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ABSTRACT

This report presents the results of the evaluation of the 1988-89 Comprehensive Instructional Management Systems-Communication Arts (CIMS-CA) program, which focused on developing a holistic communication arts curriculum and staff development program reflecting the most recent research for students in kindergarten through eighth grade; corresponding assessment instruments; and a computer management system. The report notes that over 50,000 students participated in the program during 1988-89 and that the curriculum and test component integrated four content areas in communication arts--reading, writing, listening, and speaking. The report also notes that participation in the drama component was about 7,000 students. In particular, the report documents the level and quality of program implementation and assesses the program's impact on student achievement in reading and writing. The report is in five chapters: (1) Introduction; (2) Program Components (which discusses project components and implementation); (3) Reactions to, and Perceptions of, the Instructional Component; (4) Student Outcomes; and (5) Conclusions and Recommendations. Twenty-two tables of data are included. Eight appendixes contain tables with analyses of CIMS-CA writing samples. (SR)

OREA Report

EVALUATION SECTION REPORT

Comprehensive Instructional Management Systems - Communication Arts (CIMS-CA) 1988-89

Office of Research, Evaluation, and Assessment
Robert Tobias, Director

EVALUATION SECTION
John Schoener, Chief Administrator
June 1990

EVALUATION SECTION REPORT

Comprehensive Instructional Management Systems - Communication Arts (CIMS-CA) 1988-89

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EVALUATION SUMMARY

The goals of the New York City Board of Education's Comprehensive Instructional Management Systems-Communication Arts (CIMS-CA) project are to develop a holistic communication arts curriculum which reflects the most recent research for kindergarten through eighth grade, a staff development program, a corresponding test component, and a computer management system. Begun in 1980, the project has completed its ninth year. The curriculum and test component, developed by teachers, integrates four content areas in communication arts--reading, writing, listening, and speaking. The drama component, added during the 1985-86 school year, continues to be an important part of CIMS-CA learning activities. The computer management system is being expanded to additional districts through the use of personal computers (PCs), with C.S.D.s 11 and 30 currently participating in this component.

The total operating budget for the 1988-89 school year was $1.4 million, which was about the same as the previous year. Funding came from the New York City Board of Education and participating community school districts.

Participation in CIMS-CA remained at about last year's level. Community School District 11 entered its second year of mandating project participation for all language arts classes in kindergarten through grade eight. Since 1985-86, C.S.D. 8 had mandated CIMS-CA for all its seventh and eighth grade classes. While there is no direct mandate in C.S.D.s 3, 9, 15, 17, and 30, the CIMS-CA curriculum is used extensively.

CIMS-CA program objectives for the 1988-89 school year were to:

- introduce the computer management PC system to C.S.D. 30, and expand its use in C.S.D. 11;
- continue expanding the computer management system by refining PC software;
- continue efforts to involve school administrators and parents in project implementation;
- continue to provide staff development training for teachers and administrators in elementary and junior high schools in C.S.D.s 3, 8, 9, 11, 15, 17, and 30;
- plan for growth of the CIMS-CA project in ways which accommodate the original goals of the project.

The New York City Board or Education's Office of Research, Evaluation, and Assessment/Instructional Support Evaluation Unit (O.E.R.A./I.S.E.U.) conducted an evaluation of the program using both quantitative and qualitative methods. Highlights of the major findings were as follows:

- Teachers continued to find staff development training very helpful. They most appreciated the after-school workshops, demonstration lessons, individual conferences, and classroom observations. Teachers wanted more time with staff development managers. This was especially true in C.S.D. 11, where most training was conducted by district teacher trainers. Although staff development managers expressed concerns about the efficacy of only having indirect contact with teachers, there is not sufficient evidence at this time to make a definitive statement about the C.S.D. 11 training model.

- There was increased involvement of administrators in the training workshops, and they generally supported the project in many schools. CIMS-CA staff and teachers agree that even greater administrator involvement would further improve project implementation.

- The computer management system staff made substantial gains toward the project goal of having all CIMS-CA C.S.D.s access the assessment component through use of PCs. C.S.D.s 11 and 30 used PCs with newly developed software in 1938-89, with plans for continued use next year.

- In its fourth year, the drama component was viewed as successful by CIMS-CA staff and teachers. The drama component served over 7,000 students, about the same number as last year. Most C.S.D.s were able to provide adequate transportation to the theater this year.

- Teachers in mandated C.S.D. 11 were as enthusiastic about the CIMS-CA program as teachers in other mandated and nonmandated C.S.D.s. Analysis of data on satisfaction from C.S.D. 11 did not vary significantly from all other C.S.D.s. C.S.D. 11 is the only participating C.S.D. which has mandated CIMS-CA for all grades, kindergarten through eight.

- In general, all grade four through eight students achieved overall statistically significant mean gains in reading when 1988 reading scale scores were compared to 1989 scale scores. These gains represented moderate to large effect sizes and were consistently larger for grades four and five than for grades six through eight.

- For grade three, there was a consistent drop in N.C.E. scores for all C.S.D.s. However, the overall mean loss of 4.8 N.C.E. points only represented a small effect size. It should be noted that only N.C.E. reading scores were available for third grade comparison because of the need to equate scores obtained from the 1989 D.R.P. reading test and for the 1988 M.A.T. reading test. Note also that a new

equating table was used this year since a new norm was established for the D.R.P. test.

- There was an overall statistically significant increase in CIMS-CA students' writing scores of .8 points from the fall of 1988 to the spring of 1989. This mean increase represented a moderate effect size. Grades kindergarten through two showed an educationally meaningful mean gain of 1.4 points. Grades three through six showed a mean gain of .7 points representing a moderate effect size, and grades seven to eight showed a mean gain representing a low effect size.

Based on these findings and other information presented in this report, the following specific recommendations are made:

- Continue to emphasize after-school staff development workshops, with ongoing efforts to include all teachers who wish to learn how to use the project components, and more experienced teachers wishing to sharpen their skills.

- Investigate the efficacy of the C.S.D. 11 training model, where CIMS-CA staff train district teacher trainers to conduct staff development workshops.

- Continue to expand usage of the computer management system so that all C.S.D.s will have access to the assessment component at some future time.

- Consider reinstating work on the ninth and tenth grade curriculum and assessment component.

- Continue to involve more school administrators so that project implementation can be further enhanced.

- Continue to implement the highly successful drama component.

- Continue to involve teachers directly in curriculum and assessment design, and to base its development on the latest research and knowledge.

- Further investigate the effect of large-scale mandating of the project in entire C.S.D.s and its implications for training, distributing materials, and monitoring appropriate use.

- Continue vigilance in keeping the integrity of the original goals and objectives of the project, in face of the large-scale expansion of the past several years.

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I. INTRODUCTION

PROGRAM BACKGROUND

The Comprehensive Instructional Management Systems-Communication Arts (CIMS-CA)* project began its ninth year in 1988-89. The primary goals are to develop: a holistic communication arts curriculum and staff development program that reflects the most recent research for students in kindergarten through eighth grade, corresponding assessment instruments, and a computer management system. The instructional curriculum a assessment instruments integrate four content areas: reading, writing, listening, and speaking. The computer management system is designed to help organize and coordinate materials and assessment outcomes.

For 1988-89, the CIMS-CA project budget remained about the same size as for 1987-88,--approximately $1.4 million. The project's budget reflects grants from the New York City Board of

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*This project, begun in 1980, was formerly called the Instructional Management Project in Communication Arts. For more information about project implementation in previous years, see: New York City Public Schools' "An Evaluation on the Instructional Management Project in Communication Arts," MEDARP, 1981; "An Evaluation of the Instructional Management Project-Communication Arts," MEDARP, 1982; "An Evaluation of the Instructional Management Project - Communication Arts, 1982-83," MEDARP, 1983; "Comprehensive Instructional Management Project - Communication Arts, 1983-84," Instructional Support Evaluation Unit, 1984; "Comprehensive Instructional Management Project - Communication Arts, 1984-85," Instructional Support Evaluation Unit, 1985; "Comprehensive Instructional Management System (CIMS)-Communication Arts, 1985-86," Instructional Support Evaluation Unit, 1987; "Comprehensive Instructional Management System (CIMS)-Communication Arts, 1986-87," Instructional Support Evaluation Unit, 1988; and "Comprehensive Instructional Management System (CIMS)-Communication Arts, 1987-88, Instructional Support Evaluation Unit, 1989.

Education, as well as funding from participating community school districts.

During the past eight years of the CIMS-CA project, curriculum and assessment measures, as well as a computer management system, were developed for grades kindergarten through eight. Additionally, a very successful drama component, serving over 7,000 students, was implemented for grades four through eight. Work on a ninth and tenth grade curriculum, begun in 1986-87, has been temporarily halted due to staffing and funding priorities.

Overall project goals included: making the project available to as many teachers and students as possible, and maintaining the integrity of project goals at a time when usage has increased dramatically over the past several years. Curricula goals for 1988-89 were to maintain the high level of curricula implementation, and continue and expand staff development for teachers and administrators. No new curricula materials were developed or implemented for this year. Assessment goals for the 1988-89 school year included maintaining the computer management system in C.S.D. 15, expanding the system to C.S.D.s 11 and 30, and providing workshops for teachers and administrators in using the computer management system.

Since its inception, the project has emphasized the use of staff-developed materials for curriculum and assessment. Direct involvement of teachers in the development, implementation, and assessment processes have made staff development a project priority. Use of the CIMS-CA curricula has, from the start, been

limited to teachers who have participated in staff-development workshops. As participation in the project has increased over the years, project staff have continually faced a greater demand for staff-development training.

Additionally, continuing efforts to further involve administrators and parents once again received priority attention in all districts this year. Making substantial progress in some districts, project staff have been encouraged to pursue efforts to involve all professional staff and parents so that learning can be more efficient and effective.

POPULATION SERVED

For 1988-89, the CIMS-CA project continued to serve kindergarten to grade eight students in C.S.D. 11 as mandated by the district office in 1987. For the third year, selected junior high schools in C.S.D. 8 were mandated to use the project curriculum. A high level of participation continued in C.S.D.s 3, 9, 17, 15, and 30. C.S.D.s with informal links to the program included 13, 18, 20, and 24, as well as several nonpublic schools.

In 1988-89, over 50,000 students participated in the project, about the same number as last year. Students were served by approximately 1,100 teachers, also similar to 1987-88. Participation in the drama component remained at about 7,000 this year.

PROGRAM OBJECTIVES

CIMS-CA program objectives for the 1988-89 school year were to:

- introduce and expand the computer management system to C.S.D.s 11 and 30 with the use of PCs and newly developed software;

- continue decentralizing the computer management system by refining PC software;

- continue efforts to involve school administrators and parents in project implementation;

- continue to provide staff development training for teachers and administrators in elementary and junior high schools in C.S.D.s 3, 8, 9, 11, 15, 17, and 30;

- plan for growth of the CIMS-CA project while maintaining the integrity of the project's original goals.

PROGRAM EVALUATION

The purpose of the 1988-89 evaluation by the Office of Research, Evaluation, and Assessment/Instructional Support Evaluation Unit (O.R.E.A./I.S.E.U.) was to document the level and quality of program implementation and to assess the program's impact on student achievement in reading and writing.

The evaluation focused on the program's activities in kindergarten through eighth grade in C.S.D.s 3, 8, 9, 11, 15, 17, and 30. It noted the increased expansion of the computer management system. Particular attention was paid to the mandated use of the curriculum in C.S.D. 11. The following methods were used to evaluate the program:

- Interviews were conducted with project staff members, including the project director, research manager, and staff development managers. The interviews focused on describing and/or assessing each staff member's activities; project goals and administrative staff's perceptions of the achievement of these goals; program operation in each district; staff development efforts; assistance offered to teachers and administrators; and curriculum and test development and test use efforts. The interviews also focused on the identification of the program's strengths and weaknesses and recommendations for the following year.

- A teacher users' survey was sent to teachers who had used the CIMS-CA curriculum, and a total of 148 teachers responded. A separate questionnaire was sent to teachers in C.S.D. 11 where the program was mandated for the second year and 42 teachers responded. The teacher users' survey focused on teachers' experience with the CIMS-CA curriculum; their perceptions of its usefulness; plans for using the curriculum in the future; ratings of staff development activities and of the drama component; and identification of the program's strengths and weaknesses.

- Students' scores on standardized reading tests and holistically scored writing samples were analyzed.

SCOPE OF THE REPORT

This report presents the results of the evaluation of the 1988-89 CIMS-CA program in six chapters. Project components and implementation are discussed in Chapter II. Staff reactions and perceptions of the instructional component are presented in Chapter III. In Chapter IV, student outcome data are reviewed, and conclusions and recommendations are offered in Chapter V.

II. PROGRAM COMPONENTS

PROGRAM ADMINISTRATION

During the 1988-89 school year, CIMS-CA operated with eleven staff members, a decrease of three from last year. The project director, research manager, and nine staff development managers comprised the project staff. The CIMS-CA project director supervised the project and disseminated information about its activities. The research manager supervised the computer management system and arranged for staff development sessions focusing on its use. The staff development manager who had worked on the ninth and tenth grade curriculum during the previous year did not return to the project, causing a temporary delay of development and implementation of the ninth and tenth grade curriculum.

The role of the staff development manager was to recruit newly interested teachers and administrators, encourage parent participation, conduct staff-development sessions both during the school day and after school, provide demonstration lessons, and observe teacher lessons and suggest and help with resource development.

CURRICULUM

The teacher-developed CIMS-CA curriculum for students in kindergarten through grade eight integrates all four content areas in communication arts--reading, writing, listening, and speaking. The curriculum provides concise educational objectives developed around thematic material that can be easily integrated

with other subjects. In addition, it includes concrete teaching strategies. During the 1985-86 school year, a drama component emphasizing listening, writing, and speaking was added to the fourth through eighth grade curricula. From 1986-87 through 1988-89, the drama component was expanded with the help of a special grant from the New York City Board of Education. The number of student participants increased from 3,000 in the first year to its present 7,000 for 1988-89.

Over the past several years the curriculum and assessment measures for grades kindergarten through six have been revised by teacher developers with the aid of staff development managers, the research manager, and professional consultants. Curricula and assessment measures for grades seven and eight were added from 1985 to 1987, and a high school curriculum component was piloted in 1988.

For 1988-89, the main focus was the expansion of the computer management system, the key aspect of the assessment component. No new curriculum development or revision was planned for this year.

COMPUTER MANAGEMENT SYSTEM

The computer management system provides teachers with prompt test results, facilitates instructional planning, and gives administrators with useful information for monitoring communication arts instruction for long-range educational planning. The CIMS-CA computer management system was begun in 1984-85, with further development and expansion taking place during succeeding years.

For each placement instrument and each end-of-theme test on every grade level, class matrices and individual student reports in reading, listening, speaking, and writing can be generated. In addition, parent reports, archive reports, and end-of-year reports can be obtained. These reports provide data on students' mastery of outcomes, teacher ratings on listening/speaking performance tasks, and writing sample ratings.

The system is presently operating using two modes: 1) a mainframe operations system using the central Board of Education computer, with terminals located in the C.S.D. 15 office; and 2) personal computer systems (PCs) located at C.S.D. 11 schools and the district office.

The mainframe system was the original mode, begun in 1984-85. A systems analyst, provided by the New York City Board of Education, operates the computer management system from the C.S.D. 15 office. This operations system is used for analyzing C.S.D. 15 data, and for overall CIMS-CA data. Until 1987-88, when the PC system (PC-CIMS-CA) was operationalized, end-of-theme test data was only available to schools in C.S.D. 15.

Beginning in the 1986-87 school year, plans were made to decentralize the computer management system. Software specialists provided by the Board of Education began writing programs for PCs, so that individual schools could enter and analyze their own end-of-theme, placement tests and, other relevant data. By 1987-88, a PC system was in operation in C.S.D. 11 for use with seventh and eighth grade test scores. This year, 1988-89, software for the elementary level in C.S.D. 11 was scheduled for

use. Project research staff offered workshops on data management in C.S.D.s 3, 11, 15, and 30. A major objective of the CIMS-CA project is to make the computer management system, using PCs (PC-CIMS), available to all participating CIMS-CA districts upon request.

In 1988-89, the PC-CIMS-CA project was largely successful in its second year of operation for C.S.D. 11 junior high school data. The software worked well, and school staff had been trained to a sufficient level of competence to use the system. There were some problems in generating and disseminating outcomes in a timely manner, but improvements were seen toward the end of the school year.

Software for the elementary grades was somewhat problematic, resulting in a delay in its use in C.S.D. 11 this year. Efforts continued throughout the year to solve software glitches. Complete use of the data management system for elementary levels is planned for 1989-90 in C.S.D. 11, as well as for C.S.D. 30. The project has planned for additional implementation of the PC-CIMS-CA system, at districts' requests.

STAFF DEVELOPMENT ACTIVITIES

During the 1988-89 school year, CIMS-CA staff development activities included in-school and after-school workshops, site visits, demonstration lessons, observations, coordination of assessment component, organizing special events including the drama component, and encouraging further participation by administrators and parents. Particular attention was focused on receiving feedback on the sixth grade curriculum, revised in

1987-88. Also of primary interest was extending the use of CIMS-CA and CIMS-CA strategies in English as a Second Language, and Special Education classes. Supporting the assessment component in C.S.D.s 11 and 15 and helping prepare for its use next year in C.S.D. 30 were also of major concern for CIMS-CA staff development personnel.

Staff Development Training in C.S.D. 11

In 1987-88, all language arts teachers in C.S.D. 11 were mandated to use the CIMS-CA curriculum, although not exclusively. CIMS-CA project staff was responsible for training teachers and administrators to use the curriculum and assessment materials effectively.

The two project staff development managers assigned to C.S.D. 11--one for junior high and one for elementary grades--began a training program this year for school-based supervisors. These school-based trainers were then expected to provide workshops for teachers and administrators, based on the information gained from CIMS-CA project staff. This system of CIMS-CA staff developers training school-based supervisors to hold workshops for teachers was new for 1988-89, and unique to C.S.D. 11.

Reaction to this system by the CIMS-CA staff was mixed. While the overall assessment of the system was positive, there was concern that new CIMS-CA teachers needed more direct training by CIMS-CA project staff. In 1987-88, there were six CIMS-CA staff developers working in C.S.D. 11. This year there were two, supplemented by 32 school-based trainers. Further, most teachers

attended workshops during the school day, when interruptions and scheduling complications made training more difficult. While project staff agreed that their sessions with school-based trainers went well, they were not able to monitor all the workshops for new CIMS-CA teachers. This represented the first time in the history of the project where the quality of training was out of the direct control of CIMS-CA project staff.

Staff Development Activities in C.S.D.s 3, 8, 9, 15, 17, and 30

Staff development activities in these districts continued to focus on workshops, demonstration lessons, observations, coordination of CIMS-CA related activities, and resource provision. Ongoing efforts by staff developers to get more administrators and parents involved persisted, with some progress reported in all C.S.D.s. An increasing number of assistant principals and teacher-trainer supervisors attended after-school workshops for new CIMS-CA teachers. Additionally, special in-school meetings and workshops were held specifically for administrators in several districts. In most schools, parents became involved in the drama component, and in many districts, parents provided ongoing support for the project. Increased involvement by school administrators and parents is still viewed as an important objective by staff developers.

Focused attention on cooperative learning within classrooms became an important objective of CIMS-CA staff development managers this year. Teachers encouraged children to work in small groups while carrying out assignments related to the curriculum. Increased efforts to make the curriculum more

accessible to special education, English as a Second Language, and bilingual classes often went hand in hand with the emphasis on cooperative learning. With these students especially, the opportunity to read to each other, retell what they hear, and help each other with reading comprehension assignments enhanced the learning process.

In C.S.D.s 8 and 9, all seventh and eighth grade language arts teachers were mandated by their districts to use CIMS-CA, but not exclusively. Actual usage in these schools was uneven, with some teachers using mostly CIMS-CA supplemented by basal readers, and others not using it at all. In all cases where school administrators strongly supported the program, usage increased. With only one CIMS-CA staff development manager for junior high schools in each district, monitoring curriculum use became the task of the school administrators. This, coupled with district budget cuts reducing the number of workshops and materials, frustrated staff developers in their efforts to assure a high standard of CIMS-CA usage. All CIMS-CA staff developers suggested that more project staff be hired. Some thought that teachers should be selectively mandated to help reduce possible misuse of the curriculum, which can result from inadequate training and support.

DRAMA COMPONENT OVERVIEW

In the fourth year of the drama component, approximately 7,000 children participated, about the same number as last year. Teachers from grades four through eight were invited to participate. As with prior years, drama component activities

took place in conjunction with the Theater for a New Audience and with the Equity Group, whose services were contracted through the Board of Education.

Goals for the drama component for 1988-89 remained the same as last year:

- to introduce the world of William Shakespeare;
- to increase students' understanding and appreciation of the theater;
- to provide children with an opportunity to view a professionally produced play;
- to encourage creative expression; and
- to allow students to perform for an audience.

Macbeth was the play chosen for this year's drama project. The drama component was divided into three phases, which included preparation, a trip to a live performance, and schoolwide performances. In previous years there had been an annual festival in Damrosch Park in Manhattan, but this was impossible this year because of site construction.

The planning phase took place during a Christmas break workshop. Twelve teachers met to prepare grade appropriate lessons to be used with an already prepared abridged edition of the play, Macbeth. All teachers participating in the drama component were to receive one copy of the abridged play and accompanying lessons prepared during the workshop. Because listening, speaking, and appreciation of the play were the educational goals for this part of the CIMS-CA program, it was once again emphasized to teachers that students were not to read

the play. Although there had been some confusion about these goals during the initial years of the component, there seemed to be a general understanding and acceptance of them for the 1988-89 school year.

The planning stage was continued in the bi-monthly and monthly workshops for CIMS-CA teachers, where teaching strategies were developed and refined. In this way, teachers became involved in planning for their individual classrooms and the specific needs of their students.

Artists from the Theater for a New Audience came to each school to conduct workshops for teachers. They visited classrooms and stimulated student appreciation for the play. As they had last year, staff developers, curriculum developers and artists prepared teachers for the project by preparing lessons about Shakespeare's use of language; preparing lessons about the historical background of the play; indicating how prepared lessons could be accommodated to individual class needs; and designing and acquainting teachers with games geared for teaching students how plays are produced.

The second phase of the drama component was the trip to the theater to see Macbeth. For the most part, this phase of the project went very well. There seemed to be a good deal of improvement over last year, although some districts still experienced difficulty coordinating bus transportation for the students. Project staff, teachers, administrators, and parents helped with organizational tasks, and the vast majority of students did get to see the play.

The third phase was the classroom and schoolwide performances of various aspects of Macbeth. Artists from the Theater for a New Audience and the Equity Group returned to the schools, and worked with teachers in preparation of performances. In many schools, parents helped with preparations and performances. Most chool administrators accommodated the needs of drama component participants enthusiastically and efficiently.

The elimination of the trip to Damrosch Park took some strain off districts' resources to provide transportation, and focused efforts to transport children to the theater performance were largely successful.

III. REACTIONS TO AND PERCEPTIONS OF THE INSTRUCTIONAL COMPONENT

STAFF PERCEPTIONS OF CIMS-CA'S ADAPTABILITY AND EFFECTIVENESS

Toward the end of the 1988-89 school year, teachers participating in CIMS-CA workshops were given a questionnaire on the curriculum's effectiveness and its adaptability to students' individual needs. Teachers were asked if the curriculum promoted the integration of listening, speaking, reading, and writing skills, which is the major goal of the project. In addition, teachers were asked to rate the curriculum's appropriateness to students' interests; its adaptability to students' skill levels; and the usefulness of project developed resource books. Table 1 illustrates the mean ratings in these four areas for teachers from all CIMS-CA districts, except C.S.D. 11. Teachers' responses from C.S.D. 11 were analyzed separately because they had been trained by school-based supervisors, and not directly by CIMS-CA project staff like other CIMS-CA C.S.D.s.

Although all four mean ratings (see Table 1) for usefulness and appropriateness of the CIMS-CA curriculum were quite favorable, teachers gave the highest rating to the curriculum's integration of listening, speaking, reading, and writing skills. Elementary school teachers tended to view the curriculum as more integrated than junior high school teachers did, but the difference was only slight, and not significant. Similarly, for the three remaining variables--appropriateness of curriculum to interests of students, adaptability of curriculum to children

TABLE 1

Teachers' Perceptions[a] of Usefulness and Appropriateness of the CIMS-CA Curriculum for C.S.D.s 3, 8, 9, 15, 17, and 30.

(N=153)

Variable	Mean	S.D.
1. Curriculum promotes integrated use of listening, speaking, reading, and writing.	1.2	0.5
2. Appropriateness of curriculum to interests of students.	1.6	0.6
3. Adaptability of curriculum for children with different skills levels.	1.7	0.7
4. [b]Usefulness of resource books in implementing the curriculum.	1.7	1.1

[a]All questions were rated using a four-point scale with 1=highest rating and 4=lowest rating.

[b]Resource books used in all grades except kindergarten.

- Teachers gave the highest rating to curriculum's integration of listening, speaking, reading, and writing skills.

with different skills levels, and usefulness of resource books in implementing the curriculum--there was no significant difference between elementary and junior high school teacher ratings.

REACTIONS TO STAFF DEVELOPMENT ACTIVITIES

All CIMS-CA teachers taking part in after-school workshops, including those in C.S.D. 11, were asked to rate the value of various CIMS-CA activities. Table 2 illustrates the outcome.

For teachers in C.S.D. 11, demonstration lessons, individual conferences, and classroom observations were found to be the most valuable CIMS-CA activities. Teachers in all other C.S.D.s thought that after-school workshops, Shakespeare workshops, and demonstration lessons were of most value. Teachers in C.S.D. 11 rated CIMS-CA activities slightly more favorably than those in other C.S.D.s, but without statistical significance. No discernable pattern emerged when responses were analyzed by grade.

CURRENT AND FUTURE USE OF CURRICULUM

Teachers from all C.S.D.s offered the following information:

- Use of curriculum. All C.S.D.s except 11: 70 percent used CIMS-CA curriculum as a supplement, 25 percent used it as primary curriculum and 4 percent used it as the only curriculum; C.S.D. 11: 72 percent used it as a supplement, 21 percent as the primary curriculum, and 6 percent as the only curriculum.
- Reported problems. All C.S.D.s except 11: 80 percent said there were no major problems; C.S.D. 11: 63 percent said there were no major problems.

TABLE 2

Teachers Ratings[a] of Value of CIMS-CA Activities

Variable	District 11		Other CIMS-CA C.S.D.	
	Mean (N=47)	S.D.	Mean (N=153)	S.D.
1. After school, monthly or bimonthly staff development workshops.	2.0	1.1	1.4	0.7
2. Shakespeare workshops.	2.3	1.5	1.8	1.0
3. Classroom observation.	1.7	0.9	2.1	0.9
4. Demonstration lessons.	1.3	0.7	1.8	1.0
5. Faculty conferences.	2.1	1.0	3.2	0.1
6. Grade conferences.	2.3	1.2	3.1	1.0
7. Individual conferences.	1.5	0.8	2.0	1.1
8. Overall mean.	1.9		2.2	

[a]All questions were rated using a four-point scale with 1=highest rating and 4=lowest rating.

- For teachers in C.S.D. 11, demonstration lessons, individual conferences, and classroom observations were found to be the most valuable CIMS-CA activities.
- For teachers in all other CIMS-CA C.S.D.s, after-school workshops, Shakespeare workshops, and demonstration lessons were viewed as most valuable.
- Teachers in C.S.D. 11 rated these CIMS-CA activities slightly more favorably than those in other C.S.D.s.

- Future use. All C.S.D.s except 11: 91 percent said they would like to use it next year; C.S.D. 11: information was not available.
- Assistance. All C.S.D.s except 11: 89 percent said they had sufficient assistance in use of curriculum; C.S.D. 11: 95 percent stated they had sufficient assistance.
- Helpfulness of training. All C.S.D.s except 11: 95 percent stated that CIMS-CA training was either very helpful or moderately helpful; C.S.D. 11: 96 percent said the training was either very helpful or moderately helpful.

PERCEPTIONS OF THE PROGRAM'S MAJOR STRENGTHS AND WEAKNESSES

The following perceptions of program strengths and weaknesses were inferred from responses to open-ended questions on survey forms. These responses do not necessarily represent the opinions of the majority, since all respondents did not complete this section of the surveys. They are included because they offer valuable insights regarding program strengths and weaknesses that would be lost if only quantitative data were used. As with the quantitative data presented above, C.S.D. 11 responses will be analyzed separately.

Perceptions of Strengths of Teachers from C.S.D.s 3, 8, 9, 15, 17, and 30

Teachers thought the major strength of the curriculum was the integration of reading and language arts with writing (N=22). Additionally, they cited the large variety of activities included in the development of lessons (N=13). The interest-provoking

thematic organization of the curriculum materials (N=11) and the use of authentic literature (N=5) were also mentioned as important strengths.

Teachers appreciated the generous distribution of materials, texts, and books for classroom use (N=11). Clear lesson plans and lesson manuals suitable for modification (N=26) were noted as strengths. Teachers enjoyed sharing their ideas with other teachers in workshops (N=18) and were pleased with the degree of availability of staff developers.

Teachers also thought the program was flexible enough to adjust activities to student needs (N=7), and that students learned a great deal from the activities (N=17). Most importantly, teachers seemed to think the program had succeeded in stimulating students to read and write about literature, and to participate in class activities (N=15).

Perceptions of Strengths by CIMS-CA Program Staff

For the past several years, staff development managers have expressed extremely positive attitudes toward the program. The 1988-89 school year was no exception. As in previous years, they placed a high value on training workshops, classroom visits, and the exchange of ideas among teachers and administrators. Working with new teachers was seen as an additional way of helping create a positive, successful learning atmosphere in the schools. The teacher-developed curriculum; lessons based on the latest research; and increased use of the curriculum by English as a Second Language, special education, and bi-lingual teachers, were viewed as indicators of a successful and effective program.

Perceptions of Weaknesses by Teachers from C.S.D.s 3, 8, 9, 15, 17, and 30

The two most frequently cited weaknesses were that the curriculum materials were not suited for slow learners (N=10), and that activities were too long (N=5). Other than these, there was little consensus on weaknesses.

Perceptions of Weaknesses by CIMS-CA Project Staff

The three weaknesses named by CIMS-CA staff development managers were: 1) the ratio between project staff and teachers was too high (ie. more staff-development managers should be hired); 2) the system in which CIMS-CA project staff trained teacher trainers in C.S.D. 11 to conduct CIMS-CA workshops reduced the project staff's ability to ensure proper use of the curriculum; and 3) mandating the project for all teachers in a district brought unwilling teachers into the project.

STAFF SUGGESTIONS FOR CHANGE

Teachers from C.S.D.s 3, 8, 9, 15, 17, and 30

Suggestions for change included the elimination of certain selections in the curriculum--"Lunar Lure" was mentioned (N=12), the addition of more workshops (N=4), and the opportunity for more staff to participate in the project (N=4). It should be noted that these suggestions were constructive and focused on teachers' wishes to get more involved with the project.

Teachers from C.S.D. 11

Teachers from C.S.D. 11 suggested that they be given an opportunity to meet with CIMS-CA project staff (N=4), and that

materials be distributed more quickly (N=3). As with teachers from other C.S.D.s, these suggestions indicated a desire for more contact with the project.

CIMS-CA Project Staff

Staff development managers thought that their numbers should be increased, and that they should have a more direct role in training teachers in C.S.D.s where the program is mandated, notably, C.S.D. 11. They also thought mandating should be selective within schools so that fewer unwilling teachers would enter the program.

The project research manager looked forward to having the assessment component used by all C.S.D.s, with the now-available software for P.C.s.

PERCEPTIONS OF THE DRAMA COMPONENT

Project staff and teachers were asked to rate the value of the drama component. Teachers answered questions that were a part of the CIMS-CA teacher survey, while project staff responded to open-ended questions and face-to-face interviews. Students were also asked to provide their opinions by writing essays in class.

Project Staff's Perceptions of the Drama Component

This year, as in the past three years, the project staff gave the drama component its highest ratings. This consensus included all staff-development managers, the research coordinator, and the project director.

The large number of students participating in the project necessitated a great deal of organizational skill on the part of

the project staff. Some staff members stated that they needed additional help, but veteran staff agreed that this year's drama component was better organized than those of previous years. Eliminating the Damrosch Park event was seen as helpful in that resources were better distributed to the other phases.

Transportation continued to be a problematic issue in some districts, but not all. In those districts where transportation of students to the theater in Manhattan was less than optimum, project staff saw this as a problem with the district office, not with their own planning. In fact, transportation is the districts' responsibility, not that of the project.

In some districts, staff developers thought school administrators could have been more helpful in implementing the schoolwide performances. However, they noted that the large number of student participants may have placed a strain on these schools. In other districts, administrator and parent involvement helped the schoolwide performances to be very successful.

Teachers' Perceptions of the Drama Component

The large majority of teachers in our survey sample rated the drama component as very effective. Teachers were asked to rate five aspects of the drama component: 1) usefulness of training materials; 2) usefulness of preplay workshops; 3) usefulness of postplay workshops; 4) effectiveness of artists' visits; and 5) overall program effectiveness in enriching children's understanding of drama. In every category, the

majority of teachers surveyed gave the drama component the highest ratings (see Table 3).

Students' Perceptions of the Drama Component

For the past three years, students' perceptions have been included in the report. Students were asked to write an essay reflecting their thoughts about the project. The following student statements, all positive, may or may not be representative or student opinion, but they have been included as anecdotal information illustrating how some students benefitted from the drama component:

- "When we first got there (the theater) I thought it would be boring. But as I listened and watched the characters, it made sense to me. I liked the way they said their parts and the way they moved and acted on stage." (fourth grade)

- "I think the play was superb and the acting was great. If I had a choice of a play I would pick Macbeth. I would give the play the best mark that a person can give a play." (sixth grade)

- "I thought the play was fantastic. Although the words were hard to understand, I paid close attention to them so I could figure out what was going on. I am looking forward to performing a ten-minute scene from Macbeth in the spring." (seventh grade)

- "It's so exciting to see a play close up like that. All the scenes were wonderful. I also love the light settings, and everything else." (seventh grade)

- "My class really loved the play. I hoped we could see it again. Although we are not going to be able to see it again, my classmates cannot stop thinking or talking about the play Macbeth." (sixth grade).

TABLE 3

Teachers' Ratings[a] of CIMS-CA Drama Component, All C.S.D.s, Except C.S.D.11, (N=73)

Variable	Mean	S.D.
1. Usefulness of preplay workshops in preparing for play.	1.3	0.6
2. Usefulness of postplay workshops in preparing for performances.	1.4	0.6
3. Effectiveness of artists' visits in helping children prepare for performance.	1.2	0.5
4. Overall effectiveness of drama component in enrichment of students' understanding of drama.	1.3	0.5

[a]All questions were rated using a four-point scale with 1=highest rating, and 4=lowest rating.

- Teachers rated the drama component as useful and effective.

IV. STUDENT OUTCOMES

METHODOLOGY

The impact of the CIMS-CA program on student achievement was determined by examining the change in participating students' reading and writing performance between 1988 and 1989. Students participating in the program were identified by those teachers who had used the CIMS-CA curriculum during the 1988-89 school year. Pretest and posttest comparisons of student achievement by district and by grade were made on standardized reading achievement tests and holistically scored writing samples. Reading analyses included all CIMS-CA participants, while the writing analyses were conducted on a stratified sample of participants.

Reading

In order to measure the impact of the CIMS-CA curriculum on students' reading achievement, CIMS-CA students' scores on citywide standardized reading tests administered in spring 1988 were compared to their scores on reading tests administered in spring 1989. Students in grades three through eight were administered the Degrees of Reading Power (D.R.P.) test series in 1989. For third grade students, 1989 reading scores on the D.R.P. were converted to comparable test scores on the Metropolitan Achievement Test (M.A.T.), which was administered to

second grade students in 1988.* For grades four through eight, no conversion was needed since the D.R.P. was administered in both 1988 and 1989. CIMS-CA students with complete test information in reading were from C.S.D.s, 3, 8, 9, 11, 15, 17, 24, and 30 (N=8,208).

Analyses of reading achievement were performed on students' normal curve equivalent scores (N.C.E.s)** in grade three, and on students' D.R.P. units*** in grades four through eight. Reading improvement was operationally defined as statistically significant increases in students' reading scores from 1988 to 1989. Correlated t-tests were used to determine whether the reading test scores of CIMS-CA students in grades three through eight were significantly higher in 1989 than in 1988. Statistical significance indicates whether the changes in achievement are real or occur by chance. However, statistical significance can be exaggerated by large sample size or depressed

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*Tables for converting test scores were generated with the equipercentile method in which frequency distributions of scores on both tests were equated.

**N.C.E. scores are similar to percentile ranks but, unlike percentile ranks, are based on an equal-interval scale. N.C.E. scores are based on a scale ranging from one to 99 with a mean of 50 and a standard deviation of approximately 21. Because N.C.E. scores are equally spaced, arithmetic and statistical calculations such as averages are meaningful; in addition, comparisons of N.C.E. scores may be made across different achievement tests.

***In the D.R.P. program, readability is measured in D.R.P. units. D.R.P. units form a scale of prose difficulty or readability. Theoretically, the scale ranges from 0 to 100 units. In practice, commonly encountered English text runs from about 30 D.R.P. units to about 85 D.R.P. units. The higher the D.R.P. unit value, the more difficult the text.

by small sample size. Furthermore, statistical significance does not address the issue of whether the achievement changes are important to the students' educational development. Thus, an effect size (E.S.)* is reported for each significant difference to indicate the educational meaningfulness of each mean gain or loss, independent of the sample size.

Writing

To assess CIMS-CA students' improvement in writing skills from 1988 to 1989, samples of students' writing were collected both during fall 1988 and spring 1989. A stratified sample of matched writing samples (27%) from 2,191 students including both fall 1988 and spring 1989 writing samples for each student were selected by grade and district from the total number of writing samples collected. These samples were holistically scored, and correlated t-tests were used to determine statistical significance in the difference between the fall 1988 and spring 1989 scores.

Three holistic scoring schemes were developed for scoring writing samples for the following grade clusters: kindergarten second grade, third grade to sixth grade, and seventh and eighth grades. To assess the reliability of the holistic scoring schemes, pairs of scorers were asked to rate the same writing

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*The effect size, developed by Jacob Cohen, is the ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. According to Cohen, 0.2 is a small E.S., 0.5 is a moderate E.S., and 0.8 is a large E.S. Only effect sizes of 0.8 and above are considered to be educationally meaningful, reflecting the importance of the gains to the students' educational development.

samples within each scoring scheme. The percentage of agreement for the kindergarten to second grade cluster was 82.8; the percentage of agreement for the third grade to sixth grade cluster was 76.3, and the percentage of agreement for the seventh and eighth grade cluster was 72.7. These percentages of agreement indicate that the interrupter reliability is satisfactory.

C.S.D.s 3, 8, 9, 11, 15, 17, and 30 were included in the analysis of writing achievement. However, writing samples were not collected for all grade clusters in each C.S.D. Statistical significance of changes from 1988 to 1989 are reported for the grade clusters in each district. Again, an E.S. is reported for each significant difference as an indicator of the educational meaningfulness of the mean gain or loss.

RESULTS OF READING ACHIEVEMENT TESTS

Reading achievement results for grade three through eight are presented in Tables 4 through 14. Results for third grade students are presented first, followed by the results for grades four through eight.

Third Grade Reading[6]

Table 4 presents the result from the correlated t-test analyses of third grade students' reading achievement. Overall, there was a significant mean loss of 4.8 N.C.E. points (S.D.=15.3) in students' reading achievement in C.S.D. 3, 11, 15,

[6]Note that only N.C.E. reading scores were available for third grade comparison because of the need to equate scores obtained for the 1989 D.R.P. reading test and for the 1988 M.A.T. reading test. Note also that a new equating table was used this year, since a new norm was established for the D.R.P. test.

TABLE 4

CIMS-CA READING 1988-89

Pre- and Postcomparison of Reading scores for Grade Three[a]

C.S.D.	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[b] Mean	Difference[b] S.D.	E.S.
03	71	34.2	16.6	30.7	14.1	-3.5	13.1	0.3
11	1,361	57.3	19.2	53.1	21.0	-4.2	15.5	0.3
15	77	56.3	18.7	46.5	18.3	-9.8	14.9	0.7
30	204	48.7	16.1	41.3	15.6	-7.4	13.7	0.5
Total	1,713	55.3	19.4	50.5	20.9	-4.8	15.3	0.3

[a]Grade 3 was evaluated using 1988 M.A.T. N.C.E. scores and converted 1989 D.R.P. N.C.E. scores.

[b]These mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant mean loss of 4.8 N.C.E. points. This mean difference represented a low effect size.

and 30. However, the overall mean loss only represented a small effect size. Although the mean reading losses for individual districts were all statistically significant, the mean losses for C.S.D. 3 (3.5 N.C.E. points, S.D. = 13.1) and C.S.D. 11 (4.2 N.C.E. points, S.D.=15.5) were both low in effect size while the mean losses for C.S.D. 15 (9.8 N.C.E. points, S.D. = 14.9) and C.S.D. 30 (7.4 N.C.E. points, S.D. = 13.7) were moderate in effect size.

Grades Four Through Eight Reading Achievement

A comparison of CIMS-CA students' mean gains in reading scores between spring 1988 and spring 1989 is presented by grade in Table 5. This table shows that there was an overall statistically significant mean increase of 7.2 D.R.P. units (S.D.=8.6) from 1988 to 1989. This represented a large E.S. Grades four, five, and eight showed generally large E.S.s for their mean gains, whereas the differences for grades six and seven represented moderate E.S.s.

Reading achievement results for grade four through eight are also presented by districts in Table 6. Two-thirds of the sample were from C.S.D. 11, in which an overall statistically significant and educationally meaningful mean gain of 7.9 D.R.P. units (S.D.=8.8) was achieved. Other C.S.D.s that achieved statistically significant and educationally meaningful mean gains on their reading achievements were C.S.D.s 3, 24, and 30. The remaining C.S.D.s--8, 9, 15, and 17--achieved statistically significant mean gains that represented moderate effect sizes.

TABLE 5

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Reading Scores for All Districts by Grade

Grade	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
4	1,638	40.8	14.7	49.6	12.2	8.8	9.4	0.9
5	1,320	47.4	12.3	57.5	11.5	10.2	8.6	1.2
6	1,758	54.6	11.5	59.9	11.5	5.3	8.1	0.7
7	946	59.2	13.3	64.5	11.4	5.3	7.8	0.7
8	833	63.2	10.2	68.4	11.6	5.1	6.7	0.8
Total	6,495	51.4	14.9	58.6	13.2	7.2	8.6	0.8

[a]These mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean gain of 7.2 D.R.P. units. This gain was educationally meaningful.
- Mean gains for grades four, five, and eight represented large effect sizes and were educationally meaningful.
- Mean gains for grades six and seven represented moderate effect sizes.

TABLE 6

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Reading Scores for Grades Four through Eight[a]

C.S.D.	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[b] Mean	Difference[b] S.D.	E.S.
03	510	42.0	14.9	50.7	12.6	8.7	8.0	1.1
08	247	64.9	10.0	69.7	11.0	4.8	6.7	0.7
09	438	54.6	13.7	58.6	13.9	4.1	7.8	0.5
11	4,169	50.5	14.3	58.4	12.6	7.9	8.8	0.9
15	431	55.7	15.2	61.7	14.4	6.0	9.4	0.6
17	501	60.7	8.8	64.2	9.5	3.5	6.8	0.5
24	24	45.3	6.2	55.3	7.9	10.0	6.6	1.5
30	175	38.3	15.9	47.1	14.8	8.8	7.9	1.1
Total	6,495	51.4	14.9	58.6	13.2	7.2	8.6	0.8

[a]Grades four through eight were evaluated using 1988 and 1989 D.R.P. Midinstructional scores.

[b]These mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean gain of 7.2 D.R.P. units. This gain was educationally meaningful.
- Mean gains for districts 3, 11, 24, and 30 represented large effect sizes and were educationally meaningful.
- Mean gains for districts 8, 9, 15, and 17 represented moderate effect sizes.

The results for individual grades within each district are presented in Tables 7 through 14. These tables show the following:

- C.S.D. 3 showed an overall statistically significant and educationally significant mean gain of 8.7 D.R.P. units (S.D.=8.0). Although all grades in C.S.D. 3 made significant and meaningful gains in reading, for grades four through eight there appeared to be a trend for lower grades to achieve higher mean gains than upper grades.

- There was an overall statistically significant increase in reading scores of 4.6 D.R.P. units (S.D.=6.7) in C.S.D. 8. This represented a moderate E.S. Students in the two participating grades in this district, seven and eight, increased their scores significantly by 4.3 (S.D.=6.6), and 4.7 (S.D.=6.7), respectively. These changes represented moderate E.S.s.

- C.S.D. 9 showed an overall statistically significant mean gain in reading scores of 4.0 D.R.P. units (S.D.=7.8). This mean gain represented a moderate E.S. Students in the three participating grades in this district, six, seven, and eight, increased their scores significantly by 3.4 (S.D.=7.9), 4.3 (S.D.=8.0), and 5.4 D.R.P. units (S.D.=7.2) respectively. The mean gains for grades six and eight represented large E.S.s. The mean gain for grade seven represented a moderate E.S.

- There was an overall statistically significant increase in reading scores of 7.9 D.R.P. units (S.D.=8.8) in C.S.D. 11. This gain represented a large E.S. Students in grades four through eight showed statistically significant increases in reading scores. These gains represented moderate to large E.S.s.

- C.S.D. 15 showed an overall statistically significant mean gain in reading scores of 6.0 D.R.P. units (S.D.=9.4). This gain represented a moderate E.S. Students in grades five through eight made statistically significant increases in reading scores. These increases represented moderate to large E.S.s.

- There was an overall statistically significant increase in reading scores of 3.5 D.R.P. units (S.D.=6.8) in C.S.D. 17. This gain represented a moderate E.S. Students in grades six, seven, and eight increased their reading scores significantly by 1.2 (S.D.=7.3), 6.2 (S.D.=5.5), and 4.9 (S.D.=5.8), respectively. Mean gains for grades seven and eight represented large effect sizes.

TABLE 7

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P Midinstructional Reading Scores for District 3

GRADE	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference* Mean	Difference* S.D.	E.S.
4	154	27.4	9.2	38.7	9.6	11.3	7.3	1.5
5	131	42.5	13.1	52.6	9.5	10.1	9.3	1.1
6	126	50.9	11.1	57.9	10.1	7.0	7.2	1.0
7	85	52.6	9.3	57.9	9.4	5.3	6.2	0.9
8	14	53.1	6.9	56.	5.2	3.3	4.2	0.8
Total	510	42.0	14.9	50.7	12.6	8.7	8.0	1.1

*These mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 8.7 score points. This mean gain was educationally meaningful.
- Grades four through eight showed positive mean gains. These were educationally meaningful and represented large effect sizes.

TABLE 8

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Midinstructional Reading Scores for District 8

GRADE	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference* Mean	Difference* S.D.	E.S.
7	73	63.4	8.7	67.7	7.6	4.3	6.6	0.7
8	165	66.5	9.6	71.2	11.7	4.7	6.7	0.7
Total	238	65.6	9.4	70.1	10.7	4.6	6.7	0.7

*These mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 4.6 score points which was moderate in effect size.

TABLE 9

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Midinstructional Reading Scores for District 9

GRADE	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
6	206	47.7	8.5	51.1	8.7	3.4	7.9	1.4
7	153	57.0	15.4	61.3	14.2	4.3	8.0	0.5
8	79	67.7	10.1	73.1	10.6	5.4	7.2	0.8
Total	438	54.6	13.7	58.6	13.9	4.0	7.8	0.5

[a]These mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 4.0 score points. This mean gain was moderate in effect size.
- Grades six, seven, and eight showed statistically significant positive mean gains.
- The mean gain for grade six and eight represented large effect size.
- The mean gain for grade seven represented a moderate effect size.

TABLE 10

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Midinstructional Reading Scores for District 11

GRADE	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
4	1,322	42.4	14.1	51.2	11.3	8.8	9.7	0.9
5	1,106	47.8	11.7	58.0	11.3	10.2	8.0	1.3
6	1,106	55.9	11.3	62.0	11.3	6.1	8.1	0.8
7	342	60.8	12.7	66.1	9.6	5.3	8.6	0.6
8	293	64.5	9.6	69.8	11.1	5.3	7.1	0.7
Total	4,169	50.5	14.3	58.4	12.6	7.9	8.8	0.9

[a]The mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 7.9 score points. This mean gain was educationally meaningful.
- All grades showed statistically significant mean gains.
- Grades four through six showed educationally meaningful gains.
- Mean gains for grades seven and eight represented a moderate effect size.

TABLE 11

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Midinstructional Reading Scores for District 15

		Pretest		Posttest		Difference		
GRADE	N	Mean	S.D.	Mean	S.D.	Mean	S.D.	E.S.
4	27	43.2	16.3	43.7	13.8	0.5	7.9	0.1
5	71	52.5	14.0	61.5	14.5	9.0[a]	14.2	0.6
6	57	50.7	11.3	58.4	9.7	7.7[a]	9.1	0.8
7	174	61.3	16.3	66.5	13.6	5.2[a]	7.9	0.7
8	102	54.5	11.7	60.2	13.7	5.7[a]	6.9	0.8
Total	431	55.7	15.2	61.7	14.4	6.0[a]	9.4	0.6

[a]The mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 6.0 score points. This mean gain represents a moderate effect size.
- Grades five through eight showed statistically significant mean gains.
- Grades six and eight showed gains that represented large effect sizes. The gains in grades five and seven represented moderate effect sizes.

TABLE 12

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Midinstructional Reading Scores for District 17

GRADE	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
6	224	60.2	10.3	61.4	10.6	1.2	7.3	0.2
7	97	59.5	6.8	65.7	7.4	6.2	5.5	1.1
8	180	62.0	7.3	66.9	8.1	4.9	5.8	0.8
Total	501	60.7	8.8	64.2	9.5	3.5	6.8	0.5

[a]The mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 3.5 score points. This gain represents a moderate effect size.
- Grades six through eight showed statistically significant mean gains.
- Mean gains for grades seven and eight represented large effect sizes.

TABLE 13

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Midinstructional Reading Scores for District 24

GRADE	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
7	22	44.9	5.8	55.1	8.2	10.2	6.6	1.5

[a]The mean difference was significant at $p \leq .05$ level.

- Mean gain for grade seven was statistically significant and represented a large effect size.

TABLE 14

CIMS-CA READING 1988-89

Pre- and Postcomparison of D.R.P. Midinstructional Reading Scores for District 30

GRADE	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
4	132	38.7	17.2	47.5	16.1	8.8	8.1	1.1
5	8	24.0	11.2	38.4	7.7	14.4	10.1	1.4
6	35	39.8	8.8	47.3	9.4	7.5	6.3	1.2
Total	175	38.3	15.9	47.1	14.8	8.8	7.9	1.1

[a]These mean differences were significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 8.8 score points. This mean gain was educationally meaningful.
- All grades showed statistically significant mean gains that were also educationally meaningful.

- District 24 also showed a statistically significant and meaningful gain of 10.2 D.R.P. units (S.D.=6.6). However, only a small sample in grade seven is represented in this district.

- C.S.D. 30 showed an overall statistically significant mean gain in reading scores of 8.8 D.R.P. units (S.D.=7.9). This mean gain represented a large E.S. The three participating grades in this district increased their reading scores significantly. These changes all represented large E.S.s.

Summary of Reading Achievement

In general, all grade four through eight students in participating districts achieved overall statistically significant mean gains in reading when the 1988 reading scores were compared to their 1989 reading scores. These gains generally represented moderate to large E.S.s and were consistently larger for grades four and five than for grades six through eight. By grade, mean gains were generally smaller for grades in which students performed above the 50th D.R.P. unit at pretest than for grades in which students were below the 50th D.R.P. unit at pretest.

For grade three students in the program, there appeared to be a consistent drop in N.C.E. reading scores for the four participating districts. Note that N.C.E. scores compare students' reading achievement in the program to other students across the country and may not measure individual student's real reading gain from one year to another.

RESULTS OF WRITING ACHIEVEMENT TESTS

Table 15 reports the results of the overall comparisons of fall 1988 and spring 1989 writing achievement tests for students in kindergarten through grade eight. The writing scores are presented in three grade clusters: kindergarten to grade two,

TABLE 15

Analysis of 1988-89 CIMS-CA Writing Samples for all C.S.D. by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean*	Difference S.D.	Effect Size
K-2	710	3.7	2.0	5.1	1.8	1.4	1.5	0.9
3-6	931	3.2	0.9	3.9	1.1	0.7	1.0	0.7
7-8	550	3.7	1.0	3.8	1.0	0.1	1.0	0.1
Total	2,191	3.5	1.4	4.3	1.5	0.8	1.3	0.6

*Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean gain of 0.8 points. This mean gain was moderate in effect size.
- Grade Kindergarten through two showed educationally meaningful gains.
- Mean gain for grades three through six represented a moderate effect sizes.

grades three through six, and grade seven and eight. This table shows that there was an overall statistically significant mean increase in CIMS-CA students' writing scores of 0.8 points (S.D.=1.3) from fall 1988 to spring 1989. This mean increase represented a moderate E.S. Additionally, the lower primary grade cluster (K-2) achieved a mean writing gain (1.4 points, S.D.=1.5) that was large in E.S., the grades three through six cluster achieved a mean gain (0.7 points, S.D.=1.0) that was moderate in E.S., while the mean gain for grades seven and eight (0.1 points, S.D.=1.0) was low in E.S.

Tables 16 to 22 present similar pre- and postcomparisons for individual grade clusters within each of the following districts: C.S.D.s 3, 8, 9, 11, 15, 17, and 30. (Pre- and postcomparisons for individual grades within each district are presented in Appendices A1 through A8.)

Tables 16 through 22 show the following findings on students' writing achievement:

- CIMS-CA students in C.S.D. 3 showed an overall statistically significant mean gains of 1.2 points (S.D.=1.5). This gain represented a large E.S. Students in the Kindergarten through second grade cluster through achieved educationally meaningful gains while students in the 7 and 8 grade cluster did not.

- Only students in the 7 and 8 grade cluster was represented in C.S.D. 8. These students did not achieve a statistically significant mean gain (0.1 point, S.D.=1.0).

- Students in C.S.D. 9 showed an overall mean gain of 0.2 points (S.D.=1.1) but this gain was not statistically significant.

- An overall statistically significant and educationally meaningful mean writing gain was achieved by students in C.S.D. 11 (0.9 points, .S.D.=1.2). The mean gains for students in the Kindergarten through second and third through sixth grade clusters represented moderate to large

TABLE 16

Analysis of 1988-89 CIMS-CA Writing Samples for C.S.D. 3 by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
K-2	61	2.2	1.4	3.7	1.9	1.5*	1.6	0.9
7-8	13	3.1	0.5	3.2	0.4	0.1	1.0	0.1
Total	74	2.4	1.3	3.6	1.7	1.2*	1.6	0.8

*Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean difference which was educationally meaningful.
- Grade Kindergarten through two showed educationally meaningful gains.
- Mean gain for grades seven and eight represented a small effect sizes.

TABLE 17

Analysis of 1988-89 CIMS-CA Writing Samples
for C.S.D. 8 by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
7-8	97	4.0	0.9	4.1	1.0	0.1	1.0	0.1

- There was no statistically significant mean difference in pre- and postwriting scores in C.S.D. 8.

TABLE 18

Analysis of 1988-89 CIMS-CA Writing Samples
for C.S.D. 9 by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
3-6	51	3.5	0.8	4.0	0.9	0.5*	0.9	0.6
7-8	103	3.9	1.1	4.0	1.0	0.1	.2	0.1
Total	154	3.8	1.0	4.0	0.9	0.2	1.1	0.2

*Mean differences were statistically significant at $p \leq .05$ level.

- There was no overall statistically significant mean difference.
- Grades three through six showed a statistically significant mean gain. This gain represented a moderate effect size.

TABLE 19

Analysis of 1988-89 CIMS-CA Writing Samples
for C.S.D. 11 by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean*	Difference S.D.	Effect Size
K-2	507	4.0	1.9	5.3	1.7	1.3	1.4	0.9
3-6	670	3.2	0.9	3.9	1.2	0.7	1.0	0.7
7-8	154	3.7	0.8	3.9	1.0	0.2	1.0	0.2
Total	1,331	3.5	1.4	4.4	1.5	0.9	1.2	0.8

*Mean differences were statistically significant at $p \leq .05$ level.

- There was no overall statistically significant gain of 0.9 points. This mean gain was educationally meaningful.
- All grade clusters showed statistically significant mean gains.
- Grades Kindergarten through two showed educationally meaningful gains.
- Mean gains for grades three through six represented a moderate effect size.

TABLE 20

Analysis of 1988-89 CIMS-CA Writing Samples
for C.S.D. 15 by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
K-2	52	2.8	1.7	5.7	1.1	2.9[a]	1.6	1.8
3-6	95	3.6	0.9	4.1	0.8	0.5[a]	1.0	0.5
7-8	73	2.6	0.9	2.8	0.8	0.2	0.9	0.2
Total	220	3.2	1.2	4.1	1.4	1.0[a]	1.6	0.6

[a]Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 1.0 point.
- Grades Kindergarten through two showed educationally meaningful gains.
- Mean gain for grades three through six represented a moderate effect size.

TABLE 21

Analysis of 1988-89 CIMS-CA Writing Samples for C.S.D. 17 by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
3-6	38	2.9	0.7	3.8	0.9	0.9[a]	1.0	0.9
7-8	98	4.0	0.9	3.8	0.9	-0.2	1.0	0.2
Total	136	3.7	0.9	3.8	0.9	0.1	1.1	0.1

[a]Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean difference.
- Grades three through six showed a statistically significant mean gain, and it was educationally meaningful.

TABLE 22

Analysis of 1988-89 CIMS-CA Writing Samples
for C.S.D. 30 by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean*	Difference S.D.	Effect Size
K-2	90	3.6	2.1	4.9	2.1	1.3	1.3	1.0
7-8	77	2.6	0.8	3.3	0.9	0.7	0.9	0.8
Total	167	3.1	1.7	4.2	1.8	1.1	1.1	1.0

*Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 1.1 points. This mean gain was educationally meaningful.
- All grade clusters showed statistically significant and educationally meaningful gains.

E.S.s, while the mean gain achieved by students in the seven to eight grade cluster was low in E.S.

- Students in C.S.D. 15 also achieved an overall statistically significant mean gain in their writing scores (1.0 points, S.D.=1.6). The mean gain represented a moderate E.S. Students in the Kindergarten through second grade cluster achieved writing gains that were educationally meaningful while students in higher grades did not.

- There was no overall statistically significant mean writing gain for students in C.S.D. 17 (0.1 point, S.D.=1.1). However, students in the third through sixth grade cluster achieved a statistically significant and educationally meaningful gain while students in the seven and eight grade cluster experienced a decrease in their writing scores.

- Students in C.S.D. 30 achieved an overall statistically significant and educationally meaningful writing gain of 1.1. point (S.D.=1.1). Both the Kindergarten through second and seven through eight grade clusters achieved gains that were educationally meaningful.

Summary of Writing Achievement

In general, students in C.S.D.s 3, 11, and 30 achieved writing gains that were both educationally meaningful and statistically significant when their fall 1988 writing scores were compared to their spring 1989 writing scores. Students in C.S.D. 15 achieved a statistically significant mean gain but this represented only a moderate E.S. In C.S.D.s 8, 9, and 17, students did not achieve overall statistically significant mean gains in their writing. Note that students in the two primary grade clusters consistently made more significant writing improvements than students in the intermediate grade cluster. This trend may account for the lack of significant writing gains in C.S.D.s 8, 9, and 17, since the intermediate grade cluster was over-represented in those three districts.

V. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The purpose of the evaluation conducted by OREA was to document the level and quality of program implementation and to assess the program's impact on student achievement in reading and writing. The findings for the 1988-89 school year summarized below show that the CIMS-CA project was successfully implemented on the elementary and junior high school levels, and in mandated and nonmandated C.S.D.s. The computer management system continued its planned expansion to PCs in C.S.D.s 11 and 30, and in general, the CIMS-CA program had a positive impact on students' reading and writing achievement.

The major conclusions of the evaluation are as follows:

- Teachers continued to find staff development training very helpful. They most appreciated the after-school workshops, demonstration lessons, individual conferences, and classroom observations. Teachers wanted more time with staff development managers. This was especially true in C.S.D. 11, where most training was conducted by district teacher trainers. Although staff development managers expressed concern about the efficacy of only having indirect contact with teachers, there is not sufficient evidence at this time to make a definitive statement about the C.S.D. 11 training model.

- There was increased involvement of administrators in the training workshops and in general support of the project in many schools. CIMS-CA staff and teachers agree that even greater administrator involvement would further improve project implementation.

- The computer management system staff made substantial gains toward the project goal of having all CIMS-CA C.S.D.s access the assessment component through use of PCs. C.S.D.s 11 and 30 use PCs with newly developed software in 1988-89, with plans for continued use next year.

- In its fourth year, the drama component was viewed as successful by CIMS-CA staff and teachers. The drama component served over 7,000 students, about the same number as last year. Most C.S.D.s were able to provide adequate transportation to the theater this year, perhaps helped by the elimination of the trip to Damrosch Park.

- Teachers in mandated C.S.D.11 were as enthusiastic about the CIMS-CA program as were teachers in other mandated and nonmandated C.S.D.s. Analysis of data on satisfaction from C.S.D. 11 did not vary significantly from all other C.S.D.s. C.S.D. 11 is the only participating C.S.D. has mandated CIMS-CA for all grades, Kindergarten through eight.

- In general, all grade four through eight students were seen to have achieved overall statistically significant mean gains in reading when 1988 reading scores were compared to 1989 scores. These gains represented moderate to large effect sizes and were consistently larger for grades four and five than for grades six through eight.

- For grade three, there was a consistent drop in scores for all C.S.D.s. However, the overall mean loss of 4.8 N.C.E. points only represented a small effect size. It should be noted that only N.C.E. reading scores were available for third grade comparison because of the need to equate scores obtained from the 1989 D.R.P. reading test and for the 1988 M.A.T. reading test. Note also that a new equating table was used this year since a new norm was established for the D.R.P. test.

- There was an overall statistically significant increase in CIMS-CA students' writing scores of .8 points from the Fall of 1988 to the spring of 1989. This mean increase represented a moderate effect size. Grades Kindergarten through two showed meaningful educational gains with a large effect size. Grades three through six showed gains with a moderate effect size and grades seven and eight had gains with a low effect size.

RECOMMENDATIONS

Based on these findings and other information presented in this report, the following specific recommendations are made:

- Continue to emphasize after-school staff development workshops, with ongoing efforts to include all teachers who wish to learn how to use the project, and more experienced teachers wishing to sharpen their skills.

- Investigate the efficacy of the C.S.D. 11 training model, where CIMS-CA staff train district teacher trainers to conduct staff development workshops.

- Continue to expand usage of the computer management system so that all C.S.D.s will have access to the assessment component at some future time.

- Consider reinstating work on the ninth and tenth grade curriculum and assessment component.

- Continue to involve more school administrators so that project implementation can be further enhanced.

- Continue to implement the highly successful drama component.

- Continue to involve teachers directly in curriculum and assessment design, and to base its development on the latest research and knowledge.

- Further investigate the effect of large-scale mandating of the project in entire C.S.D.s and its implications for training, distributing materials, and monitoring appropriate use.

- Continue vigilance in keeping the integrity of the original goals and objectives of the project, in face of the large-scale expansion of the past several years.

Appendix A1

Analysis of CIMS-CA Writing Samples for all C.S.D.s: 1988-89

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
K	150	1.5	0.5	2.6	1.2	1.1[a]	1.3	0.8
1	301	3.1	1.3	5.3	1.2	2.2[a]	1.5	1.5
2	259	5.7	1.0	6.4	1.0	0.7[a]	1.0	0.7
3	262	2.5	0.7	3.1	0.9	0.6[a]	0.9	0.7
4	158	3.3	0.9	3.8	0.8	0.5[a]	0.8	0.6
5	164	3.3	0.7	4.3	0.8	1.0[a]	0.9	1.1
6	347	3.5	0.9	4.3	1.2	0.8[a]	1.2	0.7
7	274	3.5	1.1	3.6	1.0	0.1	1.0	0.1
8	264	3.9	0.9	3.9	1.0	0.0	1.1	0.0
Total	2,179	3.5	1.4	4.3	1.5	0.8[a]	1.3	0.6

[a]Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 0.8 score points which represented a moderate effect size.
- Students in kindergarten, grade one, and grade five achieved writing gains that were high in effect size.
- Students in grades two, three, four, and six achieved gains which were moderate in effect size.

Appendix A2

Analysis of CIMS-CA Writing Samples for C.S.D. 3: 1988-89

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
K	32	1.4	0.5	2.6	1.2	1.2[a]	1.2	1.0
1	17	2.2	0.5	4.8	1.3	2.6[a]	1.2	2.2
2	12	4.5	1.5	4.9	2.5	-0.4	2.0	0.2
7	13	3.1	0.5	3.2	0.4	0.1	0.7	0.1
Total	74	2.4	1.3	3.6	1.7	1.2[a]	1.6	0.8

[a]Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant gain of 1.2 points which was educationally meaningful.
- Students in kindergarten and grade one achieved gains that were high in effect size.

Appendix A3

Analysis of CIMS-CA Writing Samples for C.S.D. 8: 1988-89

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
7	57	4.0	0.9	4.0	1.1	0.0	1.1	0.0
8	40	3.9	0.8	4.1	0.9	0.2	0.9	0.2
Total	97	4.0	0.9	4.1	1.0	0.1	1.0	0.1

- There was no statistically significant difference in students' pre- and postwriting scores in C.S.D. 8.

Appendix A4

Analysis of CIMS-CA Writing Samples for C.S.D. 11: 1988-89

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
K	95	1.5	0.5	2.8	1.2	1.3[a]	1.4	0.9
1	216	3.4	1.3	5.4	1.2	2.0[a]	1.4	1.4
2	196	5.8	0.9	6.4	0.8	0.6[a]	1.0	0.6
3	208	2.5	0.6	3.1	0.9	0.6[a]	0.9	0.7
4	134	3.2	0.8	3.8	0.8	0.6[a]	0.8	0.8
5	137	3.3	0.7	4.3	0.8	1.0[a]	0.9	1.1
6	191	3.7	0.9	4.6	1.2	0.9[a]	1.3	0.7
7	44	3.4	0.7	3.7	0.8	0.3	0.9	0.3
8	110	3.8	0.8	4.1	1.0	0.3[a]	1.1	0.3
Total	1,331	3.5	1.4	4.4	1.5	0.9[a]	1.2	0.8

[a]Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean gain of 0.9 points. This result was educationally meaningful.
- All grades except grade seven showed statistically significant mean gains.
- Mean gains for grades Kindergarten, one, four, and five represented large effect sizes.
- Mean gains for grades two, three, and six represented moderate effect sizes.
- Mean gain for grade eight represented a low effect size.

Appendix A5

Analysis of CIMS-CA Writing Samples for C.S.D. 15: 1988-89

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
1	34	2.0	1.3	5.6	1.1	3.6*	1.3	2.8
2	18	4.5	0.9	5.8	1.0	1.3*	1.1	1.2
4	23	3.7	1.0	4.0	0.8	0.3	1.0	0.3
5	27	3.2	0.7	4.3	0.5	1.1*	0.7	1.6
6	45	3.8	0.8	4.1	0.9	0.3	1.1	0.3
7	49	2.6	0.7	2.8	0.8	0.2	0.9	0.2
8	24	2.8	0.9	3.0	0.8	0.2	0.9	0.2
Total	220	3.1	1.2	4.1	1.4	1.0*	1.6	0.6

*Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean gain of 1.0 point. This gain represented a moderate effect size.
- Grades one, two, and five showed statistically significant mean gains which were educationally meaningful.

Appendix A6

Analysis of CIMS-CA Writing Samples for C.S.D. 17: 1988-89

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean	Difference S.D.	Effect Size
6	38	2.9	0.7	3.8	0.9	0.9[a]	1.0	0.9
7	48	3.8	0.9	3.7	0.8	-0.1	1.0	0.1
8	50	4.2	0.8	3.9	1.0	0.3[a]	1.1	0.3
Total	136	3.7	0.9	3.8	0.9	0.1	1.1	0.1

[a]Mean differences were statistically significant at $p \leq .05$ level.

- There was no overall statistically significant difference in pre- and postwriting scores.
- Students in grades six and eight achieved statistically significant mean gains.
- Mean gain for grade six represented a large effect size.

Appendix A7

Analysis of CIMS-CA Writing Samples for C.S.D. 30: 1988-89

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference* Mean	Difference* S.D.	Effect Size
K	23	1.3	0.5	2.0	1.1	0.7	0.9	0.8
1	34	2.7	0.9	5.1	1.1	2.4	1.1	2.2
2	33	6.1	0.7	6.7	0.5	0.6	0.6	1.0
3	54	2.4	0.7	3.2	0.9	0.8	0.9	0.9
6	22	2.8	0.9	3.5	1.0	0.7	0.9	0.8
Total	166	3.1	1.7	4.2	1.8	1.1	1.1	1.0

*Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean gain of 1.1 points. This mean gain was educationally meaningful.
- All grades showed statistically significant mean gains which were educationally meaningful.

Appendix A8

Analysis of 1988-89 CIMS-CA Writing Samples for all C.S.D.s by Grade Clusters

Grades	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference Mean*	Difference S.D.	Effect Size
K-2	710	3.7	2.0	5.1	1.8	1.4	1.5	0.9
3-6	931	3.2	0.9	3.9	1.1	0.7	1.0	0.7
7-8	550	3.7	1.0	3.8	1.0	0.1	1.0	0.1
Total	2,191	3.5	1.4	4.3	1.5	0.8	1.3	0.6

*Mean differences were statistically significant at $p \leq .05$ level.

- There was an overall statistically significant mean gain of 0.8 points. This mean gain was moderate in effect size.
- All grade clusters showed educationally meaningful gains.
- Grade Kindergarten through two showed educationally meaningful gains.
- Mean gain for grades three through six represented a moderate effect sizes.