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#### Abstract

The 1986-87 Compensatory Language Experiences and Reading Program (CLEAR) of the Columhus, Ohio Public Schools was implemented to provide assistance to selected underachieving pupils in grades one through eight so that they might attain more fully their potential for and improvement in language and reading skills. The program featured individual and small group instruction arranged according to pupil needs. There were also pilot programs using microcomputers with fourth through eighth grade students at inany of the schools. The program was evaluated through administration of the Comprehensive Tests of Basic Skills as pretest and posttest. Test results indicated that of 3,425 students with good attendance records who were native speakers of English, average test score gain was 5.9 Normal Curve Equivalent (NCE) points for the six months of instruction, which nearly met the goal of 1.0 NCE points per month of instruction. Analysis by grade revealed that the evaluation criterion was met in grades 3, 4, and 7. Average NCE gains for students using computer-assisted instruction were higher than those for the regular group at both the elementary and middle school levels. Classroom observation and teacher interviews revealed that teachers used a variety of approaches for diagnosis a $k$ instruction to build pupil seif-esteem and positive attitudes toward learning, and that teachers were concerned about low parent involvement and lack of coordination between program and classroom instruction. (References and copies of the evaluation materials are appended.) (SKC)


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# Education Consolidation and Improvement Act - Chapter 1 <br> final evaluation report <br> LANGUAGE DEVELOPMENT © OMPONENT COMPENSATORY LANGUAGE EXPERIENCES AND READING PROGRAM <br> 1986-87 


#### Abstract

Prugram Deacription: The Compensatory Language Experiences and Reading (CLEAR) program served 5457 pupils. Funding of the component was made available through the Education Consolidation and Improvement Act - Chapter 1 of 1983.


The purpose of the Cowpensatory Language Experiences and Reading program (CLEAR) was to provide assistance to selected underachieving pupils in grades one through eight in order that they might attain more fully their potential tor and improvement of language and reading skills. The program featured individual and small group instruction arranged according to pupil needs, as determined by continued cooperation between the program teacher and the classroom teacher. Various subgroups of program teachers were provided with a total of 11 inservice sessions.

Within the CLEAR program there were two pilot projects utilizing Computer Assisted Instruction/Computer Management System (CAI/CMS). At the elementary level, 20 schools participated in a project which used Apple microcomputers. The Apple microcomputers were used under a contract with the Prescription Learning (PL) Company of Springfield, Ill:nois. Other computer systems were used in an additional five elementary schools. Six middle schools were served by a project using Dolphin minicomputers and software licensed from the Educational Software Division of the Houghton Mifflin Company. One additional middle school ised the Sperry Network System under an agreement with Wasatch Company .

Time Interval: For evaluation purposes, the CLEAR program started on September 15, 1986 and continued through April 3, 1987. This interval of time gave 130 possible days of program instruction. Pupils included in the final pretest-poettest analysis must have attended at least 104 days ( $80 \%$ ) during the time period stated above.

Activities: Implementation of the program was accomplished through daily instructional activities to strengthen and extend regular classroom instruction without prrsuing the basic reading textbooks. Instructional techniques and materials based on skill-centered objectives were applied to fit individual needs.

Achievement Objective: The average language/reading growth for the pupils who attended the program for at least $80 \%$ of the instructional period will be 1.0 Normal Curve Equivalent (NCE) point for each month of instruction. Growth will be measured by a nationally $s$ : andardized achievement test of language/reading.

Evaluation Design: The major evaluation effort was accomplished through the administration of the Comprehensive Tests of Basic Skills. Analyses of the deta included comparison of pretest to postest change scores in terms of grade equivalents, percentiles, and $\mathrm{NCE}^{\prime}$ s.

Major Findings/Recommendations: The inturmation collected on the Pupil Census Forms indicated the program served 5457 pupils for an average of 3.6 hours of instruction per week. The average ddily memuerohip in the program was 4627.2 pupils. The average days of enrollment per pupil was 110.2 days and the average attendance per pupil was 101.1 days. The average number of pupils served per teacher was 54.6 .

Tne attendance criterion was met by 3833 pupils, which was $70.2 \%$ of the 5457 pupils served. The evaluation sample consisted of 3425 pupils who met the attendance criterion, took the pretest and posttest, and were English-speaking,

Analysis of pretest-posttest achievement data indicated an average gain of 5.9 NCE points for the 6.5 month treatment period, or 0.907 NCE point per month of measurable instruction. This approached, but did not attain, the 1.0 NCE puint per month criterion scone for the program's performance objective. When data were analyzed by grade, it was noted that the evaluation criterion was met or exceeded in grade 3 ( 1.7 NCE's per month), in grade 4 ( 1.0 NCE per month), and in grade 7 ( 1.0 NCE per month). The evaluation criterion score was not met at grades $1,2,5,6$, or 8 . Comparisons of achievement test data were also made between pupils in the CAI;CMS projects and pupils in the same grade levels of the regular treatment group. At the elementary level (grades 4-5), the average NCE gains for the year were 5.2 for the CAI/CMS group and 3.9 for the regular group. At the middle school level the average NCE gains for the year were 7.4 for the CAI/CMS group, and 4.6 for the regular group.

Process evaluation was conducted in a series of observations and interviews. Teachers used a variety of approaches to diagnosis and instruction. They were concerned with building pupil self-esteem and positive attitudes toward learning, as well as with actual improvement in reading. Teachers conveyed their high expectations to pupils in various ways and made liberal use of praise and encouragement. Concerns of program teachers included low parent response to teachers efforts for parent involvement, the perception of having a lack of time to do coordination of program instruction with classroom instruction, and $\mathrm{tl} \geq$ need for more inservice. They also wan_ed more flexibility in the use of their $\$ 250$ teaching materials budget, and were concerned about the requirement of having to serve so many pupils.

Program recommendations were: (a) implement findings of focus groups; (b) increase the involvement of program teachers in Districtwide Testing; ( $c$ ) try to determine cause for less growth at certain grade levels; (d) increase inservice, with emphasis en reading comprehension; (e) study ways to increase parent involvement; (f) schedule time for cooperative planning between program and classroom teachers; (g) address existing problems in classroom environment - space, temperature, etc.; and (h) continue use of CAI/CMS.

# FINAL EVALUATION REPORT <br> LaNGUAGE DEVELC riENT COMPONENT <br> COMPENSATORY LANGUAGE EXPERIENCES AND READTNG PROGRAM 

Juily 1987

Program Description
The purpose of the Compensatory Language Experiences and Reading program (CLEAR) was to provide assistance to selected underachieving pupils in grades one through eight in order that they might attain more fully their potential for and iaprovement of language and reading skills. To accomplish this purpose the program featured individual and small group instruction arranged according to pupil needs, as determined by continued cooperation between the program teacher and the classroom teacher. Instructional techniques and materials based on skill-centered objectives were applied to fit individual needs. Inservice was provided for program teachers.

The CLEAR program first operated in 1978-79 when previous Primary ard Intermediate Language Development Programs were combined to achieve greater continuity and consistenzy of service for elementary school pupils. The first CAI/CMS unit in the CLEAR program was piloted in the second semester of the 1981-82 school year in one elementary school. In 1986-87 the CLEAR program was comprised of 100 teachers serving 88 public and five non-public Chapter 1 eligible schools. Of the 88 public schools, 24 were middle schools. Each teacher provided services to a maximum of 50 elementary pupils or to a maximum of 56 middle school pupils at any given time, with the exception of the CAI/CMS units. Since the use of microcomputers was intended to expand the number of pupils served, elementary and middle school CAI/CMS teachers served a maximum of 60 pupils.

Within the CLEAR program two projerts utilizing Computer Assisted Instruction/Computer Manigement System (CAI/CMS) operated at the elementary and middle school levels. The elementary CAI/CMS project, serving grades 4-5, operated with 29 teachers in 25 schools, and the middle school CAI/CMS project operated with seven teachers in seven schools. Twenty-two elementary labs utilized Apple microcomputers leased from the Prescription Learning (PL) Company, along with other teaching machines, educational and management software and the services ot an educational and a technical consultant. Four elementary labs had Tandy TRS-80 microcomputers and were served by B\&B Computer Services. f these four labs, two also had Commodore PET computers which are now owned by the school system. In two elementary labs Apple computers were linked to a CこC Microhost and serviced by Computer Curiiculum Corporation (CCC). One elenentary lab and one middle school lab utilized the Sperry Network System, and were served by Wasatch. The remaining si.. middle school CAI/CMS labs utilized Dolphin minicomputers and terminals which are now owned by the school system, but still contract services with the Houghton Mifflin Company. The Dolphin computers are hard-programmed with educational and management routines. In addition to providing a technique to reading and language instruction, the use of CAI/CMS was also intended to enable participating teachers to serve more pupils than would be possible in a regular CLEAR program unit. The use of CAI/CMS was also intended to be a cost-effective alternative to replacing badly worn conventional equipment.

The CLEAR program served a total of 5457 publ. and non-public school pupils. This included 5325 public school pupils in grades $1-8$ and 132 non-pubilic pupils in grades 1-3. The number of public school pupils in grades 1-3 was 1948, with a total of 2080 public and non-public pupils in the primary grades. At the intermediate grades (grades 4-5) 1838 pupils received CAI/CMS treatment and 235 received regular CLEAR program treatment, for a total of 2073 intermediate grade pupils. In middle school (grades 6-8) a total of 1304 pupils was served, which included 932 pupils in the regular CLEAR program treatment group, and $3 / 2$ pupils in the CAI/CMS group. A total of 3247 public and non-public pupils in grades $1-8$ received regular CLEAR program treatment. Ir. grades 48 , where comparisons can be made between CAI/CMS and regular treatment groups, the totals by treatment group were 2210 pupils receiving CAI/CMS treatment and 1167 pupils receiving the regular frogram treatment.

## Evaluation Objective

The evaluation objective for the CLEAR program and CAI/CMS Pilot Projects was as follows:

The average language/readtng growth for the pupil; who attended the program at least $80 \%$ of the instructional period will be 1.0 normal curve equivalent (NCE) point for each month of instruction. Growth will be measured by a nationally standardized achievement test of language/reading.

The program time period established for evaluation purposes was 130 days beginning September 15, 1986, and ending April 3, 1987. This time period (130 days divided by an average of 20 school days per month) is equal to 6.5 possible months of instruction. Analysis of pretest-posttest performance was contingent on pupil attendance fcr 104 days ( $80 \%$ ) of the 130 day period.

## Evaluation Design

The evaluation design provided for the collection of data in five areas of operation for the overall program. The instruments used to collect the data are found in the Appendix, with the exception of the standardized achievement tests.

1. ECIA Chapter 1 Pupil Census Information

A Pupil Census Form (locally developed) was comple+ed by program teachers for each pupil served, to provide the folloiving information: days of program enrollment, days of program attendance, and hours of instruction per week. The form also included information regarding the pupil's grade and sex, provided for identifying those pupils who were non-English speaking, provided for identifying any pupil who left the ECIA progran because he or she qualified for a special education program, and included a question regarding a pupil's progress which required a subjective respc:se from the program teacher. Collection of these forms was completed ir May, 1987.

## 2. Scandardized Achievement Test Information

Frogram pupils were administered the Comprehensive Tests of Basic Skills (CTBS, 1981). This tesc series, which is published by CTB/M=Graw-Hili, has empirycal noras for fall and spring, estab!ished October 6-10, 1980, and

Aprif 27 to May 1, 1981. The form, subtest, and test levels used for each grade level are listed below:

| Grade | Pretest |  |  | Posttest |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Test | Form | Level | Subtest | Form | Leve 1 | Subtest |
| 1 | Clibs | U | B | Total Reãding | U | C | Total Reading |
| 2 | CTBS | U | D | Comprehension | V | D | Comprehension* |
| 3 | CTBS | U | E | Comprehension | V | E | Comprehension |
| 4 | CTBS | U | F | Comprehension | V | F | Comprehension* |
| 5 | CTBS | U | G | Comprehension | v | G | Comprehension |
| 6 | CTBS | U | G | Comprehension | v | G | Comprehension |
| 7 | CTBS | U | H | Comprehension | v | H | Comprehension* |
| 8 | CTbS | U | H | Comprehension | v | H | Comprehension |

*Estimated by administration of customized Form V
All testing was done on level. At posttest time, grades two, four, and seven were administered customized tests that provided norm-referenced as well as criterion-referenced scores. The customized tests were developed by Columbus Public Schools personnel in cooperation with CTB/McGraw Hill to match the Columbus Public Schools Graded Course of Study.

The achievement tests were administered as follows: Program teachers in grades $1-8$ normally administered the pretest except in schools where schoolwide testing occurred. Posttests for grades $2-8$ were administered as part of Districtwide Testing. Yosttests for CLEAR grade 1 pupils were administered by the classroom teacher along with other grade 1 compensatory education pupils. Program teachers in the five non-public schools (grades l-3) had to administer their own posttests. During schoolwide or Districtwide Testing, tests were administered by classroom teachers with program teachers serving as proctors. Pretesting occurred during tne week of September 2.2 September 26, 1986; posttesting occurred April 6-10, 198?.

## 3. ECIA Chapter 1 Teacher Census Information

The locally developed Teacher Census Form was designed to provide information regarding characteristics of prog.am personnel. Information collected included total years of teaching experience, years of Chapter 1 -aching experience, college degree level
attained, and certificate in reading, The form was completed by Chapter 1 program teachers in September, 1986.
4. Parent Involvement Information

The Parent Involvement Form was constructed locally to collect data on the level and nature of parental i.avolvement in Chapter 1 programs. Data were reported by program teachers on a monthly basis, September, 1986, through June, 1987. Monthly data included number of parents and number of hours involved in five categoiies of parent involvement, including a monthly unduplicated count of parents involved. In addition, a yearly unduplicated count of parents was collected at the end of the school year.

The locally developed General Inservice Evaluation Form was designed to obtaln teacher perceptions regarding each inservice session. The form was administered to participants at the close of inservice sessions neid for Cnapter 1 staffs. A modified version of the form was used for the orientation meeting of September 2, 1986. Dates and topice of inservice meetings conducted by Chapter 1 in which CLEAR teachers participated were as follows:

## Date

September 2, 1986

November 14-15, 1986

January 15, 1987

January 27, 1987

March 25, 1987

March 26, 1987

April 13, 1987

April 2\%, 1987

May 18, 1987

May 22, 1987

May 28, 1987

## Topic

Opening Conference (All Chapter l programs and Secondary Developmental Reading programs)

Whole Language Learning (Regular CLEARPrimary teachers, two grouns; one day each)

Dolphin Referral System (Middle SchoolCAI/CMS teachers)
"Wriling in the Clear lab" and "Personal and Professional Tine Management" (Regular and CAI/CrIS CLEAR-Intermediate teachers)

Introduction of "Newsroom Software" (Elementary-CAI/CMS teachers and selected teachers from the regular CLEAR-Elementary program and from the Middle SchoolCAI/CMS program)

Introduction of "Newsroom Software" (SDR-CAI/CMS teachers and selected regular CLFAR-Elementary teachers and CAI/CMS Elementary teachers)

CLEAR Coordinator's Meeting (Selected regular CLEAR-Elementary teachers)

End-of-Year Planning (Mididle School-CAI/CMS teachers)

Planning for the 1987-88 School Year (Regular CLEAR-Middle School teachers)

End-of-Year Planning (Selacted regular CLEAR-Elementary teachers)

Introduction of Educational Development Laboratory Systems (EDL) (Selected regular CLEAR-Elementary teachers)

Teachers completed inservice evaluation forms for all of the above meetings except for the two Dolphin meetings of January 15 and April 27, 1987.

In addition to the types of data specified in the evaluation design, prucess evaluation data were obtalned in a series of on-site visits to program classrooms. Observations were conducted by personnel from the Department or Evasuation Services. The purpose of chese observations was to obtain teacher input regarding the program's functioning. Observations were conducted during the school year in $64.4 \%$ of the CAI/CMS units and in approximately $37.5 \%$ of the regular CLEAR units. Data collected in the CAI/CMS observations included teach r- responses to an fnterview instrument, CAI/CMS Evaluator's Visitation Log. Data collected in the regular CLEAR observations included teacher responses to an interview instrument,! aluator's Visitation Log. Both observation instruments are found in the Appendix. Findings from these two instruments are summarized in this report. The full interim reports are on file at the Department of Federal and State Programs (Chamberlain, 1987b; Lore, 1987).

## Major Findings

Pupils were selected for the program on the basis of previous achieviment test scores which indicatei they were achieving at or below the 36 th percentile in reading skills. Selection testing occurred prior to the program pretest.

Pupil Census Info:mation
A total of 5457 pupils, inciuding 5325 pupils in public schools (grades 1-8) and 132 in non-public schools (grades $1-3$ ), was served by the ECIA Chapter 1 CLEAR program during the $1986-87$ school year for an average of 3.5 hours of instruction per week. Of the public school pupils, 4021 were in grades $l$ through 5 and 1304 attended midie schools. Of the $5 ; 25$ public school pupils, 3115 elementary and middle school pupils received regular CLEAR instruction, and 1838 elementary pupils (grades 4 and 5) and 372 middle school pupils (grades 6-8) received CAI/CMS instruction.

The average daily membership in the overall program was 4627.2 pupils. The average days of enrollment per pupil was 110.2 days, and the average attendance per pupil was $1 G i . l$ days. The average number of pupils served per teacher during the school year by the 100 teachers was 54.6 , thougis the average number of pupils enrolled per teacher at any given time was 46.3 (Average Daily Membership divided by number of teachers). The attendance criterion was met by 3833 pupils, or $70.2 \%$ of all program enrollees. Data pertaining to enrollment and attendance are presented in Table 1.

The evaluation sample was limited to pupils who had both pretest and posttest administrations of the standardized achievement test, were English-speaking, and who met the attendance criterion of at least $80 \%$ of the 130 program days ( 104 or more program days).

Of the 5457 pupils served, 42 ( $0.8 \%$ ) were non-English speaking. An additional 1990 were excluded from the evaluation sample due to incomplete test data and/or non-attainment of the attendance criterion. The evaluation sample was comprised of the remaining 3425 pupils, which was $62.8 \%$ of the 5457 pupils served. nata from testing are presented in Tables 2-5.

Standardized Achievement Test Information
Test dat" in terms of percentiles are presented in Table 2. The median parcentile ior the pretest ranged from 16.0 in grade 8 to 33.0 in grade 1 .

Table 1
Numer of Public and Non-public Pupils Served; Averages for Days of Enrollment, jays of Attendance, Daily Membership and Hours of Instruction Per Week; and

Pupils Atto iding $80 \%$ of Days
Reported by Grade Level
1986-81

| Grade | Pupils <br> Served | Girls | Boys | Days of Enrollment | Days of Attendarice | $\begin{aligned} & \text { Average } \\ & \text { Maily } \\ & \text { Membership } \end{aligned}$ | Hours of Instruction per Pupil per Weck | $\begin{gathered} \text { Pupils } \\ \text { Attending } \\ \text { 80\% of Davs } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 113 | 46 | 67 | 118.2 | 108.6 | 102.7 | 3.1 | 90 |
| 2 | 1256 | 520 | 736 | 109.5 | 101.1 | 1057.9 | 3.7 | 871 |
| 3 | 111 | 327 | 384 | 110.0 | 101.4 | 601.4 | 3.7 | 506 |
| 4 | 1137 | 506 | 631 | 112.1 | 104.4 | 980.7 | 3.6 | 861 |
| 5 | 936 | $\therefore 16$ | 520 | 110.6 | 101.4 | 796.2 | 3.6 | 656 |
| 6 | 1010 | 453 | 557 | 109.3 | 97.9 | 849.4 | 3.5 | 672 |
| 7 | 248 | 117 | 131 | 107.6 | 96.7 | 205.3 | 3.5 | 157 |
| 8 | 46 | 21 | 25 | 95.0 | 84.1 | 33.6 | 3.6 | 20 |
| Total | 5457 | 2406 | 3051 | 110.2 | 101.1 | 4627.2 | 3.6 | 3833 |

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Table 2

Minimum, Maximum, Med*an, and Standard Deviation of the Pretest and Posttest Percentiles

Reported by Grade Level
1986-87

| 'rade | Number of Pupils | Min. | Max. | $\begin{aligned} & \text { Pretest } \\ & \text { Median } \\ & \text { Percentile } \end{aligned}$ | $\begin{aligned} & \text { Standard } \\ & \text { Deviation } \end{aligned}$ | Min. | Max. | $\begin{aligned} & \text { Postest } \\ & \text { Median } \\ & \text { Percentile } \end{aligned}$ | Sēandard Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 80 | 1.0 | 93.0 | 33.0 | 24.7 | 1.0 | 85.0 | 42.0 | 22.5 |
| 2 | 654 | 10.0 | 82.0 | 23.0 | 14.6 | 1.0 | 97.0 | 26.0 | 24.8 |
| 3 | 484 | 1.0 | 68.0 | 19.C | 13.7 | 1.0 | 92.0 | 31.) | 18.3 |
| 4 | 791 | 4.0 | 91.0 | 24.0 | 18.2 | 1.0 | 99.0 | 32.0 | 17.4 |
| 5 | 634 | 7.0 | 94.0 | 24.0 | 15.9 | 3.0 | 88.0 | 28.0 | 14.3 |
| 6 | 622 | 1.0 | 73.0 | 20.0 | 13.9 | 1.0 | 77.0 | 25.0 | 14.3 |
| 7 | 141 | 5.0 | 70.0 | 27.0 | 13.8 | 3.0 | 99.0 | 35.0 | 17.0 |
| 8 | 19 | 3.0 | 46.0 | 16.0 | 13.4 | 1.0 | 52.0 | 13.0 | 14.6 |

Median percentiles in the posttest ranged from 13.0 in grade 8 to 42.0 in grade 1. The most noticeable gains in terms of the median percentile occurred at grades 3, 1,4 , and 7 . The median percentile scores indicate gains at all grade levels except tor grade 8.

Table 3 presents pretest and posttest data in terms of grade equivalents. All grades showed a positive change in the median grade equivalent score in the 6.5 month teeatment period from pretest to postlest. The greatest changes in median grade equivalent data are noted at grade 4 (pretest 2.9 and posttest 3.9), grade 3 (pretest 2.1, posttest 3.0), grade 1 (pretest 0.7, posttest 1.6), grade 7 (pretest 5.2 , posttest 6.0 ), a. ${ }^{2}$ grade 5 (pretest 3.8 , posttest 4.5 ). The smallest chano in median grade equivalent scores occurred at grade 6 (pretest 4.3, posttest 4.9), grade 2 (pretest 1.6 , posttest 2.1 ), and grade 8 (pretest 4.9, posttest 5.0).

The presentation of achievement data thus far has included results from the analysis of percentiles and grade equivalents. Percentiles and grade equivalents provide comparatjive information but are not equal units of measure. Caution is advised in drawing conclusions about program impact from any of the scores above. Normal curve equivalerts (NCE's) are generally considered to provide the truest indication of pupil growth in achievement, since they provide comparative information in equal units of measurement. Data for normal curve equivalents are presented in Table 4.

The overall average NCE change for the program was 5.9. The average NCE gain per month in the 6.5 month period between pretest and posttest was 0.907 NCE point per month, which rounus to 0.9 of the 1.0 NCE point per month needed to meet criterion. The evaluation criterion was met or exceeded at grades 3, 4, and 7. The NCE gain in grade 3 was 11.3 overall, or 1.7 NCE's per month; the gain in grade 4 was 6.7 overali., or 1.0 NCE per month; and the gain in grade 7 was 6.5 overall, or 1.0 NCE per month. Smaller NCE gains were made at grade 6 ( 5.3 overall, 0.8 per month); grade 2 ( 5.2 overali, 0.8 per month); grade 5 ( 3.0 overall, 0.5 per month; grade 8 ( 0.9 overall, 0.1 per month); and in grade 1 ( 0.2 overall, 0.0 per month).

It should be kept in mind that NCE's are based on percentiles, which compare the pupil's performance in relation to the general population. For a pupil's NCE score to remain the same at posttest as at pretest does not denote a lack of absolute progress; on the contrary it means that the pupil has
maintained the same relative position in terms of the general population. Even a small gain in NCE's indicates an advancement from the pupil's original level of achievement.

Table 5 contains data related to the changes in NCE scores for the three ranges: (a) No improvement in NCE scores ( 0.0 or less), (b) some improvement in NCE scores ( 0.1 to 6.9), and (c) substantial improvement in NCE scores (7.0 or more). The data indicate that 2218 ( $64.8 \%$ ) pupils made gains in NCE scores. This means that $64.8 \%$ of the pupils in the evaluation sample progressed at a rate that was greater than normai for them. More specifically, 1584 ( $46.2 \%$ ) made substantial improvement and 634 (18.5\%) made some improvement in NCE scores, while 1207 pupils ( $35.2 \%$ ) of the evaluation sample made no improvement, as evidenced by a gain of 0.0 or decrease in NCE score.

Tables 6-10 present comparisons between the components receiving computer assisted insiruction/computer management system (CAI/CMS) in reading and those groups receiving the regular program instruction. Comparisons are made for only those grade levels where CAI/CMS instruction was available, grades $4-8$.

Table 3
Minimim, Maximum, Median, and Standard Deviation of the Pretest and Posttest Grade Equivalents

Reported by Grade Level
1986-87

| Grade | $\begin{gathered} \text { Number } \\ \text { of Pupils } \\ \hline \end{gathered}$ | Min. | Max. | $\begin{gathered} \text { Median } \\ \text { Grade Equivalent } \end{gathered}$ | Standard Deviation | Min. | Max. | Median <br> Grade Equivalent | Standard Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $!$ | 80 | 0.0 | 2.6 | 0.7 | 0.6 | 0.6 | 2.6 | 1.6 | 0.4 |
| 2 | 654 | 1.4 | 3.2 | 1.6 | 0.3 | 1.3 | 5.7 | 2.1 | 0.8 |
| 3 | 484 | 1.5 | 3.7 | 2.1 | 0.5 | 1.5 | 5.7 | 3.0 | 0.8 |
| 4 | 791 | 1.7 | 6.4 | 2.9 | 0.9 | 1.7 | 8.9 | 3.9 | 1.1 |
| 5 | 634 | 2.1 | 10.9 | 3.8 | 1.1 | 2.1 | 11. 7 | 4.5 | 1.1 |
| 6 | 622 | 2.1 | 8.9 | 4.3 | 1.2 | 2.1 | 9.6 | 4.9 | 1.2 |
| 7 | 141 | 2.6 | 9.1 | 5.2 | 1.2 | 2.5 | 10.9 | 6.0 | 1.5 |
| 8 | 19 | 2.6 | 1.7 | 4.9 | 1.2 | 4.0 | 8.8 | 5.0 | 1.5 |

Table 4
Minimum, Maximum, Average, and Standard Deviation of the Pretest and Posttest Normal Curve Equivalents (NCE)

Reported by Grade Level
1986-87

| Grade | Number of Pupils | Pretest |  |  |  | Posttest |  |  |  | Average <br> Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Min. | Max. | Average NCE | Standard Deviation | Min. | Max. | Average NCE | Standard Deviation |  |
| 1 | 80 | 4.0 | 80.0 | 41.7 | 17.2 | 1.0 | 72.0 | 42.0 | 16.2 | 0.2 |
| 2 | 654 | 23.0 | 69.0 | 32.8 | 10.0 | 1.0 | 91.0 | 38.0 | 18.1 | 5.2 |
| 3 | 484 | 1.0 | 60.0 | 29.3 | 13.4 | 2.0 | 79.0 | 40.6 | 12.4 | 11.3 |
| 4 | 791 | 14.0 | 78.0 | 33.8 | 13.5 | 4.0 | 99.0 | 40.5 | 13.1 | 6.7 |
| 5 | 634 | 18.0 | 82.0 | 34.7 | 11.2 | 11.0 | 75.0 | 37.6 | 10.0 | 3.0 |
| 6 | 622 | 1.0 | 63.0 | 30.2 | 13.2 | 2.0 | 56.0 | 35.6 | 10.2 | 5.3 |
| 7 | 141 | 15.0 | 61.0 | 35.7 | 10.2 | 11.0 | 96.0 | 42.3 | 11.3 | ¢. 5 |
| 8 | 19 | 11.0 | 48.0 | 28.8 | 12.0 | 2.0 | 51.0 | 29.1 | 12.4 | 0.9 |
| Total | 3425 |  |  | 32.7 | 12.6 |  |  | 38.7 | 13.3 | 5.9 |

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Table 5

## Change Categories for NCE Scores for Tota' CLEAR Program by Grade Level 1986-87



As indicated in Table 6, 2210 pupils received treatment in a CAI/CMS componenc ( 1838 pupils in the elementary project and 372 pupils in the middle school project. . The total number of public school pupils in grades 4-8 who recelved regular program instruction was 1167 , which included 235 pupils in grades 4 and 5, and 932 pupils in grades 6-8. The average daily membership tucaled 1900.2 la the CAI/CMS gruups ( 1386.5 pupils in grades $4-5$ and 313.6 pupils in the middle school project). Average daily membership in the regular Gtuup totaled 905.0 ( 190.4 pupils in grades $4-5$ and 774.7 pupils in middle school).

Evaluation samples at the elementary (grades 4-5) level were comprised of 1264 purils who received CAI/CMS treatment and 161 pupils in the regular program group. Middle school samples consisted of 227 pupils in the CAI/CMS treatment group, and 555 pupils in the regular instruction group.

Achievement data comparisons are presented in Tables 7-9. Grade 7 of the CAI/CMS program had the greatest positive change in percentile (Table 7) of any of the other grades. Grade 7 of the CAI/CMS program had the greatest positive change in grade equivalent points (Table 8), and grade 7 of the CAI/CMS program had the greatest positive change in NCE points (Table 9). All grades of the CAI/CMS program, except grade 5, met the program's criterion, with 1.0 or more NCE's gained per month. However, grade 5 comprised $37.4 \%$ of the total CAI/CMS population which depressed the average NCE score for the group. Grade 4 in the regular CLEAR program met the program's criterion with an average of 1.2 NCE's gained fer month. Grade 7 of the regular program also met criterion when the NCE gain per month ( 0.969 ) is rounded to 1.0 . The average NCE change (Table 9) for the CAI/CMS group was 5.5 overall or 0.8 NCE per month and the average change for the regular CLEAR groups was 4.5 overall or 0.7 per month.

Comparisons of percentile at the middle school level show that the greatest change in percentile (Table 7) occurred in grade 7 in both the CAI/CMS group and in the regular CLEAR group. Comparisons of percentile at the intermediate school level show that the greatest change in percentile occurred in grade 4 in both the regular CLEAR group and in the CAI/CMS group. The greatest change in grade equivalent data (Table 8) was made in grade 7 in the CAI/CMS group and in grade 4 in the regular CLEAR group. Table 9 indicates that the CAI/CMS grade 7 group made a 9.3 NCE point change in comparison to 6.3 for regular CLEAR. The regular CLEAR grade 4 group made a 7.8 NCE point change in comparison to 6.5 for the CAI/CMS group. The CAI/CMS grade 6 group made a 7.3 NCE point change in comparison to 4.3 for the regular group. The CAI/CMS grade 5 group made a 3.5 NCE point change in comparison to a negative change of -0.4 for the regular CLEAR $\varepsilon$ roup. Finally, the CAI/CMS grade 8 group made a 6.7 NCE point change in comparison to a negative change of -0.1 foz the regular group. Results for both grade 7 and grade 8 should be interpreted cautiously because of the small sample of pupils.

As indicated earlier, NCE scores are generally considered to provide the most comparative information in equal units of measurement. Data for CAI/CMS groups and the regular instruction group are presented by grade in Table 9, and were included in the discussion above. A further indication of overall piogram effect is possible by examining average NCE growth by group across grade level, as presented in Table 10. A. 5 the elementary level, the average NCE change across grade level was 3.9 NCE's for the regular group and 5.2 for the CAI/CMS group. The comparison of groups at the elementary level indicated a difference of 1.3 NCE points in favor of the CAI/CMS group over the program year. At the middle school level the average NCE change was 4.6 for the egular group and 7.4 for the CAI/CMS group. The middle school CAI/CMS group showed an advantage over the regular group by 2.8 NCE points.

Table 6
Number of Pupils Served, Averages for Days of Enrollment, Days of Attendance, Daily Membership and Hours of Instruction Per Week, and Pupils Attending $80 \%$ of Days Reported by Grade Level for Pupils Receiving Reading Instruction with Computers (CAI/CMS Groups) and Pupils Receiving Reading Instruction without Computers (Regular Group) 1986-87


CAI/CMS

| 4 | 1017 | 451 | 566 | 113.1 | 105.1 | 884.8 | 3.6 | 774 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 821 | 357 | 464 | 111.1 | 101.8 | 701.7 | 3.6 | 576 |
| 6 | 329 | 154 | 175 | 112.4 | 100.6 | 284.5 | 3.5 | 222 |
| 7 | 34 | 19 | 15 | 91.7 | 80.2 | 24.0 | 3.7 | 12 |
| 8 | 9 | 1 | 8 | 74.3 | 65.8 | 5.1 | 3.4 | 3 |
| Total | 2210 | 982 | 1228 | 111.8 | 102.7 | 1900.2 | 3.6 | 1597 |
| Regular Group |  |  |  |  |  |  |  |  |
| 4 | 120 | 55 | 65 | 103.9 | 98.5 | 95.9 | 3.7 | 87 |
| 5 | 115 | 59 | 56 | 106.9 | 98.8 | 94. ${ }^{\circ}$ | 3.7 | 80 |
| 6 | 681 | 299 | 382 | 107.8 | 96.5 | 564.9 | 3.5 | 440 |
| 7 | 214 | 98 | 116 | 110.1 | 99.3 | 181.3 | 3.6 | 1:5 |
| 8 | 37 | 20 | 17 | 100.0 | 88.3 | 28.5 | 3.6 | 17 |
| Total | 1167 | 531 | 636 | 107.5 | 97.2 | 965.0 | 3.6 | 769 |

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Table 7

Minimum, Maximum, Median, and Standard Deviation
of the Pretest and Posttest Percentiles Reported by Grade Level for Pupils Receivirg Reading Instruction with Computers (CAT/CMS Groups) and Pupils Receiving Keading Instruction without Computers (Regular Group) 1986-87

| Grade | Number of Pupils | Pretest |  |  |  | Posttest |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Min. | Max | Median Percentile | Standard Deviation | Min. | Max. | $\begin{aligned} & \text { Median } \\ & \text { Percentile } \end{aligned}$ | Standard Devintion |
| CAI/CMS |  |  |  |  |  |  |  |  |  |
| 4 | 707 | 4.0 | 91.0 | 24.0 | 18.3 | 1.0 | 99.0 | 32.0 | 17.5 |
| 5 | $55 \%$ | 7.0 | 94.0 | 24.0 | 15.4 | 3.0 | 88.0 | 28.0 | 14.5 |
| 6 | 213 | 1.0 | 69.0 | 17.0 | 13.0 | 1.0 | 71.0 | 22.0 | 13.7 |
| 7 | 11 | 5.0 | 36.0 | 18.0 | 10.7 | 14.0 | 52.0 | 38.0 | 12.7 |
| 8 | 3 | 3.0 | 41.0 | 3.0 | 21.9 | 5.0 | 52.0 | 8.0 | 26.3 |
| Regular Group |  |  |  |  |  |  |  |  |  |
| 4 | 84 | 4.0 | 73.0 | 27.0 | 17.1 | 1.0 | 99.0 | 39.0 | 15.8 |
| 5 | 77 | 7.0 | $76.0$ | 32.0 | 17.3 | 3.0 | 67.0 | 31.0 | 12.3 |
| 6 | 409 | 1.0 | 73.0 | 20.0 | 14.0 | 1.0 | 77.0 | 25.0 | 14.6 |
| 7 | 130 | 5.0 | 70.0 | 27.0 | 14.0 | 3.0 | 99.0 | 35.0 | 17.3 |
| 8 | 16 | 3.0 | 46.0 | 18.5 | 12.1 | 1.0 | 49.0 | 19.0 | 12.7 |

Table 8
Minimum, Maximum, Median, and Standard Deviation of the Pretest and Posttest Grade Equivalents Reported by Grade Level for Pupils Receiving Reading InsLruction with Compurers (CAI/CMS Groups) and Pupils Receiving Reading Instruction whthout Computers (Regulai Group) 1986-87

| Grade | Num. 1 of Pupils | Min. | Max, | Median <br> Grade Equivalents | Standard Deviation | Min. | Max | Median <br> Grade Equivalent | Stan」ard Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CAI/CMS |  |  |  |  |  |  |  |  |  |
| 4 | 707 | 1.7 | 6.4 | 2.9 | 0.9 | 1.7 | 8.9 | 3.9 | 1.1 |
| 5 | 557 | 2.1 | 10.9 | 3.8 | 1.1 | 2.1 | 10.7 | 4.5 | 1.1 |
| 6 | 213 | 2.1 | 8.6 | 4.0 | 1.2 | 2.1 | 9.1 | 4.7 | 1.2 |
| 7 | 11 | 2.6 | 5.7 | 4.6 | 1.0 | 4.5 | 8.0 | 6.2 | 1.1 |
| 8 | 3 | 4.0 | 6.9 | 4.0 | 1.7 | 4.0 | 8.8 | 4.4 | $\angle .7$ |
| Regular Group |  |  |  |  |  |  |  |  |  |
| 4 | 84 | 1.7 | 4.9 | 3.1 | 0.9 | 1.7 | 8.9 | 4.3 | 0.9 |
| $b$ | 77 | 2.1 | 7.4 | 4.3 | 1.1 | 2.1 | 7.9 | 4.7 | 0.8 |
| 6 | 409 | 2.1 | 8.9 | 4.3 | 1.2 | 2.1 | 9.6 | 4.9 | 1.3 |
| 7 | 130 | 2.6 | 9.1 | 5.2 | 1.3 | 2.5 | 10.9 | 6.0 | 1.6 |
| 8 | 16 | 2.6 | 7.7 | 5.1 | 1.2 | 4.0 | 8.7 | 5.7 | 1.3 |

Table 9
Minimum, Maximum, Average, and Standard Deviation of the Pretest and Posttest Normal Curve Equivalents (NCE) Reported by Grade Level for Pupils Receiving Reading Instruction with Computers (CAI/CMS Groups) and Pupils Receiving Reading Instruction without Computers (Regular Group)

1986-87

| Grade | Number of Pupils | Pretest |  |  |  | Posttest |  |  |  | Average Change |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Min. | Max. | Average NCE | Standard Deviation | Min. | Max. | Average NCE | Standard Deviation |  |
| CAI/CMS |  |  |  |  |  |  |  |  |  |  |
| 4 | 707 | 14.0 | 78.0 | 33.5 | 13.6 | 4.0 | 99.0 | 40.1 | 13.3 | 6.5 |
| 5 | 557 | 18.0 | 82.0 | 34.0 | 11.1 | 11.0 | 75.0 | 37.4 | 10.2 | 3.5 |
| 6 | 213 | 1.0 | 60.0 | 26.9 | 14.2 | 2.0 | 62.0 | 34.1 | 10.6 | 7.3 |
| 7 | 11 | 15.0 | 42.0 | 32.3 | 8.7 | 27.0 | 51.0 | 41.5 | 7.8 | 9.3 |
| 8 | 3 | 11.0 | 45.0 | 22.3 | 19.6 | 16.0 | 51.0 | 29.0 | 19.2 | 6.7 |
| Total | 1491 |  |  | 32.7 |  |  |  | 38.2 |  | 5.5 |
| Regular Group |  |  |  |  |  |  |  |  |  |  |
| 4 | 84 | 14.0 | 63.0 | 36.4 | 12.3 | 4.0 | 99.0 | 44.2 | 11.0 | 7.8 |
| 5 | 77 | 18.0 | 65.0 | 39.6 | 11.2 | 11.0 | 59.0 | 39.1 | 7.8 | -0.4 |
| 6 | 409 | 1.0 | 63.0 | 32.0 | 12.3 | 2.0 | 66.0 | 36.3 | 10.0 | 4.3 |
| 7 | 130 | 15.0 | 61.0 | 36.0 | 10.3 | 11.0 | 96.0 | 42.3 | 11.6 | 6.3 |
| 8 | 16 | 11.0 | 48.0 | 30.0 | 10.6 | 2.0 | 49.0 | 29.9 | 11.7 | -0.1 |
| Total | 716 |  |  | 34.0 |  |  |  | 38.5 |  | 4.5 |

Table 10
Minimum, Maximum, and Average of the Pretest and Posttest Normal Curve Equivalents (NCE) Reported Across Grade Level for Pupils in CAT/CMS Projects and Pupils in Regilar Instruction Grocps 1986-87

| Grade and |  | Pretest |  |  | - | Posttest |  | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Treatment | Number |  |  | Averag |  |  | Avera |  |
| Group | of Pupils | Min. | Max. | NCE | Min. | Max. | NCE | Change |

Grades 4-5

| CAI/CMS | 1264 | 14.0 | 82.0 | 33.7 | 4.0 | 99.0 | 38.9 | 5.2 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Regular Group | 161 | 14.0 | 65.0 | 37.9 | 4.0 | 99.0 | 41.8 | 3.9 |

Grades 6-8

| CAI, LMS | 227 | 1.0 | 60.0 | 27.1 | 2.0 | 62.0 | 34.4 | 7.4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Regular Group | 555 | 1.0 | 63.0 | 32.9 | 2.0 | 96.0 | 37.5 | 4.6 |

Tables 11 and 12 compare the CAI/CMS and regular groups in regard to numbers and percents of pupils who evidenced no improvement, some improvement, and substantial improvement, as previously defined. The data indicate that $62.0 \%$ of the regular group pupils made positive gains in NCE scores, while $64.0 \%$ of CAI/CMS groups did so. Positive gains in the regular group included $38.7 \%$ who made substantial 1 mprovement and $23.3 \%$ who made some improvement. Positive gains in the CAI/CMS group included $43.8 \%$ making substantial improvement, and $20.2 \%$ making some impruvement.

## ECIA-Chapter 1 Teacher Census Information

Teacher Census Forms were completed in September, 1986, by the 100 teachers assigned to Chapter 1 ECIA CLEAR units. All teachers had at least a bachelor's degree and 52 teachers ( $52.0 \%$ ) had a master's degree. The number of teachers having certification in reading as a subject area was 52 , or $52.0 \%$ of the program's teachers. The average number of years of teaching experience was 22.6 overall, and 11.1 in Title I/Chapter 1 teaching experience. Of the 100 program teachers, 95 had assignments in public schools, and five in non-public units. Thirty-six of the teachers in public schools were assigned to CAI/CMS units and 64 were assigned to the regular program. All program teachers were employed full-time in the program.

## Parent Involvement Information

The Parent Involvement Form provided information from teachers at the end of each month (September 1986 through June 1987) concerning program activities involving parents who had children in the program. These data are presented by month in Table 13. The month showing the most parent involvement was October with a total of 2032 contacts in 1091.5 parenc hours. Individual parent conferences accounted for more parent contacts (4360) than any other activity. Yearly totals for the other activities were: group meetings with parents, 2109 contacts in 1849.5 parent hours; parent classroom visits or field trips, 886 contacts in 522.5 parent hours; planning, operation, and/or evaluation, 298 contacts in 122.0 parent hours; and visits by teacher to pasents homes, 46 contacts in 34.0 parent hours. The yearly totals for all five types of parent activity were 7699 parent contacts in 4265.0 parent hours. Since a parent could have involvement in more than one contact, a yearly unduplicated count was also obtained from program teachers in June. This count indicated a total of 3672 parents of program pupils had one or more contacts with the program auring the school year.

A separate end-of-the year teacher survey was used to determine program involvement by non-program parents. This survey indicated that an additional 803 parents who did not have children in the program were involved in 1105 contacts with the program in 669.5 parent hours over the school year.

## Inservice Evaluation Information

The General Inservice Evaluation Form was completed by program teachers for nine of the 11 inservice sessions which occurred from September, 1986 through May, 198;. Participants were asked after each session to rate four statements about the inservice on a scale of one to five:

```
l = Strongly Disagree
2 = Disagree
3 = Undecided
4 = Agree
5 = Strongly Agree
```

Table 11

## Changes in Normal Curve Equivalents (NCE) Score Impiovement Categories By Grade for Pupils Receiving Reading Instruction with Computers (CAI/CMS Group) and Pupils Receiving Instruction Without Computers (Regular Group) <br> 1986-87

|  | $\begin{aligned} & \text { Pupils } \\ & \text { in Sample } \end{aligned}$ | $\begin{aligned} & \text { No Improvement } \\ & (0.0 \text { or less }) \end{aligned}$ | $\begin{aligned} & \text { Some Improvement } \\ & (0.1 \text { to } 6.9) \end{aligned}$ | Substantial Imp (7.0 or more) |
| :---: | :---: | :---: | :---: | :---: |
| CAI/CMS Group |  |  |  |  |
| Grade 4 |  |  |  |  |
| Number of Pupils | 707 | 242 | 134 | 331 |
| \% of Pupils |  | 34.2\% | 19.0\% | 46.8\% |
| Grade 5 |  |  |  |  |
| Number of Pupils | 557 | 232 | 109 | 216 |
| \% of Pupils |  | 41.7\% | 19.6\% | 38.8\% |
| Grade 6 |  |  |  |  |
| Number of Pupils | 213 | 62 | 52 | 99 |
| \% of Pupils |  | 29.1\% | 24.4\% | 46.5\% |
| Grade 7 |  |  |  |  |
| Number of Pupils | 11 | 1 | 4 | 6 |
| \% of Pupils |  | 9.1\% | 36.4\% | 54.5\% |
| Grade 8 |  |  |  |  |
| Number of Pupils | 3 | 0 | 2 | 1 |
| \% of Pupils |  | 0.0\% | 66.7\% | 33.3\% |

## Table 11 (Continued)

Changes in Normal Curve Equivalents (NCE) Score Lmprovement Categories By
Grade for Pupils Receiving Reading Instruction with Computers (CAI/CMS Group) and Pupils Receiving Instruction Without Computers (Regular Group)

1986-87

|  | $\begin{aligned} & \text { Pupils } \\ & \text { in Sample } \end{aligned}$ | No Improvement ( 0.0 or less) | Some Improvement (0.1 to 6.9) | Substantial Improvement (7.1) or more) |
| :---: | :---: | :---: | :---: | :---: |
| Regular Group |  |  |  |  |
| Grade 4 |  |  |  |  |
| Number of Pupils | 84 | 25 | 17 | 42 |
| \% of Pupils |  | 29.8\% | 20.2\% | 50.0\% |
| Grade 5 |  |  |  |  |
| Number of Pupils | 77 | 42 | 13 |  |
| \% of Pupils |  | 54.5\% | 16.9\% | $28.6 \%$ |
| Grade 6 |  |  |  |  |
| Number of Pupils | 409 | 157 | 104 | 148 |
| \% of Pupils |  | 38.4\% | 25.4\% | $36.2 \%$ |
| Grade 7 |  |  |  |  |
| Number of Pupils | 130 | 41 | 29 | 60 |
| \% of Pupils |  | 31.5\% | 22.3\% | 46.2\% |
| Grade 8 |  |  |  |  |
| Number of Pupils | 16 | 7 | 4 |  |
| \% of Pupils |  | 43.8\% | $25.0 \%$ | $31.3 \%$ |

## Changes in Normal Curve Equivalents (NCE) Scores By Grade for Pupils Receiving Reading Instruction with Computers (CAI/CMS Group) and Pupils Receiving 'nstruc-ion Without Computers (Regular Group) 1986-87

|  | $\begin{aligned} & \text { Pupils } \\ & \text { in Sample } \end{aligned}$ | No Improvement (0.0 or less) | $\begin{aligned} & \text { Some Tmprovement } \\ & (0.1 \text { to } 6.9) \end{aligned}$ | Substantial Improvement (7.0 or more) |
| :---: | :---: | :---: | :---: | :---: |
| Grades 4-5 |  |  |  |  |
| CAI/CMS |  |  |  |  |
| Number of Pupils | 1264 | 474 | 243 | 547 |
| \% ot Pupils |  | 37.5\% | 19.2\% | 43.3\% |
| Regular Group |  |  |  |  |
| Number of Pupils | 161 | 67 | 30 | 64 |
| \% of Pupils |  | 41.6\% | 18.6\% | 39.8\% |
| Grades 6-8 |  |  |  |  |
| CAI/CMS |  |  |  |  |
| Number of Pupils | 227 | 63 | 58 | 106 |
| \% of Pupils |  | 27.8\% | 25.6\% | 46.7\% |
| Regular Group |  |  |  |  |
| Number of Pupils | 555 | 205 | 137 | 213 |
| \% of Pupils |  | 36.9\% | 24.7\% | 38.4\% |
| Totals for Grades 4-8 |  |  |  |  |
| CAI/CMS |  |  |  |  |
| Numbar of Pupils | 1491 | 537 | 301 | 653 |
| \% of Pupils |  | 36.0\% | 20.2\% | 43.8\% |
| F.egular Group |  |  |  |  |
| Number of Pupils | 716 | 272 | 167 | 277 |
| \% of Pupils |  | 38.0\% | 23.3\% | 38.7\% |
| ERICCs/P502/RPTFCLE87 |  |  |  |  |

Table 1
Number of Parents Involved and Total Parent Hours Reported by Month

1986-87

| Items | Months |  |  |  |  |  |  |  |  |  | Totals for Year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sept. | 0ct. | Nov. | Dēc. | Jan. | Fe万. | Mar. | Apr. | May | June |  |
| 1. Parents involved in the planning, operation and/ or evaluation of your unit |  |  |  |  |  |  |  |  |  |  |  |
| Number of Parents | 139.0 | 15.0 | 24.0 | 1.3 .0 | 11.0 | 14.0 | 13.0 | 7.0 | 20.0 | 12.0 | 298.0 |
| Total Parenc Mours | 23.5 | 4.5 | 11.5 | 11.0 | 15.0) | 17.5 | 14.0 | 4.5 | 12.0 | 8.5 | 122.0 |
| 2. Group meetings for parents |  |  |  |  |  |  |  |  |  |  |  |
| Number of Parents | 165.0 | 959.0 | 89.0 | 158.0 | 27.0 | 239.0 | 98.0 | 74.0 | 258.0 | 42.0 | 2109.0 |
| Total Parent Hours | 227.5 | 681.0 | 73.0 | 166.5 | 48.0 | 153.1 | 123.0 | 49.5 | 284.0 | 44.0 | 1849.5 |
| 3. Individual parent conterences |  |  |  |  |  |  |  |  |  |  |  |
| Number of Parents | 349.0 | 723.0 | 924.0 | 218.0 | 300.0 | 956.0 | 311.0 | 225.0 | 267.0 | 87.0 | 4360.0 |
| Tot-1 Parent Hours | 125.5 | 247.5 | 382.5 | 92.5 | 107.0 | 420.5 | 119.0 | 95.5 | 110.0 | 37.0 | 1737.0 |
| 4. Parental classroom visits or field trips |  |  |  |  |  |  |  |  |  |  |  |
| Number of Parents | '3.0 | 333.0 | 55.0 | 65.0 | 45.0 | 119.0 | 98.0 | 34.0 | 47.0 | 37.0 | 886.0 |
| Total Parent Hours | 30.5 | 157.5 | 39.0 | 50, 5 | 34.5 | 64.5 | 67.0 | 13.0 | 38.5 | 27.5 | 522.5 |
| 5. Visits by teacher to parents homes |  |  |  |  |  |  |  |  |  |  |  |
| Number of Parents | 6.0 | 2.0 | 0.0 | 6.0 | 5.0 | 6.0 | 2.0 | 2.0 | 10.0 | 7.0 | 46.0 |
| Total Parent Hours | 18.0 | 1.0 | 0.0 | 3.5 | 3.0 | 1.5 | 0.5 | 1.0 | 3.5 | 2.0 | 34.0 |
| Tocal Parent Contacts | 712.0 | 2032.0 | 1092.0 | 490.0 | 388.0 | 1334.0 | 522.0 | 342.0 | 602.0 | 185.0 | 7699.0 |
| Total Parent Hours | 425.0 | 1091.5 | 506.0 | 324.0 | 207.5 | 657.0 | 323.5 | 153.5 | 448.0 | 119.0 | 4265.0 |
| . 35 |  |  |  |  |  |  |  |  |  |  |  |
| ICALSRVCS/P502/RPT'FCLE87 |  |  |  |  |  |  |  |  |  |  | N |

Generally, workshop participants rated Chapter 1 inservice meetings , positively. Overall ratings by participants are summarized in Table 14.

Table 14
Average Response and Percent of Response
For Reactions to Inservice Statements

| Statements | Number Responding | Average <br> Response | $\begin{aligned} & \overline{S A} \\ & (5) \end{aligned}$ | Percent |  |  | $\begin{aligned} & \\ & \hline \text { SD } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{gathered} A \\ (4) \end{gathered}$ | $\begin{gathered} \mathrm{U} \\ (3) \end{gathered}$ | $\begin{gathered} \hline \mathrm{D} \\ (2) \end{gathered}$ |  |
| 1. I think this was a very worthwhile meeting. | 271 | 4.5 | 57.6 | 41.0 | 0.7 | 0.4 | 0.4 |
| 2. The information presented in the meeting will assist we in my program. | 270 | 4.5 | 57. ${ }^{\text {\% }}$ | 39.6 | 2.2 | 0.4 | 0.4 |
| 3. There was time to ask questions pertaining to the presentation. | 267 | 4.5 | 60.3 | 37.1 | 0.4 | 1.5 | 0.7 |
| 4. Questions were answered adequately. | 264 | 4.6 | 60.2 | 38.3 | 0.4 | 0.8 | 0.4 |

Open-ended comments on the General lnservice Evaluation Form wsked participants to comment about the most and least valuable parts of the meetings, and about information they would like to have covered in future meetings. Only those open-ended comments which were made by four or more participants at any single session will be summarized here. However, the evaluation reports on individual sessions have been forwarded to the Department of Federal and State Programs and are available on request.

In regard to the most valuable parts of inservice meetings, the following items were notable from regular CLEAR teachers comments: displays of vendors; being able to order materials at orientation; information given during evaluation mini-session and coordinator's mini-session at the orientation meeting; receiving information, techniques and methods, illustrations, materials, and examples of writing in CLEAR primary labs; making, getting ideas for, learning about and using Big Books; receiving information about Reading Recovery Program; sharing of materials, and inservice dealing with recommendations, information, and direction for CLEAR program for next year. Among elementary CAI/CMS teachers, the following comments were frequently cited: information given during the Frescripti-n Learning mini-session at the orientation meeting; the writing process session, the time management session; sharing, seeing, talking, and brainstorming with fellow CLEAR teachers, and hands-on participaiion with the "Newsroom" software session.

The question regarding the least valuable parts of meetings frequently elicited the non-answers of "none," "not applicable," "all was valuable," or "no complaint." No other answers to this question had a frequency of four or more at any one meeting.

The question dealing with suggestions for future meetings had only one topic that had four or more responses: Teachers expressed a need for more workshops in which "sharing" is major emphasis.

School Visitation Information
In addition to the types of data specified in the evaluation design, process evaluation data were obtained in a series of on-site visits to regular CLEAR and CAL/CMS classrooms. Visits were conducted by program evaluators during the month of March, 198\%. The purpose of these observations was to obtain input from program teachers about the functioning of the program.

In the regular CLEAR visitations, the locally developed instrument, Evaluator's Visitation Log, was organized around questions designed to gather information about the major facets of the regular CLEAR program. The instrument was composed of open-ended questions and rating scales. Program goals as perceived by CLEAR teachers included helping children feel successful, building self esteem, and developing a positive attitude about learning, A variety of formal and informal diagnostic tests were cited by teachers as tools to determine strengr.hs and weaknesses of pupils. Many teaching methods and materials were cited as being used to teach reading comprehension; however, program teachers showed some confusion in differentiating between methods of teaching comprehension and materials for teaching comprehension. Teachers promoted maximum use of academic learning time by having daily routines, good lesson plans, and having materials organized. Teachers let pupils know they had high expectations for their learning and behavior by telling them, having a positive attitude towards them, and by expecting good behavior and quality work. Praising and giving concrete rewards were ways teachers gave recognition and provided feedback to pupils; and checking, grading, recording progress, and keeping pupils' work were ways they monitored pupils progress. Almost two-thirds of the teachers (65.4\%) had mixed responses about their pupils ${ }^{-}$ progress the previous year. They liked inservice meetings which featured guest speakers and meetings where CLEAR teachers shared ideas. Most of the coordination and communication between program teacher and classroom teacher were on a casual or informal basis.

Teachers were asked to rate some questions on a five-point rating scale where the lowest descriptors (Unimportant, Very Poor, Inadequate) were rated as " 1 " and the highest descriptors (Very Important, Very Good, Very Adequate) wera rated as "5." Teachers giving low ratings to certain items on the Evaluator's Visitation Log stipulated they were pinpointing specific problem areas and not expressing a general dissatisfaction with the CLEAR Program. These questions dealt with the importance of coordinating instruction with the classroom teacher, communication with classroom teachers, parent responses to program teachers efforts at program involvement, environmental temperature and noise level, selection procedures, scheduling, testing procedures, evaluation feedback, facilities, space, and materials. The facets of the regular CLEAR program which received less than a " 3 " rating by middle school teachers were Parent Response to Efforts at Program Involvement (1.5 rating) and Environmental Temperature (2.8 rating). CLEAR-Elementary teachers gave a " 3 " or above rating to all items on the rating scales. Facets of the regular CLEAR program receiving a " 4 " or above by both the elementary and by middle school teachers were Materials, Importance of Coordinating Instruction with Classroom Teachers, and Communication with Classroom Teachers. Coordination of program instruction with classroom instruction tended to be on an informal basis and to be complicated by the lack of common planning times.

In addition to the questionnaire items, program teachers were concerned about the need tor more inservice and supervision, the need for more tlexibility in the use of their $\$ 250$ teaching materials budget, and the requirement of having to serve so many pupils. There was some concern in two schools where the Reading Recuvery progrda sirved first grade pupils over the cutiailment of services to other grades served by the regular CLEAR program. Another area of concern dealt with special education pupils and with the perceived slowness with which they were identified and assigned io special classes.

Another locally developed instrument, the CAI/CMS Evaluator's Visitation Log, was used in interviewing teachers in the C $\overline{A I} / C M S$ portions of the program. The interviews dealt with general program concerns, as well as items specific to the CAI/CMS setting. The interview sample included twenty-one of the twenty-nine elementary CAI/CMS teachers, and four of the seven middle school CAI/CMS teachers.

Althoueh technical difficultion had occurred with computers, nearly all had been satisfactorily resolved. For the most part there was no problem getting printed materials to go with the computer programs. Using a five-point scale, elementary ceachers rated computer effectiveness an average of 3.8 in regard to diagnosis, and 4.3 in egard to instruction. Aver ge ratings by middle school CAI/CMS teaciers were 4.0 in regard to diagnosis and 4.25 in regard to instruction.

Program goals as perceived by CAI/CMS teachers included the elements of individualized instruction, starting instruction at the child's present stage of development, raising the child's reading level, and getting children to like to read. Labs were generally well organized, using set routines and schedules to make maximum use of learning time. Praise and encouragement, as well as a variety of reward systems, were Erequently used to motivate pupils. Ongoing pupil diagnosis is one of the features of computer assisted instruction, but CAI/CMS te;chers also used a variety of other diagnostic tests and methods as well. Many methods and materials ere aiso used to teach comprehension in addition to that which was available ca the computers.

## Pretest Observacion Information

Process evaluation also included on-site observations of testing procedures. Observations $w$ e made during the pretest administration of the achiejement tests for the overall program, in order to g^in first-hand information in regard to testing environment and test administration.

Elements of the testing environment were generally judged to be good or very good, Aspects of testing environment that were checked included lighting iu the testing area, space for each student, sound or noise level, and temperature.

The presentatjor of ter. directions was generally rated as grod or very good. In most cases the test directions were read by the teacher. In addition, some teachers demonstrated cn the board an example of the method for marking the answers.

During the testing sessions the approprate materials were generally judged to be available in most cases, and it was determined that assistance was limired to the mechanical aspects of marking answers, clarifying directions, and finding the right place on the answer sheet.

The most common problem in the testing process was found to be that teachers neglected to circulate contincously around the room to monitor pupils. One specific problem involved a teacher's having children erase wrong answers on the Scoreze Answer Sheet rather than $X^{\prime}$ ing out unwanted answers because the Practice Test directions in the Examiner's Manual instructed students to erase. Another teacher administered both the Vocabulary subtest and the Comprehension subtest because she thought the program needed the Total Reading Score. These problems were corrected during process evaluation. A copy of the observation instrument, Chapter 1 and DPPF Testing observation Scale, is found in the Appendix.

Cost-Benefit Analysis Information
The program evaluation included one further analysis not in the original evaluation design: $\lambda$ cost-benefit analysis (Chamberlain, 1987a) comparing the CAI/CMS groups and comparable grade levels in the group receiving regular program instruction. The results of the cost-benefit analysis are summarized in Table 15. The cost per pupil used in Table 15 is based on average daily membership. Costs included in the analysis included average salaries for elementary teachers, middle school teachers, and elementary and middle school CAI/CMS aides, and the contract costs for computers and equipment used in the elementary and middle school CAI/CMS labs. Normal supplies and incidental costs were not known in regard to separate treatment groups, but were assumed to be evenly distributed, Any error of cost estimate would probably be in the direction of underestimating costs for the regular group, since many instructional materials for the CAI/CMS group. were included in the lab contract costs.

The cost per pupil was greater in the two CAI/CMS groups than in corresponding grades of the regular program. The cost per pupil was $\$ 256.41$ more in the elementary CAI/CMS project than in grades $4-5$ of the regular program, while the cost difference at the middle school level was $\$ 220.09$ per pupil. The CAI/CMS groups sirpassed the regular groups in NCE gains at both the middle sct:0l and elementary levels. Tne CAI/CMS group surpassed the regular group by 2.8 NCE 's at the middle school level, and by 1.3 NCE 's in grades 4-5. Based on Average Daily Membership, elementary CAI/CMS teachers served an , srage of 11.4 more pupils per teacher than aid teachers in the regular elewentary program. At the middle school level there was little difference in Average Dafly Membership, with the regular group serving 0.8 pupil per teactier more than in the CAI/CMS group. As judged by the percent of pupils meeting the program attendance criterior and by the ratio of pupils in the evaluation sample to total pupils served, were appeared to be slightly better attendence in the CAI/CMS groups than in the regular groups. This was true at both the elementary and the middle school levels.

Cost-Benefit Analysis for 1986-87 CLEAR Program
Comparing Groups Receiving Computer Assisted Instruction/Computer Management System (CAI/CMS) and Groups Receiving Regular Program Instruction

| Program | ```Number of Teachers``` | _Program <br> Total | $\begin{aligned} & \text { Cost } \\ & \text { Peacher } \end{aligned}$ | $\begin{gathered} \text { Average Dai } \\ \text { Program } \end{gathered}$ | Membership. <br> Teacher | $\begin{gathered} \text { Cost } \\ \text { Per } \\ \text { Pupil } \end{gathered}$ | Percent of <br> Pupils <br> Meeting <br> Attendance <br> Criterion | Rat io of <br> Sample to <br> Pupils <br> Served | Average NCE Gain |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CLEAR-CAI/CMS (Grades 4-5 with CAI/CMS) | 29 | 1:87!,297.71 | 64.630 .96 | 1586.5 | 54.7 | 1181.40 | 73.4 | 68.8 | 5.2 |
| CLEAR <br> Grades 4-5 <br> (Public Schools Regular Group) | 4.4 | 176,118.40 | 40,026.91 | 190.4 | 43.3 | 924.99 | $7 . .1$ | 68.5 | 3.9 |
| CLEAR-CAI/GMS <br> (Grades 6-8 <br> with CAI/CMS) | 7 | 324,585.88 | 46,369.41 | 313.7 | 44.8 | 1034.70 | 66.4 | 61.0 | 7.4 |
| CLEAR <br> Grades 6-8 <br> (Public Schools <br> Regular Group) | 17 | 630,993.08 | 37,117.24 | 774.6 | 45.6 | 814.61 | 64.6 | 59.5 | 4.6 |

A total or 3457 pupils was served by the CLEAR program during the 1986-87 school year. Average daily membership in the overall program was 4627.2 .

The evaluation sample consisted of 3425 pupils who met the program attendance criterion, were English-speaking and received both the pretest anc posttest. Analysis of pretest-posttest achrevement data indicated an overall average gain of 5.9 NCE points for the 6.5 month treatment period, or 0.9 NCE point per month of measurable instruction. This did not meet the performance otjective of an average growth of 1.0 NCE point per month for the overall program. However, when data were analyzed by grade, it was noted that the evaluation criterion was met or exceeded in grade 3 ( 1.7 NCE's per month), grades 4 and 7 (each 1.0 NCE per month). The smal. st NCE gains per month occurred at grades 1,5 , and 8 where the gain was less than or equal to one-half NCE point. All grades made some positive change. It was evident that there were some problems meeting the program's objective of 1.0 NCE average gain per month at specific grade levels, which depressed the NCE point change for the overall program.

As stated earlier, the overall average NCE change for the CLEAR program was 5.9 NCE points which averaged to 0.9 NCE point per month. The primary samnle (grades l-3) of the regular CLEAR program had 1218 pupils in the sample. ithe primary sample had an average change of 7.3 NCE points overall or 1.1 NCE points per month. Grade 1 was comprised of 80 pupils or $6.6 \%$ of the primary sample, grade 2 had 654 pupils or $53.7 \%$ of the primary sample, and grade 3 had 484 pupils or $39.7 \%$ of the primary sample. The evaluation objective was exceeded at grade 3 ( 11.3 overall, 1.7 NCE points per month). Smaller NCE gains were made at grade 2 ( 5.2 overall, 0.8 per month) and at grade 1 ( 0.2 overall, 0.0 per month).

Looking just at the data from the CAI/CMS component and from the regular CLEAR component, the CAI/CMS component met the program objective of 1.0 i.verage NCE for every month of instruction in every grade except for giade j. The greatest positive change in NCE's ( 9.3 overall, i.4 per month) occurred in the CAI/CMS component at grade 7 ( 11 pupils, $4.8 \%$ of the middle schooi CAI/CMS sample). In the regular CLEAR component, grade 7 ( 130 pupils, $23.4 \%$ of middle school regular sample) made 6.3 NCE points overall or 1.0 NCE point (rounded) per month. Negative changes in NCE points occurred in the regular program at grade 8 ( 16 pupils, $2.9 \%$ of the regular middle school sample) and at grade 5 (77 pupils, $47.8 \%$ of the regular intermediate sample). Comparisons of other NCE score changes at the other grade levels were as follow: grade 4 (regular 7.8, CAI/CMS 6.5), grade 5 (CAI/CMS 3.5, regular -0.4), grade 6 (CAI/CMS 7.3, regular 4.3 ), and grade 8 (CAI/CMS 6.7, regular -0.1 ). The grades which met the program's objective in both the reguiar CLEAR and in the CAI/CMS program were grades 4 and 7. In the case of grade 7 of the regular program, the gain per morth was 0.969 , which rounds to the criterion gain of 1.0 NCE per month. The overall average change for grades $4-8$ in the CAI/CMS program was 5.5 NCE points; in regular CLEAR, 4.5 NCE points.

As already noted, however, NCE scores are based on percentiles, which compare the pupil's performance in relation to the general population. Even a small gain in percentile or NCE score indicates that a pupil has progiessed over the school year at a somewhat greater rate than would be expected from the pupil's original position in terms of the general population.

Prucess evaluation conducted during the pretest verified that proper testing procedures were followed in most cases. The few cases where problems wer 2 noted involved procturs not carculating continuously, elements of the physical environment which the teacher could not be expected to control, and two manoi individual problems.

The total number uf program teachers was 100.0. The number of teachers having master's degrees was 52 , or $52.0 \%$ of the teaching staff. The number of teachers having reading certification was 52 , or $52.0 \%$ of the program teachers. CLEAR teachers reported an average of 11.1 years of Title I/Chapter 1 teaching experience, and an average of 22.6 years of overall teaching experience.

CLEAR teachers reported a total oï 7699 contacts with 3672 parents of program pupils involving 4265.0 parent hours. An additional 1105 contacts were made with 803 parents who did not have children in the program involving 669.5 parent hours.

Positive ratings were given by CLEAR teachers to the Chapter 1 inservice sessions in which they participated. Inservice features receiving positive comments by program teachers included receiving information, sharing with peers, displays of new materials, and hands-on experience during workshops.

The 1986-87 CLEIR program included two projects utilizing Computer Assisted Instruction/Computer Management System (CAI/CMS). Twenty-nine teachers in 25 schools participated in the elementary CAI/CMS project, and seven teachers in seven schools participated in the middle school CAI/CMS project. The number of pupils served in these projects was 1838 in elementary grades $4-5$ and 372 in middle school grades 6-8. The CAI/CMS evaluation samples consisted of 1264 pupils in the elementary CAI/CMS project, and 227 pupils in the middle school CAI, ${ }^{\prime}$ CMS group. Comparison of achievement test data was made between pullis in the CAI/CMS projects and public school pupils in the same grade levels of the regular treatment group. At th_elementary level (grades 4-5), the average NCE gains for the year were 5.2 for the CAI/CMS group and 3.9 for the regular group. At the middle school level the average NCE gains fo: the year were 7.4 for the CAI/CMS group and 4.6 for the regular group.

Process evaluation was conducted in a series of observations and interviews. Teachers used a variety of approaches to diagnosis and jnstruction. They were concerned with building pupil self-esteem and positive attitudes toward learning, as well as with actual improvement in reading. Teachers conveyed their high expectations to pupils in various ways, and made liberal use of praise and encouragement. Concerns of program teachers included low parent response to teachers efforts for parent involvement, the perception of having a lack of time to do coordination of program instruction with classroom instruction, and the need for more inservice. They also wanted more flexibility in the use of their $\$ 250$ teaching materials budget, and were concerned about the requirement of having to serve so many pupils. There was some concern in two schools where the Reading Recovery program served first grade pupils over the curtailment of services to other grades served by the regular CLEAR program. Another area of concern dealt with special education pupils and with the perceived slowness with which they were identified and assigned to special classes.

A cost-benefit analysis (Table 15) indicated that costs per pupil were greater in the CAI/CMS groups than in the regular groups. At the elementary level the difference in cost was $\$ 256.41$ per pupil. The cost per pupil at the middre scnool level was $\$ 220.0 y$ more fur the CAI/CMS group than for the regular group. Comparison of average NCE gains showed greater gains in the CAI/CMS groups than in the regular groups. The CAI/CMS group surpassed the regular group by 2.8 NCE's at the middle school level, and by 1.3 NCE's in grades $4-5$. The cost per pupil is also affected by the number of pupils served per teacher. Based on average daily membership, elementary CAI/CMS teachers served 54.7 pupils per teacher compared to 43.3 pupils per teacher in the regular group. At the middle school level, CAI/CMS teachers served 44.8 pupils per teacher, compared to 45.6 pupils per teacher in the regular group. One of the premises of utilizing computers in the program was the capability of serving more pupils per teacher. One further finding of the cost-benefit analysis was that there was slightly better pupil attendance in the regular groups than in the CAI/CMS groups, as judged by the percent of pupils meeting the program's attendance criterion.

The findings above indicate that the $1986-87$ CLEAR program did not attain the program performance objective in terms of NCE points. The overall average change (Table 4) was 5.9 NCE points or 0.907 NCE points per month. Grades making the most progress in terms of NCE points were grades 3, 4, and 7. Grades making the least progress in terms of NCE points were grades $1,8,5,2$, and 6. Comparısons were also made across grades in regard to treatment group (Table 10). Grade $6-8$ of both the CAI/CMS and the regular CLEAR did better than grades $4-5$ of both ireatment groups. Comparisons by grade level (Table 9) show the CAI/CMS group making a greater average positive change in NCE's (5.5) than the regular treatment group (4.5).
G. - n the overall findings for the program it is interesting to note how teachers rated their pupils progress as students exited the program. When teachers were asked their opinion about wheiher their pupils had progressed while in the CLEAR program, program teachers felt that $79.5 \%$ of their pupils had made much or some progress. Only $20.4 \%$ of their pupils were rated as having made little or no progress in CLEAR.

## Recommendations

It is recoumended that the CLEAR Program be continued during the 1987-88 school year, with special consideration given to the following:

1. During the 1986-87 school year, eighteen teachers were chosen to form focus groups, to identify effective educational practices. Practices identified by these groups should be applied to the program wherever possible.
2. Admınistrators and staff should play an important role in the resting program to assure that testing procedures are followed carefully and that interruptions are kept to a minimum. Program teachers should have joint responsibility with building test ccordinators to monitor testing conditions during the posttest.
3. Selection procedures, instructional methods, class size, and test content should be reviewed to determine why pupils at some grade levels are not showing desired growth.
4. More inservice should be provided fin r program personnel. Methods of teaching reading comprehension should be especially stressed in the inservice.
5. New ways of encouraging parent involvement need to be studied. Efforts such as having evening meetings, visiting homes, or rewards such as dor prizes might be some possible approaches. Ar inservice where teachers could "brainstorm" might be fruitful in generating creative solutions to this problem.
6. Most of the coordinating with classroom teachers was done in an informal manner. Schedules need to be constructed to assure regular blocks of time where teachers can sit down together and plan.
7. Temperature, space, noise levels, and facilities in general at some sites need improvement. Most problems mentioned come under the "working conditions" category and probably should be discussed with the building administrators.
8. The use of CAI/CMS should be continued at both the middle school and elementary levels.

CTB/Mc-Graw-Hill Staffwriters. Comprehensive Tests of Basic Skills. Monterey, California: CTb/McGraw-Hill, 1981.

Chamberlain, E. Cost-benefit analysis for 1986-87 ECIA Chapter land State DPPF Programs comparing groups receiving regular program instruction and groups receiving computer assisted instruction/comuter management system (CAI/CMS). Supplemental Cost-Benefit Study, Columbus Public Schools, 1987.

Cnamberlain, E. Process evaluation data from teacher interviews in CLEAR and SDK program units using computer assisted instruction/computer management system. Interim Evaluation Report, Columbus Public School, 1987.

Lore, R. T. Report of school visitation to regular CLEAR and SDR classrooms, 1486-87. Iaterim Evaluation Report, Columbus Public Schools, 1987.

Append1x


1986-87
Teacher Census Form
Social Security Number $\qquad$ $-$ $\qquad$ $-$ -_-_-...

Name
Program Code $\qquad$
Cost Center $\qquad$
Circle only the program yoد are in:

ECIA Chapter 1 Programs:
(1) ADK
(2) CLEAR-Elementary (1-5)
(3) CLEAR-Elementary-CAI (4-5)
(4) CLEAR-Middle School (6-8)
(5) CLEAR-Middle-CAI (6-8)

DPPF Programs:
(6) $\operatorname{SDR}(9-10)$
(7) SDR-CAI (9-10)
(8) HSCA

Other (Specify) $\qquad$
a Number of Years of Teaching Experience $\qquad$
bNumber of Years of Title I/Cnapter 1 Teaching Experience $\qquad$
$c_{I}$ am certified in reading as indicated by the subject area on my teaching certificate.
$\qquad$ Yes $\qquad$ No

Highest College Degree Received $\qquad$
Full-Time Employee $\qquad$ or
Part-Time Employee $\qquad$
aTotal all years of experience, including those which may have occurred outside of the City of Columbus. Please include present school year.
$b_{1}$. For every full year taught in Title I/Chapter 1 giva yourself 10 months experience. Please include the present school year.
2. For every summer term you taught in Title I give yourself two months experience.
3. Add in any miscellaneous experience, a part-year perhaps.
4. Add the totais for 1,2 , and 3 and divide by 10 . Place the resulting quotient in the blank for question $b$ above.
${ }^{\text {C }}$ Certification is defined as having one of the following:

1. reading specified on Bachelor degreє.
2. reading specialist certificate.
3. M.A. in reading as a subject.

mailing label<br>goes here

Name $\qquad$
Schoo 1
For the month of MAY, 1987
(A)

Number of Parents
(B)

Total
Number of Hours

1. Parents involved in the planning operation and/or evaluation of your unit
2. Group Meetings for Parents
3. Individual Parent Conferences
4. Parental Classroom Visits or Field Trips
5. Visits by you to Parent Homes
6. Totals
7. Estimated Unduplicated Count of Parents

DIRECTIONS: 1. Complete all information; fold o $\doteq \mathrm{r}$ so back is showing; staple; and place in school mail.
2. Place a parent in only one activity for any one meeting.
3. Total hours equals the number of parents times the number hours spent, e.g., a group meeting for 10 pareats which lasts 3 hours would result in 10 parents (Column A) and 30 tivurs (Column B); 15 parent conferences each for 30 minutes would result in 15 parents and 7.5 hours. Please round all figures in Column B to the nearest half hour. Enter half hours as. 5 ; no fractions please.
4. Item 7 - This is total parents seen not total in 6A. If you had 16 parent conferences but 10 conferences were with 1 parcnt the unduplicated count is 7 parents - you saw 7 parents but had 16 conferences. Do not count a parent more than once. The figure in Item 7A should not exceed the figure for Item 6A.

Please return by Friday, May 29, 1987.

IMPOKTANT
ANNUAL
UNDUPLICATED
COUNT

Enter on the line to the left the annual unduplicated count of the number of parents you have involved in any of the Activities i-5 below. COUN1 EACH PARENT ONLY ONCE FOR THE YEAR. If you have questions regasung this count, pl-ase call Sharon Bermel at 222-3011 or bring your question(s) to the end-of-the-year inservice meeting.

COMPLETE THE REST G $\vec{F}$ THIS REPORT FOR JUNE ONLY

|  | (A) | (B) |
| :---: | :---: | :---: |
| Number of | Total |  |
| Activities | Parents | Number of Hours |

1. Par nts involved in the planni.،g operation and/or evaluation of your unit
2. Group Meetings for Parents
3. Individual Parent Conferences
4. Parental Classroom Visit; or Field Trips
5. Visits by you to Parent Homes
6. Tctals
7. Estimated Unduplicated Count of Parents

## DIRECTIONS

- Complete all information; fold over so back is showing; staple; and place in school mail.

2. Place a parent in only one activity for any one meeting.
3. Total hours equals the number of parents times the number houra spent e.g., a group meeting for 10 parents which lasts 3 hours would result in 10 parents (Column A) and 30 hours (Column B); 15 paıent conferences each for 30 minutes would result in 15 parents and 7.5 hours. Please round all figures in Cclumn $B$ to the nearest half hour. Enter Lf houts as .5; no fractions please.
4. Item 7 - This is toial pa. its seen not total in 6A. If you had 16 parent conferences but 10 conferences were with 1 parent the unduplicated count is 7 parents - you sidw 7 parents but had 16 conferences. Do not count a parent more than once. The figure in Item 7A suould not exceed the figure for Item 6A.

CHAPTER 1 EVALUATION
PARENT INVOLVEMENI SURVEY

## SCHOOL YEAR ESTIMATE OF PARENTS

NON-CHAPTER 1 STUDENIS

Name $\qquad$
School $\qquad$

## Activitias <br> 1. Parents involved in the planning operation and/or evaluation of your unit (do not include

> (A)
> Number of Parents
(B)

Number of Parent Hours Parent Advisory Council members).
2. Group Meetings for Parents (do not include Parent Advisory Council meeting).
3. Individual Parent Conferences
4. Parental Class room Visits or Field Trips
5. Vasits by you to Parent Homes

Estimated Unduplicated Count of Parents
DIRECTIONS: Please complete all information; indicate a 0 if the number of parents or hours is actually zero-otherwise enter the number.

Eolumn A (Number of Parents) lines 1-5: Please place a parent in only cae activity for any one meeting.

Solumn B (Number of Parent Hours) lines 1-5: Indicate the sum of the hours each parent spent in an activity. For example, a group meeting with 10 parents which lasted 3 hours should result in a 10 on line $2 /$ Column A and a 30 on line $2 /$ Column $B$ (each parent met with the teacher 3 hours and there were 10 parents). Please round all figures in Column B to the nearest half hour. Enter half hours as. 5 ; no fractions please.

For the Estimated Unduplicated Count of Parents do not count a parent more than once (even if a parent is listed in more than one activity).

Having completed all the information on this survey; fold it so the back is visible; staple and place it in the school mail.

Thank you.

Inservice Tupic: $\qquad$
Presenter(s): $\qquad$
Date: $\qquad$ (e.g., 03/05/86)

Session: $\qquad$ a.m. and/or $\qquad$ p.m.

Circle only the program you are in:
ECIA Chapter l Programs:
(1) ADK
(2) CLEAR-Reading Recovery
(3) CLEAR-Elementary (i-5)
(4) CLEAR-Elementary-CAI
(5) CLEAR-Middle School (6-8)
(6) CLEAR-Middle School-CAI

DPPF Programs:
(7) SDR (9-10)
(8) SDR-CAI
(9) HSCA

Other (Specify) $\qquad$
$\qquad$
Circle the number that indicates the extent to which you agree with statements 1-4.

| Strongly |  |  |  | Strongly |
| :---: | :---: | :---: | :---: | :---: |
| Agree | Agree | Undecided | Disagre | Disagre |

1. I think this was a very worthwhile meeting.

5
4
3
2
1
2. The information presented in this meeting will assist me in my program.
3. There was time to ask questions pertaini'lg to the presentation.
4. Questions were answered adequately.

5
4
3
2
I
5. What was the most valuable part of this meeting? $\qquad$
$\qquad$
6. What was the least valuable part of this meeting? $\qquad$

7. What additional information or topics would you like to see covere in future meetings? $\qquad$

$\qquad$

ECIA CHAPTER 1
ORIENTATIUN INSERVICE EVALUATION FORM
September 2, 1986
Circle only the program you are in:

ECIA Chapter 1 Programs: DPPF Programs:
(1) ADK
(2) CLEAR-Elementary (1-5)
(3) CLEAR-Elementary-CAI (4-5)
(4) CLEAR-Middle School (6-8)
(5) $r^{\prime}$ EAR-Middle-CAI (6-8)
(6) $\operatorname{SDR}(3-10)$
(7) SDR-CAI (9-10)
(8) HSCA

Other (Specify) $\qquad$

Circle the number that indicates the extent to which you agree with statements $1-4$, in rating the overall day of inservice.

|  | Strongly Agree | Agree | Undecided | Disagree | $\begin{aligned} & \text { Strongly } \\ & \text { Disagree } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1. I think this was a very worthwhile inservice. | 5 | 4 | 3 | 2 | 1 |
| 2. The information presented in this inservice will assist me in my program. | 5 | 4 | 3 | 2 | 1 |
| 3. There was time to ask questions pertaining to the presentations. | 5 | 4 | 3 | 2 | 1 |
| 4. Questions were answered adequately. | 5 | 4 | 3 | 2 | 1 |

Superior Excellent Good Fair Poor
5. Large Group Session
a. Interest 5
b. Usefulness 5

4
4

| 3 | 2 | 1 |
| :--- | :--- | :--- |
| 3 | 2 | 1 |

6. Commercial Exhibils
a. Interest 5
b. Usefulness 5

| 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- |
| 4 | 3 | 2 | 1 |

7. Mini-session with main speaker
a. Interest

5
b. Usefulness 5
4
4

| 3 | 2 | 2 |
| :--- | :--- | :--- |
| 3 | 2 | 1 |


|  | Superior | Excellent | Good | Fair | Poor |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 8. Chapter 1 mini-session |  |  |  |  |  |
| a. Interest |  |  |  |  |  |
| b. Usefulness | 5 | 4 | 3 | 2 | 1 |

10. Vhat we the most valuable part of this meeting? $\qquad$
$\qquad$
11. What was the least valuable part of this meeting? $\qquad$

12. What additional information or topics would you like to see covered in future meetings?
$\qquad$
$\qquad$
$\qquad$

## Columbus Public Schools

ECIA Chapter 1 and DPPF-SDR Programs
EVALUATOR'S VISITATION LOG

$-$| CLEAR-Elem (1-5) |
| :--- |
| $-\infty$ |
| CLEAR-Mid (6-8) |
| $\operatorname{SDR} \quad(9-10)$ |

School $\qquad$ Date $\qquad$
Program Teacher $\qquad$ Evaluator $\qquad$
A. Questions 1-11 (Open-ended Comments)

1. Does your program have goals and objectives? Explain.
2. What diagnostic test(s) or methods do you use? $\qquad$
$\qquad$
$\qquad$
3. How have the results of the diagnostic test's) or mothods been helpful in adjusting your approach to instruction?
$\qquad$
$\qquad$
4. What instructional methods and materials have you found particularly effective in improving reading comprehension? $\qquad$ -
5. What do you do to promote the maximum use of academic lear-ing time? (Time on Task) $\qquad$
6. How do you let pupils know that you have high expectations for their learning and behavior?
$\qquad$
7. How do you give recognition and provide feedback to pupils? What seems to work best? $\qquad$
8. How do you monitor student progress? $\qquad$
$\square$
9. Did your pupils make as much progress in reading last year as you had hoped? If yes, why; if no, why not? $\qquad$
10. In what way has current research and/or inservice been helpful in your approach to instruction? $\qquad$
$\qquad$
11. What, if anything, do you regularly do to coordinate your program with the reading program the pupils receive from their classroom teacher?
$\qquad$
$\qquad$

Carcle the number that indicates the extent to which the program teacher agrees. B. Questions 12-23 (Racing Scale)

14. Parent Response to Your Efforts at Program Involvement

Very Good
Very Poor
$\begin{array}{llll}5 & 4 & 3 & 2\end{array}$
1
15. Environmental Temperature

5
4
3
2
1
16. Envirommental Noise Level
17. Selection Proc dures

Very Adequate
Inadequate
54
3
2
1
18. Scheduling

5
43
2
1
19. Testing Procedures

5
4
3
2

5
4
3
2

5
$\begin{array}{lll}4 & 3 & 2\end{array}$
1
21. Facilities

5
4
3
2
1
23. Materials

5
4
3
2
1
C. Question 24 (Yes No)
24. Do you have any Pupil Census Forms ur Aad Forms you would like to give me today?

# Columbus Public Schools <br> ECIA Chapter 1 and DPPF-SDR Programs <br> CAI/CMS EVALUATOR'S VISI'TATION LOG 


3. Are there any problems getting printed materials that go with the program? $\qquad$
$\qquad$
4. Does your program have goals and objectives? Explain. $\qquad$
5. How impurtant is it to coordanate instruction with the classroom teacher?

Very Important
$5 \quad 4$

3
2
Unimportant
1
6. What, if anything, do you regularly do to coordinate your reading program with the reading program the pupils receive from their classroom teacher? $\qquad$
$\qquad$
7. In general, how would you rate the degree of communication between you and the classroom teacher?

Very Good
$5 \quad 4$

3
2

Very Poor
1
8. In general how would you rate parent response to your efforts at parent involvement?

Very Good
5
4
3
$\underset{1}{\text { Very Poor }}$
2
9. How would you rate the following?

```
Selection Process
Scheduling
Testing Procedures
Evaluation Feedback
Facilities
Space
Materials
Computer Effectiveness
            1. For Diagnosis
            2. For Instruction
        Environmental Temperature
        Environmental Noise Level
```

Very Adequate

$5 \quad 4$
$5 \quad 4$
$5 \quad 4$
$5 \quad 4$
$5 \quad 4$
5

|  | 5 |
| :--- | :--- |
| 5 | 4 |
| Very | Good |
| 5 | 4 |
|  | 5 |
|  | 4 |
|  | 4 |

10. What do you do to promote the maximum use of academic learning time (Time on Task)?
$\qquad$

11. How do you le'. pupils know that you have high expectations for their learning and behavior? $\qquad$ ( - $\qquad$
 - - - - - - - - - - - - -
12. How do you give recogniticn and provide feedback to pupils? $\qquad$

13. What instructional methods and materials have you found particularly effective in improving reading comprehension? $\qquad$
$\qquad$
14. Did your pupils make as much progress in reading last year as you had hoped? If yes, why; if no, why not?
$\qquad$
$\qquad$
$\qquad$
15. What diagnostic test(s) or methods do you use? $\qquad$
16. How have diagnostic test (s) or methods been helpful in adjusting your approach to instruction?
17. "uw do you monitor student progress? $\qquad$
$\square$
18. In what way has current research and/or inservice been helpful in your approach to instruction?
$\qquad$
19. Do you have any Pupil Census Forms or Add Forms you would like to give me today?

Observer School $\qquad$ Date $\qquad$
Time of Day $\qquad$ Day of Week $\qquad$ Number of Students $\qquad$
Program $\qquad$ Grade $\qquad$ Test $\qquad$

## Testing Environment

Use the following key to rate the conditions of the testing environment.

| VG | $=$ Very Good | $P=$ Poor |
| ---: | :--- | ---: | :--- |
| $G$ | $=$ Good | $V P=$ Very Poor |
| $A$ | $=$ Acceptable |  |



## Test Directions

How were the directions given? Read by Proctor $\qquad$ Written on the Board $\qquad$ Other $\qquad$

1. Audibleness of the instructions

VG G
G A
$P \quad V P$
2. Extent to which proccor provided for students- questions

VG $\quad \mathrm{G} \quad \mathrm{A} \quad \mathrm{P} \quad$ VP
3. The clarity of proctor(s) answers to students- questions

TG $\quad$ G $\quad$ A $\quad$ P $\quad$ VP
4. Clarity of directions for marking answer VG G A P VP
5. Extent to which proctor followed directions in the examiner's manual

VG $\quad$ G $\quad A \quad P \quad$ VP
6. Attitude of the proctor toward the testing process

VG $\quad$ G $\quad A \quad P \quad$ VP
7. Accuracy of the procedure for timing the test
VG $\quad$ G $\quad A \quad P \quad$ VP

During the testing session the fullowing materials were available:

1. A test booklet rur each pupil with answer sheet where applicable
2. A copy of the test booklet fur demonstration purposes
3. Teacher's Directions
4. A pancil with eraser for each pupil, plus extras to cover breakage
5. A stopwatch, or a watch or clock with a second hand, to be used for timing the tests
$\qquad$
Yes $\qquad$ No NA $\qquad$
Yes $\qquad$ No NA $\qquad$
$\qquad$

Yes $\qquad$ No $\qquad$ NA
6. A "Testing--Do Not Disturb" sign for the door
7. A paper or cardboard place marker, approximately $2^{\prime \prime} \times 4^{\prime \prime}$ for each pupil, plus extras: (required for kindergarten, suggested for grades 1-3)
Yes $\qquad$ No_NA_
$\qquad$

## During the Tests:

1. Proctor circulated continuously around the room monitorir.g students

Yes $\qquad$ No $\qquad$ NA
2. Proctor limiced assistance to mechanical aspects of marking answers, clarifying directions, and finding right place on answer sheet

Yes $\qquad$ No $\qquad$ NA
3. Were there interruptions or disturbances during tike testing period. If yes, please specify (what and now many times): $\qquad$ Yes $\qquad$ No $\qquad$ NA
$\qquad$
$\qquad$


[^0]:    

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    from the original documr $t$.
    

