the questions, and refer to them as often as you need to.

In many instances, the questionnaire asks for information about classes. For purposes of this study, a class is any instructional group that is exposed to a common set of materials, personnel and/or services, however large and extensive that set might be, and that can sensibly be treated as a group in terms of its general characteristics. IF YOU ARE A MEMBER OF A TEAM THAT TOGETHER INSTRUCTS SUCH A GROUP, PLEASE COMPLETE THIS QUESTIONNAIRE TOGETHER WITH THE OTHER MEMBER(S) OF THE TEAM.

If your class includes children from several grade levels, please answer the questionnaire with respect to the grade level(s) that are appropriate to this study (2, 4, and/or 6).

## 1. CLASS CHARACTERISTICS

If you are a class room teacher, answer questions 1 and 2. If you are NOT a classroom teacher, skip to question 3.

1. What grade do you teach?


Two
$\square$ Four
$\square$ Six
$\square$ Ungraded (Give equivalent grades $\qquad$ )
la. How many pupils are in your class? (Give actual number) $\qquad$
How many are boys? $\qquad$
How many are girls? $\qquad$

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2. Which of the following subject areas do you teach in the summer program? (Mark all that apply)

3. How do the pupils in your class receive recting instruction?
$\square$ All of the pupils in my class recive reading instruction
$\square$ from me
$\square$ some from me and some from another teacher
Selected pupils in my class receive reading instruction
$\square$ fromeme
-
some frơm me and some from another teacher
The following questions refer only to those pupils who receive theiz reading instruction from you. If you are a classroom teacher, and if all of the pupils in your class receive teading instruction, answer the questions in terms of the total class. IF ONL" SOME OF THE PUPILS RECEIVE READING INSTRUCTION FROM YOU, ANSWER IN TERMS OF THOSE PUPILS ONLY. If you provide reading instruction to more than one class (as ress is described above), answer the questions with respect to one class per program. Answer the questions wich reference to the class in any given program that meets earliest each week. Be sure to include all meetings of that class. If you do teach reading to moxe than one class, jndicate in the box how many classes you teach.

4. How many pupils receive reading instruction from you? (Inclurie any pupils who may be sent to your classroom especially for reading instruction.)
Tosel number of pupils $\qquad$
a. How many are boys? $\qquad$
b. How many are girls? $\qquad$
5. What is the age range of the children in your reading class?

Age of oldest child: $\qquad$ Age of youngest child:
$\frac{1}{\text { Years Months }}$

For pur:oses of this survey, compensatory reading instruction is any reading instruction provided to students because they are reading below grade level.
6. To what extent is your: summer reading instruction compensatory (according to the definition given above)?

Compensatory for all students in the class
Compensatory for some students in the class
$\square$ Not compensatory at all
7. What percentage of the pupils in your reading class nave received compensatory reading instruction during the srhooi yerr prior to this summer?
— None
$-1-25 \%$
$=26-50 \%$
$\square 51-75 \%$
$\square 76-100 \%$
$\square$ Don't know
8. About what percent of the pupils in your summer reading class are members of the following racial or national origin groups? Yark one box in eacing lettered row.)

$$
\text { None } 1-25 \% \quad 26-50 \% \quad 51-75 \% \quad 76-100 \%
$$

(a) Caucasian or White
(b) Negro or Black
(c) Spanish surnamed
(d) Oriental
(e) American Indian
(f) Other Specify $\qquad$

| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| :--- | :--- | :--- | :--- | :--- |
| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |
| $\square$ | $\square$ | $\Xi$ | $\square$ | $\square$ |
| $\square$ | $\Xi$ | $\Xi$ | $\Xi$ | $\Xi$ |
| $\square$ | $\Xi$ | $\Xi$ | $\Xi$ | $\Xi$ |

9. Estimate the percentage of pupils in your summer reading class who have lettered row.)
(a) Speech
(b) Vision
(c) Hearing
(d) Frequent illness
(e) Mental retardation
(f) Emotional problems
(g) Family instability
(h) Other (Specify)
10. What is the average absentee rate in your sumer reading class? (About what percentage of the class is absent on any given day?)

11. What of the following would you judge to be the major causes of absenteeism among your pupils? (Mark Yes or No for each cause.)

12
$\cdots$ ■■ ■

Suspension or expulsion
Other (Specify)
$+$

Questions 12 and 13 ask for your opinions about the pupils you teach. Please answer the questions as candidly as you are able; there are no "right"-answers.
12. How far do you expect the average pupil in your summer reading class would be able to go in school if he were given the oppormanity?

Ei Eighth grade, or lower
$\square$ Ninth, tenth, or eleventh grade
High school graduate
Junior college, business school; or some other post-secondary course, but not a four year college

- Four year college or beyond
[i Other (Specify)

13. How far do you expect the average pupil in your summer reading class will actually go in school?

Eighth grade, or lower
Ninth, tenth, or eleventh grade
High school graduate
Junior college, business school or some other post-secondary course, but not a four year college
$\square$ Four year college or beyond

- Other (Specify)


## II. PROGRAM CHARACTERISTICS

The following questioris refer to your summer reading instruction (see definition on page 1). If you are a class room teacher, and all ci the pupils in your class receive reading instruction, answer the questions in tetms of the total class. If only some of the pupils receive reading instruction, answer the questions in terms of those pupils only, and in terms of, that part of the instructional program that is directed to them.

If you are a reading teacher or specialist teacher, answer the questions with reference to the class to-which your instruction applies. If you teach more than ont class (as class is defined on page 1), answer the questions with reference to the one class per program that meets earliest in the week. Be sure to include all meetings of that class.

If you do teach more than one class, check this box.

```
\square
```

14. When is reading instruction carried out? (Check all that apply.)

During regular summer school hours in time scheduled for reading instruction
$\square$ During regular suimer school hours in time released from other class work
$\square$ Before or after school or on weekends
I Other (Specify)
15. What is the average amount of formal instruction time per student in reading?
a. Minutes per instructional period:

■ 1-15
T 16-30
■ 31-40
[ 41-50
$\therefore \quad 51-60$
$\therefore \quad 61-75$
$\square$ 76-90
$\square 91$ or more
b. Number of instruction periods per week:

I One
E Two or three
Four or five
E More than five
16. Do most pupils receive reading instruction at the same time of day every instructional day?

1


Yes
$2 \square$ No
a. If yes, when is_the instructional period?
$\square$ Before school
$\square$ Morning 92
Afternoon
17. What additional personnel are available to you in your teaching of reading in the summer program?
Remedial reading teacher or
slipervisor
Other professionals (counselors,
psychologists, etc.)
Paraprofessionals or teacher
aide
Parent or other volunteer
Student teacher
Media specialist
Older student in school
Other (Specify)
18. During the summer, how many teachers other than yourself have held your particular teaching assignment with your reading class for at least two consecutive weeks? COUNT SUBSTITUTE TEACHERS AND REPLACEMENT TEACHERS; DO NOT COUNT STUDENT TEACHERS OR CLASSROOM AIDES.
$\square$ None
$\square$ One
[- Two
THree
I| More than three
19. If your reading class is organized into groups, indicate the frequency with which you organize these groups by each of the following criteria.

| $\square$ | Frequently | Occasionally | Rarely | Never |
| :---: | :---: | :---: | :---: | :---: |
| Reading grade level | $\square$ | $\square$ | $\square$ | $\square$ |
| Spëcific skill deficiencies | $\square$ | $\square$ | $\square$ | $\square$ |
| Shared interests | , | $\square$ | $\square$ | $\square$ |
| Specific projects | $\square$ | $\square$ | $\square$ | $\square$ |
| Other (Sjecify) | $\square$ | $\square$ | $\square$ | $\square$ |

20. How often do the following instructicnal groups operate (occur) in the course of your teaching of reading?
Frequently Occasionally Rarely
relationship
Adult and children in groups
of. between 2 and 10
Adult and children in groups
or more than 20 (includes
whole class instruction)
Individual pupils working
independently
Pupil teams working
independently.
Other (Specify)
21. If your reading class is organized into groups, about how frequently does the composition of the group change?
$\square$ Daily
$\square$ Weekly
Bi-weekly
$\square$ Monthly
$\square$ Rarely, if ever

Other (Specify)
22. In a sentence or two, describe the outstanding features of your summer reading instruction.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
23. In a sentence or two, explain how your summer reading instruction differs frorn the instruction during the regular school year. $\qquad$
$\qquad$
24. Which one of the following terms comes closest to describing your major classroom approach to the teaching of reading?
$\square$ Linguistic-phonetic
$\square$ Language experience
$\square$ Combination of linguistic-phonetic and language experience
$\square$ Modified alphabet
$\square$ Eclectic
$\square$ Other (Specify) $\qquad$ $\cdots$
25. How long have you used this method?
$\square$ This is the first yearFor one or two yearsFor three, four, or five yearsFor six years or more
26. To what extent do you use each of the following approaches to teaching reading in your classroom?

| Not at All | Minimally | Somewhat | Extensively |
| :---: | :---: | :---: | :---: |
| Basal readers $\square$ | $\square$ | $\square$ | $\square$ |
| Programmed instruction . $\square$ | $\square$ | $\square$ | $\square$ |
| A total phonics program $\square$ | $\square$ | $\square$ | $\square$ |
| A supplementary phonics program $\square$ | $\square$ | $\square$ | - |
| Language experience $\square$ | $\square$ | $\square$ | $\square$ |
| A linguistic program | $\square$ | $\square$ | $\square$ |
| Nori-standard ortiography (ex., i.t.a.) | $\square$ | $\square$ | $\square$ |
| Words in color $\square$ | $\square$ | $\square$ | $\square$ |
| Individualized programs . $\square$ | $\square$ | $\square$ | $\square$ |
| Technological devices (ex., <br> "talking typewriter", <br> teaching machines) | $\square$ | $\square$ | $\square$ |
| Other (Specify and describe) $\square$ | $\square$ | $\square$ | $\square$ |

27. Who selected the materials that you are using this summer in your teaching of reading?


You, and you alone
You, as a member of a team or committeeAn individual, team, or committee, operating without any input from you
$\square$ Other (Specify)
28. How satisfied are you with the materials you are using this summer in your teaching of reading?


Totally satisfied


Satisfied in major aspects; dissatisfied in some minor ones
Lukewarm; neither devoted nor opposed to the materials
Dissatisfied in major aspects; satisfied only in some minor ones
Totally dissatisfied
29. How frequently do you use the following materials in the course of your reading instruction?

| Not |  | $\cdots$ |
| :---: | :---: | :---: | | Rarely or |
| :---: |
| Available |$\quad$ Often $\quad$ Sometimes $\quad$| Never Use |
| :---: |


| Textbooks other than basal |
| :--- |
| readers |


| Books and printed materials |
| :--- |
| other than textbooks |
| Newspapers, magazines, and |
| other periodicals |


| Teacher-prepared materials |
| :--- |
| (dittos, etc.) |


| Motion pictures and/or |
| :--- |
| filmstrips |


| Slides and transparencies |
| :--- |


| Tape recordings and records |
| :--- |


| Video or television tapes |
| :--- |

Games, puzzles, and toys
30. How much time does a typical pupil in your summer reading class spend in each of the following types of activity? A
great
deal Little or none
Improving motor abilities related to reading
Increasing attention span
Developing visual discrimination
Matching letters or words
Learning letter forms
Developing a sight vocabulary
(Whole word recognition)
Phonic and/or structural analysis
31. Have you had any special training in the teaching of reading or in instructional techniques for disadvantaged pupils in ronnection with your current teaching assignment?

1 $\square$ Yes

2


If no, skip to question 35.
If yes, please answer questions 31-34.
32. What form did the special training take? (Check all that apply.)Summer workshop or instituteCollege course (whether or not for degree credit)After school or weekend workshop (s)
. .... : $\quad \square$
Released-time workshop (s)Individual instruction with supervised practice teaching
$\square$ Other (Specify)
33. Which of the following areas were explored in the course of the special training you received? (Check all that apply.)


Open class room methods


Individualized instruction
$\square$ Use of equipment and materials
$\square$ Techniques for cultural enrichment
$\square$ Other (Specify) $\qquad$
34. Over what time period did the special training extend?
$\square$ One summer
$\square$ Oṇe academic semester
$\square$ One academic year
$\square$ One calendar year
$\square$ One summer and one academic year
$\square$ Other (Specify) $\qquad$
35. How long ago did you receive your special training?
$\square$ Less than one year ago


More than one but less than two years ago

More than two but less than three years ago
$\square$ Three or more years ago
36. For a typical pupil in your summer reading program, about how much time is devoted to each of the following reading or reading-related activities?

| $\qquad$ <br> Basic reading instructional program | Less than 1 hour per week $\square$ | Between <br> 1 and 4 <br> hours/week | More than 1 hour a day ( $5+$ hours/week $\square$ |
| :---: | :---: | :---: | :---: |
| Compensatory reading $\quad \square$ | $\square$ | $\square$ | $\square$ |
| Instructional program (only $\square$ if compensatory reading program is different from basic instructional program) | $\square$ | $\square$ | $\square$ |
| Reading in content areas (Science, Social Studies, etc.) | $\square$ | $\square$ | $\square$ |
| Independent (self-selected) $\square$ reading | $\square$ | $\square$ | $\square$ |
| Library activities $\square$ | $\square$ | $\square$ | $\square$ |
| Enrichment activities (in- I cludewtrips, special assemblies, etc.) | $\square$ | $\square$ | $\square$ |
| Other relevant activities <br> (Specify) $\qquad$ | $\square$ | $\square$ | $\square$ |

$\qquad$
$\qquad$
$\qquad$

n"


List all additional materials used, including hardware

| Use as major | Use as supple- | Occasionally |
| :--- | :--- | :--- |
| resource in | mental or op- | refer to my- |
| teaching | tional course | self but don't |
| reading | in class | ise in class |

$\qquad$

38. Do you create any of the materials you are currently using in teaching reading?
$1 \square \cdot$ Yes
$2 \square$ No
a. If Yes, which of the following types of materials do you create? (Check all that apply)
$\square$ Worksheets
$\square$ Printed stories, poems, or essays
$\square$ Transparencies for overhead projector
$\square$ Filmstrips
$\square$ Slides
$\square$ Motion Pictures
$\square$ Charts
$\square$ Tapes
$\square$ Other (Specify) $\qquad$
39. How would you rate each of the following activities in terms of importance to you as goals in your current teaching of reading?

|  | Major Goal | Secondary Goal | Of litt <br> Importa |  | goal |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ```Improving motor abilities related to reading``` |  | $\square$ | $\square$ |  |  |
| Increasing attention span | $\square$ | $\square$ |  | - |  |
| Developing auditory discrimination |  | $\square$ | - |  |  |
| Matching letters or words | $\square$ | $\square$ |  |  |  |
| Learning letter forms |  | $\square$ |  |  |  |
| Developing a sight vocabulary (Whole word recognition) | $\square$ | $\square$ |  |  |  |
| Learning wred meanings (Vocabulary) | $\square$ | $\square$ | $\square$ |  |  |
| Phonic and/or structural analysis* | $\square$ | $\square$ | $\square$ |  |  |
| Developing skill in using context clues |  | $\square$ | $-$ |  |  |
| Practicing syllabification skills | $\square$ | $\square$ |  |  |  |
| Practicing punctuation and paragraph skills | $\square$ |  |  |  |  |
| Devéloping comprehension skills |  | $\square$ | $\square$ |  | $\bigcirc$ |
| Improving comprehension rate | $\square$ |  | $\square$ |  |  |
| Developing listening skills | $\square$ | $\square$ | $\square$ |  |  |
| Reading aloud | $\square$ | $\square$ |  |  |  |
| ```Reading silently (independent silent reading)``` | $\square$ | $\square$ | $\square$ | - |  |
| Developing study skills ${ }^{\text {- }}$ |  |  | $\square$ |  |  |
| Developing library skills | $\square$ | $\square$ | 7 |  |  |
| Improving verbal communication | $\square$ | $\square$ | $\square$ |  |  |
| Creative writing |  | $\square$ | $\square$ |  | .. |
| Reading for enjoyment | $\square$ | $\square$ | $\square$ |  |  |


| Major | Secondary | Of little or no |
| :--- | :--- | :--- |
| Goal | Goal | Importance as a |
|  |  | goal |

Enriching cultural background

$\qquad$
40. About how often does each child in your reading class have the opportunity to read aloud to the class?


At least once a day
Several times a week, but not daily
About once a weekLess than once a week, but regularlySeldom or never on a regular basis
41. About how often does sach child in your reading class have the opportunity to read aloud to you alone (or to another adult)?
$\square$ At least once a day
$\therefore$
$\square$ Several times a week, but not daily


About once a week
$\square$ Less than once a week, but regularly
$\square$ Seldom or never on a regular basis
42. How successful would you consider your reading teaching to be with respect to each of the following criteria?
Highly Moderately Moderately Totally Succes sful

Enhancing pre-reading skills
 Successful Unsuccessful Unsuccessful


Enhancing measured


Improving attitudes toward reading

Improving students' self $\quad \square$ images

Remediating cultural deprivation
 reading achievement

43. Use this space for additional comments.
$\qquad$
$\qquad$
$\qquad$
$\qquad$


Please check to make sure ali ouestions have been answered. THEN RETURN YOUR QUESTIONNAIRE TO ETS IN THE POSTAGE-PAID ENVELOPE PROVIDED. THANK YOU FOR YOUR COOPERATION.

## C.R.P. SUMMER PROGRAM SURVEY

TEACHER CHARACTERISTICS QUESTIONNAIRE

This questionnaire is one of several that are designed to provide information about summer programs and the students enrolled in them. Please answer all questions with reference to the current summer and the students you are pressentry teaching.

1. What is your sex? $\qquad$
la. What grade (s) are you teaching this summer? (Mark all that apply)
$\square$ Two
$\square$ Four
$\square$ Six
$\square$ Multiage (specify grade levels represented $\qquad$
$\square$ Other (specify $\qquad$
2. Which of the following represents your current employment status?

$\square$
A teacher (or other staff member) in this school during the regular school yearA teacher (or other staff member) in another. school in this district during the regular school year

A summer employee only
$\square$ Other (specify)

2a. If you are a regular (full-year) employee of this school district, is the summer assignment part of your full-year contract, or is it an independent arrangement for additional pay?
$\square$ Full-year contract, one salary
$\square$ Full-year, extra pay for summerSummer contract only
$\square$ Other (specify) $\qquad$
3. How many years of teaching experience (public and noapublic), including this past school year, have you had?

One year or lessMore than 1 year bist less than 3 years
At least 3 years but less than 6 years
$\square$ At least 6 years but less than 10 yenve
$\square$ At least 10 years but less thān 20 yearsTinenty years or more
4. How many years, including tilis summer, have you taught in a summer program? (Include all summer programs you have taught in, whether in this district or another:)
$\square$ One year or less
$\square$ More than 1 year but less than 3 years

A.t least 3 years but less than 6 years

At. least 6 y.ears but less than 10 years
At least 10 years but less than 20 years
Twenty years or more
5. What type of teaching certification do you have?* No certificate

Temporary, provisional, or emergency certification
$\square$ Regular certification
6. What is the highest earned college degree you hold? (Do not report honorary degrees.)
$\square$ No degree
A degree or diploma based on less than 4 years of workA bachelor's degree
A master's degreeA doctor's degree (EdD, PhD, etc.)
7. Have you had any special training in the diagnosis and treatment of reading problems?Yes
No

7a. If yes, at what academic level was the training?
Undergraduate


Graduate
InserviceOn the job
$\square$ Other (specify) $\qquad$
8. Are most of your summer students of the same racial or national origin as you?
$\square$ Yes $\square$ No
9. Were you assigned to or did you choose the summer program in which you are teaching?
$\square$ Was arsigned to school
$\square$ Chose school
10. Were you assigned to or did you choose to teach the group you are teaching this summer?

## $\square$ Was assigned to class

Chose ciass1
The questions that follow are all designed to elicit your opinions about your summer program, the pupils you teach, and any compensatory reading program you might be involved in. Please answer the questions as candidly as you are able. There are no "rlght" answers to these questions; we are interested in obtaining some information about how teachers feel about compensatory reading pregrams and about the pupils in them.
11. Compared with other schools and programs in your district or community, how satisfied are you with respect to the following things about your summer program?

|  | inghly <br> Satisfied | Moderately <br> Satisfied | Moderately <br> Dissatisfied | Highly <br> Dissatisfied |
| :---: | :---: | :---: | :---: | :---: |
| Physical facilities (buildings, etc.) | $\square$ | $\square$ | $\square$ | $\square$ |
| Faculty (teachers) | $\square$ | $\square$ | $\square$ | $\square$ |
| Ability of student body | $\square$ | $\square$ | $\square$ | $\square$ |
| Attitudes of stiudent body | $\square$ | $\square$ | $\square$ | $\square$ |
| Administration | $\square$ | $\square$ | $\square$ | $\square$ |
| Overall philosophy of education | $\square$ | $\square$ | $\square$ | $\square$ |

12. How responsive is the summer program administration to any requests you might make for additional teaching materials or equipment?
$\square$ Highly responsive
$\square$ Moderately responsive
$\square$ Not at all responsive
13. For remedial or other help for one of your students?
$\square$ Highly responsive
$\square$ Moderately responsive
$\square$ Not at all responsive
14. For changes in your curriculum?
$\square$ Highly responsive
$\square$ Moderately responsive
$\square$ Not at all responsive
15. Do you belleve there is a sound basis in educational policy for giving compensatory programs to disadvantaged etudents at extra per pupil cost?

## $\square$ Definitely yes

$\square$ Probably yes
$\square$ I am undecided
$\square$ Probably no
$\square$ Definitely no
16. Do you belleve that compensatory programs are generally worthwhile?
$\square$ Definitely yes
$\square$ Probably yes
$\square$ I am undecided
Probably no
$\square$ Definitely no
17. Did you fill out a questionnaire like this for the Compensatory Reading Project for the 1972-73 school year?

Yes
No
$\square$ Don't know
18. The following statements are all related to the academic capabilities of disadvantaged pupils. For each statement, indicate the degree to which you agree or disagree with the idea expreased.
a. With proper instruction they can learn about as .well as any other pupils.

b. No matter how good the instruction these pupils receive they will always score lower thanmiddle class children.
c. These children do not want to learn.
d. The pupils want to learn but they do not have the right background for school work.
e. It has been sufficiently proven that such pupils will never do as well as other students.
f. Materials are more important than methods in the teaching of reading.
g. Methods are more important than materials in the teaching of reading.
h. The teacher's ability is more important than
 either methods or materials in the teaching of reading.

1. Disadvantaged children have more trouble learning to read than advantaged children.
j. Disadvantaged children have a shorter attention span. than advantaged children.
k. Disadvantaged children have different linguistic experiences than advantaged children.
2. Disadvantaged children are disadvantaged mainly in $\square \quad \square \quad \square \quad \square \quad \square$ that they do not have the foundation of concepte that advantaged children have.
m. Learning to verbalize complete thoughts is particularly important for disadvantaged children.
n. Improving the student's self-image as a learner is $\square$ particularly important for disadvantaged children.
o. The ability to ask questions which require a complete answer is extremely important in teaching reading to disadvantaged children.
p. In teaching reading, a wrong response can be as useful as a correct response.
q. Disadvantaged children often have loweraspirations than advantaged children.

Use this apace for additional comments.

PLEASE CHECK TO MAKE SURE ALL QUESTIONS HAVE BEEN ANSWERED. THEN RETURN YOUR .QUESTIONNAIRE TO ETS IN THE POSTAGE-PAID ENVELOPE PROVIDED. THANK"YOU FOR YOUR COOPERATION. ...'


[^0]:    ${ }^{\text {loner }}$ Quirk, Thomas J., Nalin, Katherine B., and Weinberg, Susan F. The Development of a Teacher Observation Instrument for Reading Instruction. PR-73-39, ETS, June 1973.
    Quirk, Thomas J., Weinberg, Susan F., and Nalin, Katherine B. The Development of a Student Observation Instrument for Reading Instruction. PR-73-38, ETS, June 1973.
    ${ }^{3}$ Quirk, Thomas J., Trismen, Donald A., Weinberg, Susan F., and Nalin, Katherine B. The Classroom Behavior of Teachers and Students During Compensatory Reading Instruction. PR-74-5, ETS, September 1973.

[^1]:    $l_{\text {see }}$ Quirk et E ., The Classroom Behavior of Teachers and Students During Compensatory Reading Instruction. PR-74-5, ETS, September 1973, pp. 5-6 for a description of Modes of Instruction 2 see Quirk et al., pp. 6-10 for a description of Content of Instruction ${ }^{3}$ see Quirk et al., pp. 32-33 for a description of Group of Instruction 4 ${ }^{4}$ see Quirk et al., pp. 33-43 for a description of Content of Instruction ${ }^{5}$ see Quirk et al., pp. 38-40 for a fullier explanation
    ${ }^{6}$ see Cuirk et al., "pp. 12-15

[^2]:    $1_{\text {Effectiveness, for }}$ this analysis, was defined as posttest score, with the effects of pretest and pretest squared removed.

[^3]:    *As indicated by participation/non-participation in federal school lunch program

[^4]:    Grade 6
    

[^5]:    ${ }^{1}$ See Nabeel Al-Salam and Donald Flynn, "An Evaluation of the Cost Effectiveness of Alternative Compensatory Reading Programs. Volume IV: Cost Analysis of Summer Programs," Report UR-231. Resource Management Corporation: Bethesda, Md., 1976, p. 49.

[^6]:    ${ }^{1}$ Nabeel Al-Salam and Donald Flynn, "An Evaluation of the Cost Effectiveness of Alternative Compensatory Reading Programs. Volume IV: Cost Analysis of Summer Programs," Report UR-231. Resource Management Corporation: Bethesda, Md., 1976, p. 49.

