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ABSTRACT

The findings of an evaluation of the Chicago Public Schools 1984 Summer Basic Skills Centers program are presented. The program, which relied on the extensive use of youth tutors as well as trained teachers, was designed to extend participants' mastery of skills in the basic curricula of reading and mathematics. Participating students came from grades K-8. The evaluation confirmed that the program was effectively implemented and operated. Key findings were: (1) the staff development component was beneficial; (2) earlier preservice training for lead teachers, more intensive preservice training for lead teachers, and more intensive preservice training for classroom teachers and tutors were desired; (3) earlier assignment of tutors and more permissive screening of them are needed; (4) the quantity of materials to be covered in prescribed lessons should be reviewed to allow non-prescribed material to be incorporated; (5) materials and instructional levels of students should be better correlated; (6) the improved science component was popular among teacher and students; (7) the initial delivery of materials requires still better planning; (8) tutors' participation strengthened their grasp of the academic skills they used; (9) although students did not substantially increase their mastery of skills, results tended to be positive; (10) almost all teachers were enthusiastic about a special Limited English Proficiency program and recommended its continuation. (RDN)

EDUCATION CONSOLIDATION AND IMPROVEMENT ACT CHAPTER-1

AND CHICAGO EFFECTIVE SCHOOLS PROJECT

EVALUATION OF SUMMER BASIC SKILLS CENTERS

1984

Chicago Public Schools

Manford Byrd, Jr.
General Superintendent of Schools

April 1985

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EXECUTIVE SUMMARY

The Chicago Public Schools 1984 Summer Basic Skills Centers program operated for seven weeks at 105 sites funded by Chapter 1 of the Education Consolidation and Improvement Act and at 105 sites funded by the Office of Equal Education Opportunity. A lead teacher, seven classroom teachers, and 14 or more tutors of high school and college age, at each center, were assisted by a supervisory principal, two paraprofessional aides, and a clerk in adminstering the program to 140 students. The range of grade levels served at each center varied according to options chosen by the principals or district superintendents, but overall students from the kindergarten through the eighth grade were enrolled.

The program was designed to extend the participants' mastery of skills in the basic curricula of reading and mathematics through a prestructured and explicit schedule of lessons for each grade and for each day of the week. The reading and mathematics instruction was supplemented with similarly prestructured lessons in science. The number of tutors assigned to each of the seven classrooms at each center was augmented by from two to four or more at most of the sites through funding under the Joint Training Partnership Act. The tutors, through training and guidance from the lead teachers and classroom teachers, supported the daily sessions of individualized instruction.

The evaluation, based on observations at 100 randomly selected centers and questionnaires returned by each category of the instructional staff, confirmed thet the Summer Basic Skills Centers program was, in general, effectively implemented and effectively operated throughout the seven weeks. The prestructured and explicit

schedule of lessons was not strictly maintained at every center, but the effort to comply was conscientious. Problems with the distribution of instructional materials to the centers and with the heavy content of many lessons, relative to the ability levels and past achievements of the students, were the main hindrances. However, the prestructuring of the program was assessed by large majorities of the lead teachers and classroom teachers as fitting well the needs of their students.

To highlight the findings presented in this evaluation:

- Most teachers found the staff development component of the program beneficial.
- Earlier preservice training for the lead teachers and more intensive preservice training for the classroom teachers and tutors were desired.
- The tutors were of great benefit to the program but earlier assignment of the full complement of tutors is needed, as well as more permissive procedures of screening the applicants to select the most suitable candidates.
- The quantity of materials to be covered in the prescribed lessons should be reviewed so that time allocations for incorporating other than prescribed worthwhile materials may be possible.
- Correlation between the materials and the instructional levels of the students should be improved.
- The improved science component of the summer program was a popular enhancement as confirmed by the students' enthusiasm and the teachers' acceptance of it.
- The initial delivery of materials to the centers, though greatly improved in comparison with the previous summer, still requires better planning and easier means of adjusting the orders to meet changing needs.
- Pre- and posttesting of the tutors indicated that participation in the summer program, generally, strengthened their grasp of the academic skills they used in helping their tutees.
- Pre- and posttesting of the students gave results that could not be strongly proclaimed as improvements in skill mastery, but generally the tendency of the results was positive.

Forty-nine special classrooms at 29 of the Summer Basic Skills Centers provided instruction for bilingual students. This was the Limited English Proficiency (LEP) program. The test results and the teachers' assessments of this new component of the Chicago Public Schools' summer program suggested a need for some modifications of its structure and of the materials provided. However, almost all the teachers were enthusiatic about the LEP program. Its continuation in subsequent summers was recommended.

PROGRAM DESCRIPTION

Evaluator: Earl Clendenon

During the summer of 1984, the Chicago Public Schools had 105 Summer Basic Skills Centers funded under the Education Consolidation and Improvement Act (ECIA) and 105 centers funded under the Office of Equal Educational Opportunity (OEEO). The program under each funding source was virtually the same except that the students enrolled at the ECIA-funded sites were required to be those eligible to participate in the regular school year ECIA Chapter 1 programs at their home schools. The students enrolled at the OEEO funded sites were selected from applicants who attended the schools where these summer programs were operating.

The addition of the OEEO Summer Basic Skills Centers to the Board of Education's compensatory education summer programs at a relatively late date complicated the planning of the evaluation, since no money in the budget was allocated for hiring additional evaluation staff. This problem was met by limiting the formal evaluation to just half of the 210 Summer Basic Skills Centers, so as to use more effectively the existing evaluation staff and the available testing materials and testing services.

The sample of 100 sites was randomly selected in proportion to the number of each kind of site in the total of 210. Consequently, most of the data and results in this report represent the aggregate of both ECIA Chapter 1 and OEEO Summer Basic Skills Centers.

The Summer Basic Skills Centers program followed the model of the previous year. This model, as the evaluation had confirmed, was effective in providing instruction and unique learning experiences to the participants. For the summer of 1984, improvements and extensions reflecting assessments and recommendations of the previous evaluation were added to the original model.

The viable features of the previous year's summer program were retained:

- the use of tutors to assist the teachers in providing individualized instruction
- the use of structured lessons conducted in accordance with a prescribed schedule of instruction
- the use of some instructional materials that differed substantially from those the students were accustomed to in their regular school year classrooms
- concentration on improving the students' mastery of basic skills of the Chicago Mastery Learning reading and mathematics curricula
- the inclusion of specially selected science lessons to increase the students' application of thinking skills acquired through the reading and mathematics lessons.

The most important additions to the model for the summer of 1984 were as follows:

- The problems of holding centrally located orientation meetings for all the summer program staff were circumvented by planning and conducting these meetings for the lead teachers only.
- The lead teachers were to convey what they learned about the organization, operation, and goals of the summer program to the classroom teachers by conducting a series of orientation meetings at their respective program sites, during two six-hour orientation and preparation days before the students appeared, and during three-hour extensions of the next two days, following dismissal of the students.
- The tutors at each site were to be trained and supervised by the principal and lead teacher with the assistance of a paraprofessional management aide, whose duties included preparing and maintaining the tutors' attendance and payroll records.

How these changes worked out in the summer of 1984 is described and assessed in the sections below entitled "Staff Development Component" and "Tutoring Component."

Each of the Summer Basic Skills Centers was to enroll 140 students, 20 students for each of seven classroom teachers. In addition to a lead teacher and a management aide, the supportive staff at each site included an instructional aide, a school-community representative, a school clerk, and a janitor. The operation of the program at each site was to be supervised by a school principal, who was the regular school year principal at the site except for the weeks when a substitute administrator may have been provided to cover the regular principal's vacation days.

The centers operated for seven weeks, from July 2 through August 17. The students attended five days a week for six weeks, for three hours of instruction daily, followed by a half hour lunch period before dismissal.

The purpose of this report is to assess how well the Summer Basic Skills Centers program was carried through and with what benefits to the participants. Some brief comments on the primary responsibilities of the supportive staff members who were most directly involved in implementing the program may help the reader in appreciating the evaluation:

- The lead teacher was to supervise the implementation of the instructional program, serve as a resource person for the teachers, provide ongoing training for the tutors, and coordinate the operation of the center in the absence of the principal.

- The instructional aide was to provide clerical assistance for the classroom teachers, monitor the distribution and return of materials in the resource room, and perform supervisory duties as directed by the principal.

- The tutors at each site were to assist the classroom teachers by reinforcing instruction and conducting skill practice sessions with very small groups of students (their tutees).

- The management aide was to take care of the tutors' attendance and payroll records and assist the lead teacher in providing on-going training for the tutors.

- The school-community representative was to serve as a contact between the center and the students' homes, monitor absentee records, and assist with parent involvement activities.

The summer program instructional materials are described in the following sections of this report: "Reading Component," "Mathematics Component," and "Science Component."

Forty-nine special classrooms at 17 of the ECIA Chapter 1 and 12 of the OEEO summer program sites served the needs of bilingual students. The instruction in these classrooms was known as the Limited English Proficiency program. Since this part of the Summer Basic Skills Centers program cannot conveniently be discussed with the broader program just described, it is evaluated briefly in a separate section of this report.

PROGRAM IMPLEMENTATION

Evaluator: Earl Clendenon

Orientation and Preparation

Beyond the adminstrative planning, the first step in implementing the Summer Basic Skills Centers program was to provide preservice training for the lead teachers. This took place on June 29 and 30 at the Hope Middle School. The agenda of this orientation and the participants' views of its effectiveness are discussed below, in the section entitled "Staff Development Component."

Preservice training was provided for the management aides at the same location on June 29. Their responsibilities required detailed knowledge of the guidelines and forms pertaining to the employment of the tutors under three funding sources: ECIA Chapter 1, OEEO, and JTPA (Job Training Partnership Act). The section entitled "Tutoring Component" includes an assessment of the training of the management aides.

On July 2 and 3 the program sites were open for orientation meetings and other preparatory activities before the arrival of the students on July 5. This new summer program feature was evaluated as follows: Each of eight field evaluators randomly selected six sites among those he or she was to monitor. Each selected site was to be visited for one hour on July 2 and 3 to record observations of the staff's activities.

These observations indicated that the preparatory activities were pertinent to acquainting the staff with the materials and procedures of the summer program and to preparing the school office, resource room, and classrooms for administering and conducting the prescribed instruction.

However, at the program sites included in this two-day sample, the schedule of preparatory activities as prescribed in the orientation for the lead teachers was not followed closely, as will be explained in the "Staff Development Component" section.

The range of activities observed on each of the two days and at both ECIA and OEEO funded program sites was generally the same:

- School-community representatives or tutors monitored the building hallways during the first and fourth hours of the day.
- Principals, lead teachers, and school clerks monitored the offices, received visitors, and answered telephone calls while taking care of many other clerical tasks.
- Principals and lead teachers conducted meetings with the teachers and tutors, usually during the first or third hour of the day.
- Management aides assisted with meetings for the tutors and prepared employment records.
- Instructional aides supervised the unpacking and distribution of materials to the classrooms and set up the resource rooms.

At every site the preparatory activities involved predominantly one or more staff members, including the tutors, working together with others to prepare records or lesson plans, to organize materials for the students' use, or to arrange furniture and put up displays. In a few instances, during the first hour of each day, some tutors were observed simply waiting in the classrooms for the supervising teachers to arrive. On the whole, the mood in the centers was that of dedication to getting ready for the students.

Competition between groups of tutors to "make our room the best of all," as one tutor expressed it, was one indication of the teachers' attention to establishing an esprit de corps among their young co-workers. The

advantage of more time to do so, compared with the previous summer when the students were present from the first day the program sites opened, was evidently welcomed. This advantage, however, benefitted only the tutors who were present on July 2 and 3. Properly orienting the tutors who were assigned later, over a period of several weeks, was problematical. This point is considered later, under "Tutoring Component."

Staffing and Its Effects

Audits conducted by the Department of Government Funded Programs showed that all the ECIA Chapter 1 Summer Basic Skills Centers had the full complements of staff, including 14 tutors, in July. The number of tutors at both ECIA and OEEO sites was gradually augmented through JTPA funding to as many as 15 to 64 additional tutors. At the time of the audits, the average was five tutors per classroom. The effect of the number of tutors on the instructional program is discussed under "Tutoring Component."

Data from staff interviews and questionnaires indicated that about 33 percent of the lead teachers and 29 percent of the classroom teachers had worked in the 1983 summer program. Eighteen percent of the lead teachers had held the same positions the previous year.

Open-ended comments on evaluation questions asked in the summer of 1983 led to the recommendation that, given the complexity of the Summer Basic Skills Centers program, retention of the same staff, to a reasonable extent, would contribute to better implementation of the program the next year. Interviews with the lead teachers in the summer of 1984

indicated that this recommendation was a sound one. The continuing lead teachers reported fewer difficulties than the new lead teachers in initiating the program and training the classroom teachers. Also, at many sites, the continuing classroom teachers were able to assist the new lead teachers in showing the staff how to use the Brigance reading and Enright mathematics diagnostic materials, and also the Science on a Shoestring kits.

Again, because of the complexity of the program, some of the staff reported initially that they felt overburdened and confused. These feelings were eventually alleviated through the inservice training that was provided at each site throughout the summer session, with technical assistance from district instructional and ECIA coordinators and from central office curriculum coordinators. The extent to which this aspect of the summer program was fulfilled is described under "Staff Development Component."

Provision of Facilities

The evaluators' observations revealed no serious inadequacies respecting the space and furniture in the summer program classrooms. In anticipation of increasingly warmer weather, the classrooms usually were located on the shadier sides of the buildings or in the cooler wings. At several centers, where the classrooms were intolerably hot on a particular day, the observers learned that janitorial considerations had played a role in selecting the classroom locations. In many buildings that had air-conditioners, malfunctioning was, once again, a problem.

These observations suggested that in planning the program sites more than casual consideration should be given to maximizing relief from the

summer heat. Can the classroom windows be opened easily to improve ventilation? Can all the window shades be adjusted? Such questions as these should be answered, as well as questions about the most comfortable locations for the classrooms and about the maintenance of air-conditioning equipment.

Provision of Instructional Materials

Interviews with lead teachers and informal comments from the classroom teachers confirmed that the program materials were delivered more efficiently, with far fewer omissions and shortages, than occurred in the summer of 1983.

Seventy-eight to 96 percent of the lead teachers reported having received the prescribed quantities of each of 12 essential instructional materials that were singled out in the interviews. For eight of these items more than 90 percent of the responses were affirmative. The shortages or late delivery of particular materials at particular sites and its effects on the instructional program are discussed in other sections of this report.

The most common problem pertained to the delivery of Chicago Mastery Learning worktexts in the correct quantities for the right grade levels. Although this problem was not as severe as it had been in the summer of 1983, it still persisted: the materials must be ordered several weeks before it is definitely known how many students at each grade level will actually show up for enrollment in summer program. Some lead teachers corrected the shortages by exchanging materials with neighboring centers, or by using regular school year supplies in their buildings.

The summer program administrators should give some thought to management strategies for adjusting the quantities of materials more readily. A

thorough inventory of the nonconsumable materials on hand at the end of the summer session and more deliberate supervision of their storage should be the first step of such improvement.

Twenty-eight percent of the lead teachers who returned questionnaires indicated that some of the essential materials for their program sites were not delivered within a reasonable time. This figure was undoubtedly correlated with 30 percent of the respondents' reporting that shortages of materials caused persistent problems in maintaining the prescribed schedule of instruction.

About three-fourths of the lead teachers encountered no problems in having the classroom teachers share some of the essential materials, in accordance with the program plan; of course this figure indicates that about one-fourth of the lead teachers did encounter such problems.

Student Enrollment and Attendance

Staff of the Department of Government Funded Programs visited each of the ECIA Chapter 1 Summer Basic Skills Centers during July to audit the program implementation.

Enrollments exceeding the prescribed 20 students per classroom were reported at 57 sites and enrollments under 20 students per classroom were reported at 36 sites. The average attendance observed during the audits was 18 students per classroom. In a random check of about 3000 individual student enrollment records at ECIA sites, 93 students were found to be ineligible because of residences or achievement levels not conforming to ECIA Chapter 1 guidelines for participation in the summer program.

Overenrollment at the time of the audits ranged from one to 46 students per program site. The district superintendents and principals, understandably, were reluctant to deny enrollment to any eligible student who was interested in attending the summer program. Overenrollment at the program sites was also encouraged by the expectation of some attrition of students as the summer progressed.

It may be emphasized here that overenrollment was often the cause of some centers being short of materials after the initial orders, based on the prescribed enrollment of 140 students per center, were delivered. Moreover, the attendance data for the summer of 1983 and again for the summer of 1984 confirmed that the attrition of enrollment was slight.

In the sample of 100 program sites, observations in 453 of the 700 classrooms the third through the sixth week of the summer session showed an average attendance rate of 81 percent for the students and 94 percent for the tutors. The average number of students present during the observation in each classroom was 16. The average number of tutors present was four.

Role of the School-Community Representatives

The 1983 Summer Basic Skills Centers evaluation confirmed that the school-community representatives (SCRs) made very important contributions to sustaining the students' attendance and getting the parents involved in the program. In the present evaluation, through questionnaires returned by 90 SCRs included in the sample of 100 program sites, the role of these paraprofessionals can be reported in some detail.

Almost half the respondents had worked as SCRs in the 1983 summer program. Three-fourths of them had six or more years of experience as school-community representatives, and about half of them were working at sites that were their regular school year places of employment.

In fulfilling the responsibility of checking on the students' absences, more that half the SCRs reported making 10 to 19 telephone calls daily. About one-third of the respondents made fewer than 10 calls and the remainder made 20 or more calls daily. Less than three, three to five, or more than five home visits daily were reported by about one-third of the SCRs in each instance. Of course these data reflected the range of social and other characteristics of the neighborhoods in which the centers were located. That is to say, these data should not be interpreted as differences in the school-community representatives' dedication to their tasks.

Generally, the SCRs called the students' homes from lists of absentees received from the classroom teachers each morning. If there was no telephone in the home, the SCR made a personal visit to the residence later in the morning to determine the cause of the student's absence.

At some program sites, convenient forms were devised by the SCR or lead teacher for listing the absent and tardy students. Some SCRs, using their own records of the students' home addresses and telephone numbers, visited the classrooms every morning to identify absentees personally. One-third of the respondents reported using the latter procedure.

The following variations and innovations in monitoring the students' attendance were revealed in open-ended responses to the questionnaire:

- Watching the students enter the building in the morning to make checks of who did or did not appear
- Providing wake-up calls for students who had especially difficultproblems in getting up on time
- Contacting working parents by leaving messages about their children's attendance with their neighbors
- Checking neighborhood hangouts (stores and playgrounds) to control truancy
- Getting advance notices from parents regarding vacation departures and returns
- Asking adults on the blocks where the children lived to watch out for them and to encourage them on their way to the summer program centers
- Counseling parents informally, at the program sites or in chance encounters elsewhere, about the benefits of the summer program.

Parent Involvement

Some of the OEEO summer program staff took advantage of special budget allowance under their funding for trips and other enrichment activities. These included workshops for the parents, with refreshments. Even with special budget allowances, comparable activities for the parents, except for field trips, were included in the activities at some ECIA program sites as well. In the planning and management of these events the school-community representatives were assistants, if not actually the initiators or leaders.

Some of the field trips mentioned in the questionnaires were to museums, shopping centers, and one police district headquarters. The workshops presented informative talks by professionals on health problems, nutrition. home economics, first aid, decorative crafts, and the writing of simple life histories. Other activities in both the ECIA and OEEO Summer Basic Skills Centers that prompted parent participation were

open-house festivities, assemblies at which awards were presented to the students, and opportunities to assist the program staff by monitoring the lunch period, helping teachers in the classrooms, or serving on planning committees for the special events.

Thirty of the 90 SCR respondents indicated that there were no special activities for the parents at their program sites in the summer of 1984. The evaluators' observations also indicated less explicit planning of parent involvement at the ECIA sites than was evidenced in the summer of 1983.

Observations of Learning Climates

The sections on the reading, mathematics, and science program components include some discussion associated with the learning climates in the Summer Basic Skills Centers. The present discussion is limited to the more general aspects of this topic.

It is always tempting to present the positive data first and foremost. Here, for a change of approach, the negative data pertaining to the classroom climates are singled out. During twenty-minute structured observations in 454 classrooms, the following factors of classroom management were judged to be "not conducive to learning" in the listed percentages of the cases:

Factor	Percent
Room temperature and ventilation	27
Spatial arrangements created by the teacher	6
Function/quality of displays	4
Teacher's comments on students' work/performance ...	3
Teacher's management of tutors and students	2

These low figures, except for that pertaining to room temperature and ventilation (an effect of the summer heat), point emphatically to the great majority of cases that were judged to be "conducive to learning," or even "highly conducive to learning." The latter rating represented about 20 percent of the ratings for each factor except the first one.

It should be mentioned, however, that in 59 classrooms the observers saw no evidence of motivational displays. To one evaluator it appeared, generally, that in the summer of 1984 fewer teachers devoted time to making their classrooms visually colorful and inviting than their counterparts did in the summer of 1983. The more immediate concentration on getting the instruction started and on maintaining the schedule of lessons may have contributed to this difference. The omission of an orientation meeting for all the classroom teachers together (because of the logistical problems of conducting this kind of meeting in the summer of 1983) may also have diminished the inspiration for starting the program off with conspicuous improvements of the classroom settings.

That 84 percent of the observations indicated that the teachers' comments to the students were conducive to learning reflects perhaps the long experience and the competence of teachers. A very large majority of them had been teaching for 10 years or longer. Predominantly, in the observations, the demeanor and tone of the teachers was assessed as having a positive effect on the students' interest in learning or on their feelings of enjoyment or success. In 12 percent of the observations the type of lesson in progress prompted too few comments from the teacher for making an assessment of this factor.

Staff Assessments of the Program.

Turning to the classroom teachers' views of the summer program, on topics other than the tutoring and subject-matter components, the following brief notes will suffice to convey that their assessments were predominantly favorable.. Among 603 teachers who returned completed questionnaires:

- Sixty-seven percent rated the service of the school-community representatives as better than adequate; 31 percent rated it as adequate; 14 respondents rated it as inadequate.
- Seventy-two percent rated the service of the instructional aides as better than adequate; 25 percent rated it as adequate; 22 respondents rated it as inadequate.
- Maintenance of access to the resource room materials was rated as adequate or better than adequate by 98 percent of the respondents.
- Procedures for sharing certain materials with other classrooms were rated as adequate or better than adequate by 94 percent of the respondents.

However, 111 respondents indicated that the janitorial service in their classrooms was inadequate. These responses pertained to 63 of the 100 Summer Basic Skills Centers that comprised the sample for the evaluation. Although only one respondent at each of 28 of these sites indicated that the janitorial service was inadequate, there were ten sites at which from three to seven teachers rated the janitorial service "inadequate."

Of the 603 teachers who returned questionnaires, a large majority (80 percent) felt that a fully prestructured summer program fit the students' need very well. Twenty-percent of the respondents, it should

be noted, disagreed. Only 10 percent of the respondents, however, disagreed with this statement: "Some of the structure and materials of the summer program should be incorporated into the regular school year program." The lead teachers' views on the statements just considered were correspondingly favorable: more than 90 percent agreed or strongly agreed. Moreover, in open-ended questionnaire comments, 96 lead teachers submitted 196 discrete assessments of the summer program. The comment categories with response frequencies of more than three were as follows:

Comment Category	Frequency
Program was well planned/well structured/ conducive to mastery of academic skills	34
Program was excellent/effective/outstanding/ successful	31
Program was beneficial/rewarding for all participants	19
Materials were effective/enhanced learning	17
Tutors were effective/supported individualization of instruction	14
Program was good/very good	13

One constructive criticism on which the lead teachers seemed to agree (18 comments) was this:

- Earlier/more in-depth/smaller group preservice training for both the lead teachers and classroom teachers is needed.

As in the summer of 1983, there were recommendations from a few respondents, including the school-community representatives, for minor improvements of the program. It is worth noting that some participants felt that the program was too rigidly structured, leaving no time for

any expression of the teacher's creativity. Also, some of the lead teachers and classroom teachers felt that a representative group of summer program teachers should participate in planning the program revisions.

STAFF DEVELOPMENT COMPONENT

Evaluator: Dr. Dorothy Bryant

Program Design

Staff development activities were included as an integral part of the Summer Basic Skills Centers. They were designed to insure a more uniform implementation of the program. The activities were divided into three distinct patterns: one and half days of preservice training for all the lead teachers, two full days and two half days of school-based inservice during the first week of the summer session for all teachers, and additional staff development activities conducted on an ongoing basis at the summer school sites.

Program Implementation

The preservice staff development component was held at the Hope Middle School on Friday afternoon June 29 and all day Saturday June 30. One lead teacher from each summer school site along with central office resource teachers and district ECIA coordinators attended the sessions. These sessions under the direction of the Director of the Bureau of Language Arts included all aspects of the summer program. Rules and regulations for the ECIA Chapter 1 programs, the Mayor's Summer Youth Program and the curriculum content area were presented.

During the first session on Friday afternoon staff of the bureaus of Language Arts, Mathematics, and Science provided overviews of their respective components of the summer school program which in each case were closely correlated with the regular year Chicago Board of Education's curriculum. The authors of some of the materials, which formed the core of the mathematics and science program, also made

presentations on the design and intended use of their materials.

The Saturday session began with an explanation of the testing program followed by concurrent sessions in which the publishers' representatives explained the materials that were to be used in the program. They told the best methods of using the materials for optimum results.

All lead teachers were required to be present as a group for the Friday afternoon session, the Saturday opening session, and the general wrap-up session at the close of the second day. The rest of the time on Saturday was devoted to small-group sessions. The teachers could choose to attend those presentations most pertinent to the needs and grade levels at their local school sites.

After receiving the training, the lead teachers were charged with the responsibility of returning to their respective sites on Monday, July 2, to begin two full days and then two half days of school-based staff development with their summer school staffs. Each teacher was given a packet which contained outlines of the materials presented in the preservice activities along with an outline for the school-based staff development activities. The topics outlined for Monday included the roles of the lead teacher and support staff, problem solving and computation in mathematics, and vocabulary learning strategies. Monday afternoon was devoted to preparations for instruction in the areas of reading and mathematics. Tuesday's agenda again covered reading and mathematics in the morning. The testing components of each of these subjects were studied in detail. Instruction materials for these subjects and procedures for the tutors and tutees were explained. In

the afternoon, the science component for grades one through six, Science on a Shoestring, was scheduled for one hour. The remainder of the time was scheduled for exploring the relationships among teachers, tutors, and pupils.

The half day of staff development on Thursday afternoon pertained to the use of the program site resource center and its instructional materials, while Friday afternoon allowed one hour for the examination of instruction materials. At sites where there were seventh and eighth grades, inservice was conducted for their science programs: the microscope, the blood, molecular models and the pH program. The remaining hour on both Thursday and Friday was devoted to preparations for instruction.

The school-based staff development which occurred on the first two days of the summer session was monitored by field evaluators at randomly selected sites for at least an hour at each site. The activities proceeded mostly according to schedule at the sites monitored, although some schools' staff found it necessary to adjust the prescribed time line to fit local conditions. In those schools where the teachers had been in the program in 1983 and were familiar with the use of the materials, less than the prescribed time was spent on that aspect of training. The time was reallocated to preparations for instruction. Three of the observed schools assigned tutors on the first day rather than on the second day as prescribed by the guidelines. The teachers then used their tutors' assistance in the three-hour afternoon time period designated as preparation for instruction.

Of the schools sampled, 23 percent devoted a portion of the teacher's staff development time to establishing additional guidelines for tutors, which included dress codes and attitudes toward the work situation as well as time management.

Additional staff development activities for classroom teachers occurred at 8:00 or 8:30 a.m. throughout the summer with a frequency determined by the lead teacher based on the perceived needs of the teachers and the availability of resource personnel. Chapter 1 evaluators monitored a portion of these meetings and observed the following leadership pattern:

- 27% presented by lead teachers
- 39% presented by resource teachers from curriculum
- 11% by district coordinators
- 6% by lead teachers and district coordinators
- 17% by others

It appears the need for inservice in curriculum areas was more intensive than in the other types of services rendered. Thirty-nine percent of the staff development was done by resource teachers from the Department of Curriculum in their areas of expertise. The ECIA Chapter 1 district coordinators presented subject matter also. Creative writing was required as a part of the Summer Basic Skills Centers in one of the districts. The district's ECIA Chapter 1 coordinator was solely responsible for the staff development required.

Program Effectiveness

Due to the large number of sites included in the summer program and the limited number of personnel available for evaluations, just 100 sites

were randomly selected for evaluation. At each site the lead teacher was interviewed in regard to the beginning staff development experience at the Hope Middle School on June 29 and June 30. The first question asked was how well the training prepared them to replicate the procedures and share the information with the classroom teachers at their sites.

Of the 98 teachers interviewed, 32 percent felt that they were well prepared in reading, 36 percent in mathematics, 47 percent in science and 30 percent in the tutoring component. Forty-three percent of the teachers stated their answers were influenced considerably by their previous experience in summer programs or with the instructional materials.

Although their comments were many and varied, certain comments were mentioned by a large number of the lead teachers. These comments can be summarized as follows:

- last day of regular school year is a poor time for major staff development
- too much information given at one time
- no time to assimilate information
- too confusing
- too many bits and pieces, no overall picture
- need to demonstrate procedures
- not enough time devoted to the tutor component
- classroom teachers should have been included
- large group was a hindrance
- separate sessions were needed for inexperienced lead teachers
- publishers' sessions were helpful

- the presenters were inspiring
- good to have curriculum resource people to contact

Teachers felt that preservice staff development could be improved by providing the lead teacher with the materials two weeks to one month in advance. The lead teachers would then have time to peruse the materials and have meaningful questions to ask at the staff development sessions.

Many of the lead teachers felt that it would be more beneficial if one all-day meeting could be scheduled two weeks prior to the opening of the summer session. Several indicated that smaller groups, perhaps district level, would be better. They also indicated a need for more specific information regarding the actual start-up procedures.

Data from the questionnaires returned by 601 classroom teachers indicated the teachers were helped by their lead teachers. The lead teachers used the preservice staff development they had received to present 27 percent of the school-based staff development sessions. Seventy-one percent of the teachers who responded to the questionnaire considered the initial days of school-based staff development to be quite helpful. Eighty-six percent found the ongoing staff development by the lead teacher very beneficial. Assistance from their lead teacher was rated helpful or very helpful by 80 percent of the classroom teachers. Twelve percent found the assistance they received from their lead teacher only moderately helpful, while six percent found it not very helpful. Slightly less than ten percent of the teachers found the initial two and one-half days not very helpful, while 12 percent considered the ongoing staff development not very helpful.

The district staff was available to aid the implementation of the program. The district ECIA Chapter 1 coordinators and the district instruction coordinators offered assistance by presenting topics at local inservice meetings and in one-to-one relationships with individual lead teachers and classroom teachers. Their assistance was rated from moderately helpful to very helpful by about 62 percent of the teachers who responded.

The resource teachers trained and sent out from the Department of Curriculum received very high ratings. The resource teachers were considered from moderately helpful to very helpful in science by 72 percent of the teachers, in mathematics by 72 percent of the teachers, and in reading by 68 percent of the teachers.

Summary and Recommendations

Most of the teachers found the staff development component of the Summer Basic Skills Centers beneficial. The lead teachers believed too much was presented in too short a time during their one and a half days of preservice activities. Many felt inundated and confused. Several of those interviewed felt smaller groupings would have been better. Fourteen percent expressed a need for more information regarding the tutor component. The lead teachers were favorably impressed with the resource people available to them during the summer. More than 75 percent of the classroom teachers responded favorably to the initial school-based staff development and to the ongoing staff development activities. The resource teachers from the Department of Curriculum were especially valuable.

Based on these responses it would be well to rethink the preservice staff development format for the lead teachers. If the manuals were distributed two to three weeks prior to the openiny of the summer session the lead teachers would have adequate time to familiarize themselves with the total program and see how the presentations relate to it. Lead teachers could then raise more beneficial questions.

Smaller groups, such as the district cluster groups, would make for less confusion. In smaller groups more of the hands-on activities and demonstrations could occur.

The presentation of the tutor component which was described as vague and inadequate should be clarified. Some lead teachers felt they needed more specific guidelines regarding the use of the tutors. Teachers rather than management aides should be responsible for the tutors' training in academic areas.

TUTORING COMPONENT

Evaluator: Liz Bakall

Description

The tutoring component, funded by ECIA Chapter 1, Office of Equal Education Opportunity (OEEO) and Job Training Partnership Act (JTPA), was designed to support the Summer Basic Skills Center program. Monies from the Mayor's Office of Employment and Training provided funds through the JTPA to hire one management aide per site to assist the lead teacher in clerical tasks related to the tutoring program.

Some 7000 tutors (2800 ECIA and OEEO, 4200 JTPA), ranging in age from 14 to 21, were hired to work in the 210 summer sites. Fourteen tutors per site, funded by ECIA or OEEO, were chosen by staff at the district offices and local school sites; no hiring restrictions were imposed by the Department of Government Funded Programs. Funds to hire JTPA-funded tutors were distributed to each district according to their poverty index levels. Therefore, the number of JTPA tutors varied at each site. Although there were no achievement-level guidelines for hiring JTPA-funded tutors, five percent of those hired were to be classified as handicapped according to the Department of Labor mandate. Considerable diversity in tutor selection and screening existed in the participating districts.

The lead teacher, assisted by the management aide, trained and supervised the tutors, who worked five hours each day. Reading and mathematics handbooks designed by the Department of Curriculum outlined tutor responsibilities and tasks. A record-keeping system, as well as daily training workshops, provided tutors with continuous training in the use of program materials and classroom tutoring strategies. Staff from the

Department of Curriculum, as well as district staff, assisted lead teachers in training tutors on specific reading and mathematics skills and in the implementation of program materials.

The clerical functions of the management aide included preparation of the ECIA/ OEEO payroll forms and the JTPA forms. Monitoring and supervising the tutors' daily attendance and assisting the lead teacher in daily tutor-training sessions were other tasks performed.

During the first and last weeks of the summer program, lead teachers administered the California Achievement Tests (CAT) to a random sample of summer school tutors at 100 sites. These tests would assess tutors' improved academic achievement resulting from their participation in the daily developmental reading and mathematics lessons conducted by the classroom teachers and the tutors' direct involvement in the daily tutored reading and mathematics lessons.

Management Aide Training and Responsibilities with Tutors

Preservice training was provided for management aides prior to the beginning of the summer program. The half-day meeting at Hope Middle School was conducted by the central office JTPA administrator and JTPA coordinators in conjunction with the Department of Government Funded Programs. Program goals and objectives as well as payroll procedures for the Board of Education and the City of Chicago were set forth.

An overview of the Basic Skills Centers program and the management aide's role in that program were discussed. Aide responsibilities, including the clerical functions, were outlined. Aides were expected to assist lead teachers in the inservicing of all tutors. Although the primary function of tutor training was to focus on the use of the summer

materials, other critical areas of employment and training were to be addressed. These areas included appropriate dress, promptness, and behavior at the work site. Management aides would be required to evaluate each JTPA tutor twice during the summer for the Mayor's office. Aides could expect visitors from the Mayor's office, and JTPA tutors would participate in a survey conducted by the city. Subsequent training during the first part of the summer was conducted for management aides at the district offices. The number of meetings varied by district.

A questionnaire was sent to 100 management aides in the sampled summer sites; 88 forms were returned. Management aides were asked what duties they typically performed beyond their clerical tasks. The most frequently mentioned activities included morning supervision of tutors, delivery of payroll information to district offices, classroom visits to observe tutors' performance, and lunchroom and hallway supervision. Although in most sites lead teachers made the tutor classroom assignments, management aides in some instances performed this task. While the majority of tutors took their summer employment quite seriously, problems did exist with tutor absenteeism, tardiness, and lack of courteous behavior. Some management aides played a prominent role in assisting the lead teacher to resolve these problems through individual conferences and group sessions, and during the tutor inservice meetings.

In instances where problems could not be resolved in a satisfactory manner, tutors were dismissed, according to surveyed aides. Dismissals accounted for less than five percent of the assigned tutors. More than half of the sampled schools, however, solved their problems without having to resort to this remedy. The most frequent reasons for dismis-

sal were poor attendance, excessive tardiness and being discourteous. Other tutors did not fulfill their summer program commitments because they found better jobs or enrolled summer school.

Lead Teacher Training and Responsibilities with Tutors

During the orientation preservice at Hope Middle School, lead teachers became aware of the major role they would play in the tutoring component. The previous summer, a special staff person was assigned supervisory and clerical tasks relating to the tutor. In the summer of 1984 lead teachers were responsible for testing tutors, training tutors, and supervising the management aide under the direction of the principal. These activities were coordinated with the other tasks outlined during the initial orientation meetings prior to the opening of the summer school.

Interviews conducted with lead teachers in the randomly sampled schools assessed how well their preservice training prepared them to assume and implement their tasks. Lead teachers were asked to rate the effectiveness of the orientation meetings in preparing them to implement the tutoring component. The data indicate that 27 percent said, "Very Well"; 38 percent said, "Moderately Well"; and 35 percent said, "Not Very Well." Lead teachers who gave a "Not Very Well" rating indicated that the information they received regarding the tutoring component did not clearly specify how the management aide would assist the lead teacher with tutors beyond payroll and clerical tasks. Also, the extent of supervising the management aide was not made clear during preservice training for lead teachers.

Training the tutors to use the instruction materials and games would occupy a good portion of the tutor workshops, but more structure was

needed, according to lead teachers, to plan other worthwhile experiences for tutors throughout the summer. Training provided by district staff, particularly Chapter 1 district coordinators, helped lead teachers carry out their responsibilities. Central office staff also provided additional training to lead teachers, classroom teachers and tutors during the summer.

Unlike the previous year, a sufficient quantity of tutor handbooks were available in most sites. The distribution of tutor test materials by district ECIA coordinators was improved compared with the previous summer's distribution. A majority of lead teachers encountered no problems in conducting the tutor pretesting. Those who did mentioned delayed delivery of tests, insufficient test booklets, inappropriate answer sheet levels, and limited lead teacher time. The management aides in some schools provided assistance by monitoring the testing session after instructions were given by the lead teacher. Several lead teachers commented that delays in tutor assignments to school sites not only hampered testing, but impinged on tutor training and coordinating classroom assignments of tutors.

Interviews with lead teachers confirmed that careful selection of students to work in the summer tutoring program produced positive results. Although a majority of tutors were initially screened at the district level, local school personnel had input. In some cases, those tutors who were known or who had tutored the previous year were selected. Efforts were made by some lead teachers to interview each tutor and to select the most enthusiastic and capable. Placement of tutors by age, competency, interest level, and compatibility with the teacher were criteria mentioned by some lead teachers.

Lead teachers felt that while greatly improved procedures were initiated in screening and hiring tutors for the program, the need for basic skill training remained a workshop focus. Training tutors was a combined effort of all center staff. Less competent tutors were teamed with more proficient tutors. Increased inservice training time and closer classroom monitoring procedures were implemented. Appropriate classroom assignments compensated for tutors with limited skills. Where limited competencies were identified, tutors were assigned a variety of tasks commensurate with their abilities.

By the end of the first week of the summer, more than three-quarters of the surveyed classroom teachers were able to implement the tutoring component. With the assistance of district and central office staff, the lead teachers and classroom teachers were then prepared to begin the scheduled summer tasks. Although some schools had more tutors assigned than others, a complement of five tutors per 20 students was considered by classroom teachers as ideal. Assignment of all tutors by the end of the first week was preferred by surveyed lead teachers and classroom teachers.

The majority of lead teachers indicated that the assistance of the management aide was vital to the success of the tutoring component. Most aides proved to be competent in their clerical tasks. In a few instances, lead teachers were placed in difficult situations where the line of authority over the supervision of tutors was not well defined. Clearer role distinctions would have been desirable. Some management aides were better able than others to take an active role in assisting the lead teacher during tutor training sessions.

Tutor Training

During the first week of the program, attendance and payroll procedures were explained to the tutors. In addition to explaining the role tutors would be expected to play in the classroom, school rules, daily dress code, and tutor attitudes were discussed. The tutoring handbooks provided the initial source for training. According to staff comments, tutors were helpful in sorting out program materials and assisted in decorating classrooms. The task of training tutors was facilitated by the fact that all tutors were in attendance five hours a day.

Although time schedules varied across the summer sites, training workshops generally occurred during the hour provided after the lunch period. During the half-hour segment before classes began, tutors signed in, received announcements, and reported to their assigned rooms to prepare (with the teacher) for the day's lessons.

Daily training was intensive at most sites during the first part of the summer to familiarize tutors with the program materials. The classroom teachers played a major role in this training directly, or by referring their concerns to the lead teacher and management aide. Instruction in reading and mathematics skills was provided during the teacher-directed lessons, when tutors were expected to listen and assist when called upon.

Continuous basic skills training was provided by the lead teacher and management aide during the scheduled training workshops. These training meetings were attended by ECIA evaluators throughout the summer. Most of the observed training sessions were conducted by the lead teacher; to a lesser degree (one-third of the observations), the management aide

supervised tutor activities. The time was spent on clerical procedures, answering the tutors' questions, and discussing job-related skills. This time was also used by tutors to maintain their daily logs. Both lead teachers and management aides provided tutors with an opportunity to discuss problems encountered in the classrooms, directed them in using appropriate methods of managing tutees, and helped them to develop positive social relationships and behavior modification techniques to improve attitudes.

The majority of summer schools put together a structured, meaningful tutor program that included purposeful involvement from sign-in time to the end of the tutor workshops. Routines were established early in the program. A cooperative spirit was pervasive. Tutor remediation, when needed, was considered everyone's responsibility. The highlight of the tutoring component, in addition to the tutors' supportive contributions in the classroom, was the training workshops.

Many lead teachers and management aides poured their energies and creativity into making this summer program for tutors a memorable one. In the spirit of the Mayor's Summer Youth Employment and Training Program goals, as well as those of the Department of Government Funded Programs, workshops were planned to enhance academic skills and employment-related experiences. Some of these workshops were attended by evaluators; other workshop programs were enthusiastically described by school staff in questionnaires and interviews.

Speakers were invited from the district and central offices. Lead teachers and management aides conducted training sessions centered on the tutors' daily experiences in the classroom. Professionals in the

fields of medicine, industry, nutrition and hygiene, the local social agency counselors, and the police department were among the city resources that were tapped. Topics included money management, study and test-taking skills, writing experiences, career opportunities, educational opportunities, drugs and gang problems, goal-setting, and job market awareness. The data suggest that conscientious lead teachers balanced tutor training time to address the understanding and use of program materials, basic skills remediation, school business, log maintenance, and outside speakers.

Tutoring Log

Maintaining their daily logs was very much a part of the tutors' responsibilities. Better than three-fourths of the surveyed lead teachers, classroom teachers, and management aides indicated that daily logs were a useful tutor activity. The logs helped to document the tutees' progress and, at the same time, directly involved tutors in written communication skills. One lead teacher summed up the feelings of many by stating, "Logs are a good ritual for tutors and help them key-in on task-oriented activities."

Daily log entries occurred primarily during the training period at the end of the day. Reviewing log entries was a responsibility shared by all summer staff. The classroom teacher and others thus had the opportunity to monitor student progress. The management aide could identify which tutors were falling behind in their log entries. The lead teacher could provide direct instruction in grammar and syntax. Some lead teachers modified the log format to meet their school needs. One lead teacher required written lesson plans. Several lead teachers

revised the log format to reflect a week's work for several tutees in both reading and math to avoid duplication of effort, to avoid repetitious copying from the tutor handbooks, and the excessive use of ditto paper. Other lead teachers commented that while tutor record keeping was a useful task, the log form could be revised to encourage constructive entries rather than busywork.

Tutor Participation in Instruction

Observations in 463 classroom indicated that 93 percent of the tutors assigned were present with a median of four tutors in attendance per classroom. Tutor attendance throughout the summer was rated as good to excellent. When regular attendance and promptness became an issue in a few instances, they were handled with diplomacy and consideration, especially when tutors had long distances to travel. Tutors were observed to be involved in tasks prescribed by the program and as designated by classroom teachers. Tutors' management of tutees' work and the tutors' attentive listening and watching during the teacher-guided instructional periods were demonstrated during classroom observations. Direct tutor involvement in the instructional tasks was consistently observed. Only a small portion of tutor classroom time was devoted to clerical tasks or noninvolvement. This speaks to the fact that improved tutor screening resulted in hiring young people better suited for this type of summer employment. The observations confirm that purposeful engaged tutor time in the instructional program was the result of classroom teachers' organization, management, and focus on instruction rather than on clerical tasks.

Surveyed classroom teachers were asked to rate their tutors by dividing them into two groups: "Proficient" and "Less than Proficient" in tutor tasks performed in the classroom. Responses indicated that the more academically proficient the tutors, the better able they were to assist tutees in direct practice work, the more alert they were to their tutees' needs, and the more capable they were in establishing personal rapport with their tutees. The comments of classroom teachers, for the most part, confirmed that the presence of high school tutors provided an excellent role model for tutees who liked having their tutors' approval. One lead teacher said, "Tutees learn, tutors enhance their basic skills, and at the same time learn to help others while improving their own self-esteem."

Tutor Survey Results

A random sample of tutors was surveyed; 593 completed surveys were returned. Thirty-three percent of the tutors were male, and 66 percent were female. This was the first regular-paying job for half the tutors surveyed. Almost one-quarter of the tutors had worked in the tutoring program the previous summer. According to 96 percent of the tutors, the training they received from lead teachers and management aides helped them to understand their duties. Continuous training by summer program staff, according to the majority of tutors, helped them perform their prescribed tasks.

The tutors' primary responsibility was tutoring. However, 14 percent also helped in the resource room, 4 percent worked on clerical tasks in the office or resource room, 2 percent assisted the management aide, and 2 percent performed janitorial services.

Between 60 and 70 percent of the tutors stated that they experienced no difficulty in using the program materials. However, some tutors indicated that more training in the use of the Brigance (24 percent), the Enright (19 percent), and the Versatiles (14 percent) materials would have helped them.

The tutors were not as enthusiastic about maintaining their daily log as were the school staff. Although tutors responded that the logs were very useful (41 percent) or useful most of the time (32 percent), 19 percent found them to be just busywork and 8 percent indicated that the logs were not useful most of the time.

The experiences tutors had during their summer employment were measured not just in terms of the paycheck, but in terms of learning about job expectations, acquiring organization and study skills, and broadening their base of knowledge. For the most part, tutors liked what they did, felt they had made an important contribution to the summer program, and found it rewarding. Their summer involvement taught them to get along with others and to motivate their tutees. The most frequently mentioned techniques were showing their concern, offering encouragement, and listening to their tutees. In helping their tutees to understand the reading and mathematics assignments, they recognized that they were improving their own skills. While building confidence in their tutees, tutors felt they improved their own attitudes and gained maturity. Tutors said that as they learned to be responsible in their tasks, they took pride in their work. "Doing my best" became a priority for many tutors. Realizing the value of an education was cited by many tutors. They also learned that "teaching was hard work and required time, effort, and patience."

Achievement Results for Tutors

Tutors at 100 summer school sites were randomly selected for CAT testing. Staff at each site selected up to 20 tutors (depending upon the number of tutors assigned and present) for pretesting during the first week of the summer session. Many sites reported that their full complement of tutors had not arrived in time for the pretest. Typically, only the first 15 or so tutors to arrive were tested. These same students, if present during the last week of the summer session, were posttested.

Four of the sites failed to return posttests in time for inclusion in the analysis. Nevertheless, almost 1,500 matched pre- and posttest results were available for analysis. Form C, level 18, of the CAT was used for students in grades 8, 9, and 10; level 19 for grades 11 and 12.

As explained previously, on page 27, there were some differences in the manner in which tutors were selected, hired, and assigned to the ECIA and OEEO sites. Since differences in the screening of tutors could affect the learning of both tutors and tutees, this analysis presents results for each category of summer site separately in Tables 1, 2, and 3.

The effects of the screening of tutors at the ECIA sites seemed evident in the pretest scores which were usually higher for the ECIA sites compared to the OEEO Level I sites. The OEEO Level II sites displayed variable pretest (and posttest) means, primarily because the number of tutors included in this portion of the sample was quite small. The pattern of change in scores from pre- to posttest was generally quite similar for all three groups, with the ECIA sites usually displaying the greatest absolute gains.

It was expected that the tutoring experience would improve the tutors' skills in reading, writing, and mathematics. Tables 1, 2, and 3 confirm that the tutors, on the whole, gained two to five grade-equivalent months over the six-week span between pre- and posttest. The posttest percentile rank was typically one to four points higher.*

The most dramatic gains occurred in mathematics, particularly in computation skills. This appeared also to be the area in which most tutors were best prepared: pretest results placed the average eighth and ninth graders at or above national norms and the other grades not far behind. It is felt that good tutor skills and subject matter composed of specific and easily drilled topics combined to produce these gains. The mathematics concepts and applications scores improved less dramatically. These skills are less specific, and the tutors' pretest scores were lower.

The CAT includes no direct measure of written expression. Tests of language mechanics (grammar, punctuation, etc.) and language expression (tense, style, appropriateness) are included and provide some evidence of writing ability. Again, greater improvement was noted for the more specific skills, those of mechanics. However, pretest scores were usually higher for the language expression subtest. This may suggest that it is less a tutor's prior knowledge than the ease with which a

*Some portion of this increase must be attributed to a test-retest or learning effect. On the other hand, it is also probable that the tutors were less motivated to do well on the posttest, given on the last few days of the summer session. Despite the small number of students in some of the cells of the three tables, 12 of the differences between the pre- and posttest scale score means exceeded two pretest standard errors (significant at the .05 level), and another 36 exceeded one pretest standard error.

TABLE 1

MATHEMATICS RESULTS FOR SUMMER SCHOOL TUTORS
ON THE CALIFORNIA ACHIEVEMENT TESTS*

		Mathematics Computation						Math Concepts and Application					
		ECIA		OEEO Level I		OEEO Level II		ECIA		OEEO Level I		OEEO Level II	
Grade	Score	GE	%ile	GE	%ile	GE	%ile	GE	%ile	GE	%ile	GE	%ile
8	Pre	9.0	56	10.5	63	9.0	57	8.3	45	8.8	50	8.6	48
	Post	9.0	55	10.5	64	9.5	57	8.8	48	8.8	48	9.0	53
	Change	0.0	-1	0.0	+1	+0.5	0	+0.5	+3	0.0	-2	+0.4	+5
	N	143		77		46		141		77		46	
9	Pre	9.8	50	9.0	42	9.0	46	8.6	37	8.0	31	8.8	40
	Post	10.5	55	9.0	45	10.5	52	9.0	42	8.2	33	9.0	43
	Change	+0.7	+5	0.0	+3	+1.5	+6	+0.4	+5	+0.2	+2	+0.2	+3
	N	202		111		29		201		111		29	
10	Pre	9.5	42	9.0	36	9.0	38	9.0	35	8.7	30	8.8	31
	Post	10.5	51	9.0	39	9.2	41	9.7	38	9.0	33	9.1	34
	Change	+1.0	+9	0.0	+3	+0.2	+3	+0.7	+3	+0.3	+3	+0.3	+3
	N	186		102		34		185		100		34	
11	Pre	9.0	36	8.8	31	8.7	30	9.2	30	8.9	26	9.0	29
	Post	10.5	44	9.1	37	9.0	33	10.0	35	9.0	28	9.3	30
	Change	+1.5	+8	+0.3	+6	+0.3	+3	+0.8	+5	+0.1	+2	+0.3	+1
	N	164		84		33		163		81		32	
12	Pre	10.5	40	8.6	29	11.0	45	10.0	34	8.9	25	10.2	38
	Post	11.0	47	9.0	34	12.5	53	10.2	39	9.1	28	11.2	45
	Change	+0.5	+7	+0.4	+5	+1.5	+8	+0.2	+5	+0.2	+3	+1.0	+7
	N	145		83		23		142		81		23	
Mean Change:		+0.8	+6	+0.1	+4	+0.7	+3	+0.5	+4	+0.2	+2	+0.4	+4

*The grade-equivalent score and the national percentile rank which correspond to the mean pre- or posttest scale score are given in the table. Pretest percentiles were obtained from normative tables for the eighth month of the regular school year, posttest percentiles for the ninth month of the school year. Percentile ranks for the summer months are not available for the CAT.

subject may be practiced and drilled that influences a tutor's learning.

The least improvement was observed in the reading-related skills. Although more vocabulary learning than reading comprehension learning would be expected, it is not clear this occurred. The results of the testing of

TABLE 2

LANGUAGE RESULTS FOR SUMMER SCHOOL TUTORS
ON THE CALIFORNIA ACHIEVEMENT TESTS*

		Language Mechanics						Language Expression					
		ECIA		OEEO Level I		OEEO Level II		ECIA		OEEO Level I		OEEO Level II	
Grade	Score	GE	%ile	GE	%ile	GE	%ile	GE	%ile	GE	%ile	GE	%ile
8	Pre	7.7	39	7.3	37	7.7	40	8.2	44	8.3	45	9.2	52
	Post	8.0	40	7.6	37	8.5	46	8.6	47	8.4	44	8.8	48
	Change	+0.3	+1	+0.3	0	+0.8	+6	+0.4	+3	+0.1	-1	-0.4	-4
	N	141		78		45		140		78		45	
9	Pre	7.8	36	6.7	28	8.3	40	8.3	38	7.3	29	8.5	40
	Post	8.6	43	6.7	28	8.3	40	8.7	41	7.9	32	8.6	40
	Change	+0.8	+7	0.0	0	0.0	0	+0.4	+3	+0.6	+3	+0.1	0
	N	197		112		30		196		112		30	
10	Pre	8.4	34	7.0	25	8.2	32	9.0	37	8.0	28	10.2	45
	Post	9.0	38	7.5	27	9.0	33	9.5	38	8.4	31	9.9	41
	Change	+0.6	+4	+0.5	+2	+0.8	+6	+0.5	+1	+0.4	+3	-0.3	-4
	N	179		105		34		177		103		34	
11	Pre	8.1	26	6.9	19	8.3	27	9.0	28	8.0	21	9.3	29
	Post	8.8	31	7.4	21	8.2	26	9.7	31	8.5	24	9.2	28
	Change	+0.7	+5	+0.5	+2	-0.1	-1	+0.7	+3	+0.5	+3	-0.1	-1
	N	161		88		32		161		87		33	
12	Pre	8.5	26	7.6	20	10.0	34	10.0	30	8.9	25	10.8	38
	Post	8.9	29	8.1	23	11.0	40	10.5	34	8.8	25	11.1	41
	Change	+0.4	+3	+0.5	+3	+1.0	+6	+0.5	+4	-0.1	0	+0.3	+3
	N	143		85		23		142		83		23	
Mean Change:		+0.6	+4	+0.3	+1	+0.5	+4	+0.5	+3	+0.3	+2	0.0	-2

*The grade-equivalent score and the national percentile rank which correspond to the mean pre- or posttest scale score are given in the table. Pretest percentiles were obtained from normative tables for the eighth month of the regular school year, posttest percentiles for the ninth month of the school year. Percentile ranks for the summer months are not available for the CAT.

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tutors in the 1984 summer session may also be compared to the results obtained in the 1983 summer session. The same test was used both summers. The 1983 session was, however, one week longer in duration. Nevertheless, the gains in 1984 were of comparable magnitude and, for the ECIA sites, usually slightly larger in 1984 in all but grade 12.

TABLE 3

READING RESULTS FOR SUMMER SCHOOL TUTORS
ON THE CALIFORNIA ACHIEVEMENT TESTS*

		Reading Vocabulary						Reading Comprehension					
		ECIA		OEEO Level I		OEEO Level II		ECIA		OEEO Level I		OEEO Level II	
Grade	Score	GE	%ile	GE	%ile	GE	%ile	GE	%ile	GE	%ile	GE	%ile
8	Pre	8.4	46	8.4	45	8.9	51	8.4	47	8.6	47	9.6	55
	Post	8.6	48	8.3	43	9.0	53	8.4	44	8.5	45	9.6	53
	Change	+0.2	+2	-0.1	-2	+0.1	+2	0.0	-3	-0.1	-1	0.0	-2
	N	141		78		46		145		78		46	
9	Pre	8.7	39	8.0	30	8.6	38	8.7	43	8.0	32	8.8	44
	Post	9.0	42	8.1	32	8.2	34	9.3	46	8.0	34	9.0	44
	Change	+0.3	+3	+0.1	+2	-0.4	-4	+0.6	+3	0.0	+2	+0.2	0
	N	196		112		30		202		114		30	
10	Pre	9.5	37	8.6	29	9.6	38	9.7	40	8.8	34	9.4	38
	Post	10.0	38	8.7	29	9.8	37	10.1	43	8.6	32	9.7	39
	Change	+0.5	+1	+0.1	0	+0.2	-1	+0.4	+3	-0.2	-2	+0.3	+1
	N	177		107		34		184		107		34	
11	Pre	10.0	32	9.1	27	10.0	32	9.6	32	8.6	26	8.8	28
	Post	10.4	35	9.5	28	10.6	37	10.0	35	8.8	27	10.0	35
	Change	+0.4	+3	+0.4	+1	+0.6	+5	+0.4	+3	+0.2	+1	+1.2	+7
	N	164		88		33		165		88		33	
12	Pre	10.6	32	9.0	24	11.0	37	10.2	34	8.9	26	10.4	36
	Post	10.6	33	10.0	26	11.6	41	10.5	37	9.3	30	11.3	43
	Change	0.0	+1	+1.0	+2	+0.6	+4	+0.3	+3	+0.4	+4	+0.9	+7
	N	144		88		24		146		88		24	
Mean Change:		+0.3	+2	+0.3	+1	+0.2	+1	+0.4	+2	0.0	+1	+0.5	+2

*The grade-equivalent score and the national percentile rank which correspond to the mean pre- or posttest scale score are given in the table. Pretest percentiles were obtained from normative tables for the eighth month of the regular school year, posttest percentiles for the ninth month of the school year. Percentile ranks for the summer months are not available for the CAT.

Summary and Recommdendations

The tutorial component of the 1984 Summer Basic Skills Centers significantly contributed to the instructional process. The tutoring component enhanced participants' academic achievement as well as personal-social growth. This

unique supportive relationship between tutor and tutee addressed the needs of both groups.

It is noteworthy that this summer tutoring program also helped to improve the tutors' attitudes towards school, classroom behavior, and self-concept. Once again, the tutoring component proved to be a positive supplement to the summer program. Some recommendations follow:

- Consideration should be given to extending the training of the lead teacher and the management aide regarding the tutor component. This training should include specific responsibilities, role clarification, and suggestions for purposeful tutor training throughout the summer in academic areas as well as in job-related experiences.
- Efforts should be focused on the screening, the selection, and the early assignment of the best possible tutor candidates. The data suggest that recent elementary school graduates appear to be the least likely candidates.
- In view of the lead teacher's diverse roles and responsibilities, it is recommended that principals continue to select a lead teacher who is competent in management and organizational skills.
- It is recommended that the tutor log be revised to provide more constructive record keeping for tutors and less monitoring and duplicating effort for school staff.

READING COMPONENT

Evaluator: Dr. Marion Rice

Description of Reading Program

The reading goal of the summer program was to improve reading skills of both tutees and tutors. Students were organized according to grade designation and reading materials were provided according to the instructional levels of the students. Reading materials consisted of: Vocabulary Learning Strategies, Chicago Mastery Learning Reading materials, worktexts, skill kits, and trade books. Program handbooks outlined how and when the materials were to be used.

Vocabulary and comprehension development were the focus of the reading component of the summer school program. Using Vocabulary Learning Strategies texts, students were introduced to categorizing, analyzing word parts, demonstrating word meanings, translating pictures, scaling, visualizing, translating figurative language, and identifying words in context. Vocabulary strategies were designed to help students encode and remember new words. As part of the developmental reading program, teacher-directed vocabulary instruction complemented the structured reading comprehension activities. The structural format for teaching vocabulary skills and concepts was to present them in a sequential and spiraling manner.

In addition to vocabulary development, reading skills were reinforced through the tutorial component. Tutors were assigned to each of the classrooms. A diagnostic/remedial reading approach was used during the

tutorial phase of the program. Each tutor received a Reading Tutor's Handbook which contained directions for assisting with the Vocabulary Learning Strategies. The handbook provided suggestions for teaching word attack, study skills, and comprehension. Tutor schedules outlined the summer program for the tutors; the schedules listed the activities and the instructional materials that were to be used during the reading tutoring period for each day of the summer program. Tutors were instructed in the use of the Brigance Inventory of Reading Skills. This informal assessment instrument was to be used for identifying a starting point for the tutoring program for each tutee. The tutor's daily lesson plan indicated the date on which the test was to be given as well as the specific skill that was to be tested. After administering the test to the tutee, the tutor was to follow the prescriptive lessons included in the daily lesson plan.

Students were also encouraged to read a wide range of materials. In-school and outside reading by the students was to incorporate the Sustained Quiet Uninterrupted Reading Time (SQUIRT) design of the Chicago Mastery Learning Reading (CMLR) Program. Use of local and regional libraries was encouraged.

Implementation of Reading Program

Summer school lead teachers attended an orientation preservice at which the various components of the summer school were explained. After the orientation preservice, 34 percent of the lead teachers felt that they had been very well prepared. By the end of the first week, half of the lead teachers felt well prepared to manage the reading component.

Fortunately, it was clearly specified that inservice training was to be continued throughout the summer program at each of the program sites. District coordinators and central office curriculum coordinators were to provide ongoing inservice.

Most lead teachers indicated that they had received prescribed quantities of the Teacher's Handbook, Tutor's Reading Handbook, and the Brigance Resource Book. There were some shortages with respect to the necessary levels of the Brigance Student Book, the Vocabulary Learning Strategies Worktext, and other reading materials. More than a fourth of teachers did not feel that the levels of the Vocabulary Learning Strategies were appropriate for their students. Limited numbers of copies and sharing of materials with other classrooms occasionally caused difficulty. Although the shortages of materials were not as severe as in the summer of 1983, the problems still persisted because of lack of information regarding enrollment at the time materials were being ordered. Overenrollments could not be anticipated.

Observations were made of the various components of the summer school program. The most frequently observed reading content during observations was "vocabulary learning" followed by "thinking skills." Guided discussion, routine recitation, and application were all observed in teaching vocabulary. "Applying thinking skills" was generally taught by guided discussion and application. Vocabulary Learning Strategies was the most frequently observed material in use. Among other frequently observed materials were: Increasing Comprehension, Brigance Test Book, Brigance Record Book, and Satellite Books.

Time limitation was by far the most frequent complaint among teachers. More than a fourth of the teachers felt that the amount of material for one developmental reading lesson was often too much for their students. Time did not permit the inclusion of all desired reading materials into the summer program. Among the reading materials that teachers had difficulty in finding time to use were the Reader's Digest Skill Builder Series, Try This/Try This Too Kits, recreational/ library reading materials, and games. The Reader's Digest Skill Builder Series was not scheduled; therefore, its use was limited to individuals who completed scheduled tasks early. The scheduling in the teacher's handbook for Try This/Try This Too Kits did not provide ample time for the teachers and tutors to use the kit, although teachers felt that it could have been a very useful item if they had the time to use it properly. Recreational reading/library materials did not have prescribed instructional levels indicated. Some schools found it difficult to assign the recreational/library materials appropriately; directions and instructional grade assignments would have been helpful. Games were often not used because the program was so structured that students rarely finished scheduled work with enough time remaining to constructively use the games.

Training of the tutors was coordinated at the local school level. Twenty-four percent of the tutors felt that they needed additional training with the Brigance Reading Inventory, 14 percent with the learning games, and 10 percent needed more training with the kit materials. Teachers were asked to rate the proficiency of tutors with the Brigance materials; the rating scale ranged from "Unsatisfactory" to "Excellent." When tutors were divided into two groups, proficient

tutors and less proficient tutors, the proficient tutors were most frequently rated by the teachers as good in the use of the Brigance materials. Among the less proficient tutors, the tutors were most frequently rated fair. The same assessment of the tutors was made with respect to assisting tutees in tutor-directed practice work.

Reading Achievement Results

Results from the Brigance Comprehensive Inventory of Basic Skills were used to assess reading progress for students in the Summer Basic Skills Centers. These were the only data available for giving an indication of what may have occurred in reading during the summer program. The reading comprehension tests of the Brigance Comprehensive Inventory of Basic Skills consist of short reading passages with five questions to be answered; each student was to attempt six passages of increasing difficulty and 30 questions. Alternate forms were used for the pre- and posttest. Two measures were obtained: the number of questions answered correctly and the highest reading level mastered. Mastery was defined as at least 80 percent of the questions for a passage answered correctly. Only the scores of the students taking both the pre-and the posttest were included in the following analysis. The results are as follows:

	IMPROVED TOTAL NUMBER OF QUESTIONS ANSWERED CORRECTLY			IMPROVED READING LEVEL MASTERED		
Grade	Number Tested	Number Improving	Percent Improving	Number Tested	Number Improving	Percent Improving
Grade 1	150	79	52.7	143	37	25.9
Grade 2	2346	1270	54.1	2240	912	40.7
Grade 3	3115	1461	46.9	2960	1178	39.8
Grade 4	3129	1361	43.5	2969	1147	38.6
Grade 5	3458	1714	49.6	3278	1389	42.4
Grade 6	3487	1888	54.1	3372	1493	44.3
Grade 7	2772	1762	63.6	2623	1359	51.8
Grade 8	527	342	61.5	495	224	45.3
Overall	18984	9859	51.9	18080	7739	42.8

The results indicate that students showed improvement from the pre- to the posttest of the Brigance Comprehensive Inventory of Basic Skills at all grade levels; improvement appears to be greatest for the upper grade students. The magnitude of improvement cannot be quantified with the limited information available; it must be noted that chance-level improvement for the number of questions answered correctly is 50 percent.

With respect to staff assessment, many lead teachers (84 percent) felt that the summer program approach was appropriate for the students in their center, but almost a fourth of the teachers questioned if a fully prestructured program fit the summer program students' needs very well.

Reading Component Conclusions and Recommendations

The highly detailed lesson schedules of the program should be reviewed with a committee of summer school teachers in an effort to provide recommendations for improvement. Perhaps schedules need to be modified in terms of time allocations so that teachers feel as though they have ample time for incorporating other worthwhile materials. The quantity of material to be covered within a prescribed lesson is in need of review.

Orientation preservice ought to be strengthened and coordinated with and supported by ongoing inservice during the summer session. Shortages of prescribed materials must be addressed; a procedure is needed for exchanging materials and accommodating overenrollment. Better correlation between materials and instructional levels of students must be made. More tutor training is recommended in the use of the Brigance material.

MATHEMATICS COMPONENT

Evaluator: George Dalin

Description

The mathematics component of the fiscal 1984 Summer Basic Skills Centers' program unified instruction in basic computational skills with instruction in problem-solving strategies. The instruction program for grades one through eight was divided into two instructional areas: developmental mathematics and tutorial mathematics. The component had two goals:

- To improve mathematics skills of underachieving students in all elementary school grades.
- To improve the basic mathematics skills of high school students through their participation in the program as tutors.

Instructional placement of students was done according to grade designations as indicated by the district superintendents. Teachers were required to teach mathematics on grade level to all students. Every student received nine periods per week of mathematics instruction. Three of the nine periods focused on group instruction in problem-solving strategies and two periods per week were devoted to diagnosis and remediation of basic computational deficiencies. Tutorial instruction on individually diagnosed skills took place four periods per week.

Classroom teachers were scheduled daily by the Bureau of Mathematics to instruct students in developmental mathematics. This was done by having the teachers strengthen students' computation skills through group instruction, using diversified drill and practice activities in

the Enright Student Books, Barrett's Personal Discovery Book I, and Educational Solutions, Inc. materials. The Enright Diagnostic Inventory of Basic Arithmetic Skills was used to diagnose students' skill deficiencies.

Students' mathematics deficiencies were remediated by the Versa-Tiles Mathematics Laboratory and other resource materials. In addition, problem-solving skills were developed through group instruction on a set of teacher-identified strategies, ranging from planning how to solve a problem to using ratios and proportions.

Individualized tutoring was made available to all student participants. High school-age and some college-age tutors worked with the tutees in a number of ways. First, the tutor tested the tutee on mathematics skills. Second, the tutor discussed the daily lessons with the tutees. Third, the tutor conferred with the tutee on the tutee's progress in each lesson. Finally, the tutor praised each of the tutees for their achievement. Classroom teachers also took part in the tutoring process by working with both tutees and tutors.

Mathematics materials were divided into categories for student use. Certain skill texts were made available to each student, while other texts or materials were placed in the materials center at each school.

Staff development activities were conducted for the summer school staff. These activities included the use of mathematics materials and diagnostic instruments. Tutors also received inservice on the use of mathematics materials and diagnostic instruments.

Assessment of the Mathematics Instruction Program

A majority of the surveyed classroom teachers (85 percent) reported that they were prepared by the end of the first week of the summer session to manage the mathematics component moderately well or very well. Training or assistance from resource staff was moderately helpful or very helpful in mathematics instruction and materials use for the majority of the respondents.

Additionally, teacher respondents (78 percent) believed that local inservice sessions were particularly helpful even after the third week of the summer session.

Interviews with lead teachers revealed that 73 percent were prepared to implement the mathematics component after the two-day orientation meeting. A major concern of 27 percent of the lead teachers was organizing the pretesting for the mathematics program. Some lead teachers were also concerned about obtaining the prescribed mathematics materials, while others reported that they were not sure why the Enright materials had missing pages.

Classroom Observations

ECIA field evaluators visited classrooms in 100 of the Basic Skills Centers in order to observe mathematics instruction and tutoring. Observations focused on what lessons were presented and whether these lessons were following the prescribed schedule. Each field evaluator used a standardized observation instrument which was designed to record mathematics lessons' contents and the degree of participation in classroom activities.

The teacher was on the scheduled daily lesson in 56 percent of the observed mathematics instruction periods where the activity of explanation/ demonstration/guided discussion took place. These lessons frequently were on addition or subtraction, multiplication or division, or problem solving. Approximately 44 percent of the observations, however, did not agree with the scheduled lesson for the daily class period. Yet 70 percent of the observed lessons agreed with the curricular topic scheduled for the daily weekly schedule.

The degree of participation in routine recitation or rote reinforcement agreed with the type of lesson prescribed for the period in 22 percent of the observations, where students worked on addition or subtraction, or multiplication or division skill activities. However, 78 percent of the groups working in the recitation or reinforcement mode were not on the prescribed lesson for the class period. Furthermore, 54 percent of these groups were not on the prescribed weekly curricular topic.

In 58 percent of the observations students were doing seatwork on prescribed daily lessons. Seatwork focused on the application of addition or subtraction, multiplication or division, or problem solving skills. Forty-two percent of these groups were not working on the daily prescribed lesson. Seatwork agreed with the prescribed weekly curricular topic in 67 percent of the observations, while 33 percent of the observations did not agree with the prescribed topic.

Formal assessment or testing was on the prescribed daily topic in 40 percent of the observed classes, where teachers or tutors tested students on addition or subtraction, or multiplication or division. About 60 percent of the formal assessment class sessions were not on the prescribed topic. More than 60 precent of these classes were on the

prescribed weekly topic for formal assessment; 36 percent were not testing on the prescribed curricular topic.

Classroom learning climates in the developmental and tutored mathematics sessions were observed to be good or excellent. Teachers and tutors generally had good control of students' behavior and work habits. Praise was given in most classrooms and students' work was on display in many rooms. A majority of the teachers agreed or strongly agreed that the tutors provided good or excellent assistance in the tutoring or testing of student participants.

Instructional Materials

During interviews lead teachers reported that that mathematics materials were delivered to all summer school centers; however, the delivery of materials was not always in the prescribed quantities or at the necessary student levels. In particular, 76 percent of the interviewed lead teachers reported that they had received the prescribed quantitites of the Enright Student Book, while 24 percent of the interviewees did not receive enough of these books for their students. It should be noted, however, that lead teachers did get sufficient quantities of the Enright Resource Book. About 90 percent of the lead teachers received the prescribed quantities of Problem-Solving in Mathematics; 10 percent did not. The correct student levels of Problem-Solving in Mathematics were delivered to more than 70 percent of the centers. Twenty-eight percent of the lead teachers complained that they did not obtain the appropriate student levels. Blackline Masters were delivered in sufficient quantities to 91 percent of the lead teachers, and 87 percent said that the necessary student levels were delivered. A majority of the lead teachers got the prescribed quantities and the necessary

student levels of Versa-Tiles Mathematics laboratory kits. Finally, practically all of the centers were sent sufficient quantities of the Mathematics Tutor's Handbook and other mathematics learning materials.

In addition to the lead teacher interviews, a questionnaire was sent to a random sample of 100 of the lead teachers. Fifty-Five lead teachers returned the questionnaire form. More than 90 percent of the respondents indicated that all of the prescribed mathematics materials were used during the summer session. A majority of the respondents (76 percent) encountered no difficulty in having their teachers to share mathematics materials, while twenty-four percent of the respondents found that the shortage of certain mathematics materials caused problems in maintaining the prescribed instructional schedule. In particular, the Versa-Tiles materials and Blackline Masters were in short supply. About 20 percent of the lead teacher respondents claimed that the Mini-Tests materials were not readily adaptable for staff and students because the system was too long or too confusing to implement in a short summer session.

A survey of Basic Skills Centers' classroom teachers revealed that about 70 percent of the respondents agreed or strongly agreed their students had the appropriate levels of Problem Solving in Mathematics; however, approximately 30 percent of the surveyed teachers disagreed or strongly disagreed that they had appropriate levels. More than 60 percent of the respondents claimed too much material was scheduled for each developmental mathematics lesson, i.e., the glut of material prevented the maintenance of the daily schedule.

Classroom observations were conducted in many of the centers in order to determine if the prescribed mathematics materials were used by the staff and students. Observation data showed that the Problem-Solving in Mathematics text was in use in most of the observed classrooms. Versa-Tiles, Blackline Masters, and Personal Discovery Kit materials were observed in use in a representative number of classroom sessions. The Enright materials were seen in use in some classrooms. In a few classroom mathematics sessions, students were observed using games, Mini-Tests and Small Change Unit. Overall, prescribed mathematics materials were being used appropriately; only a few classroom observations revealed that teachers were not using the prescribed materials.

Program Results

Tables I and II illustrate the diagnostic test results for the Summer Basic Skills Centers. Matched student scores are given for each subtest.

Table I

DIAGNOSTIC TEST RESULTS

Versa-Tiles Laboratory I (Grades 1-4)

Test I, Numbers and Numeration

Grade	1	2	3	4
Number Improving	1114	1606	1994	1833
Number Tested	1694	2535	3226	3203
Percent Improving	65.8	63.4	61.8	57.2

Test 2, Addition and Subtraction Facts

Grade	1	2	3	4
Number Improving	1087	1473	1494	1330
Number Tested	1635	2514	3224	3212
Percent Improving	66.5	58.6	46.3	41.4

Test 3, Addition and Subtraction

Grade	1	2	3	4
Number Improving	733	1594	2091	1920
Number Tested	1290	2410	3191	3182
Percent Improving	56.8	66.1	65.5	60.3

Test 4, Multiplication and Division

Grade	1	2	3	4
Number Improving	N/A	N/A	2001	2019
Number Tested	N/A	N/A	3009	3167
Percent Improving	N/A	N/A	66.5	63.8

Test 5, Money, Time and Measurement

Grade	1	2	3	4
Number Improving	N/A	N/A	1908	1953
Number Tested	N/A	N/A	3012	3120
Percent Improving	N/A	N/A	63.3	62.6

Table II

Diagnostic Test Results
Versa-Tiles Laboratory II (Grades 5-8)

Test 1, Place Value and Numeration

Grade	5	6	7	8
Number Improving	1923	2115	1916	348
Number Tested	3557	3624	2921	572
Percent Improving	54.1	58.4	65.6	60.8

Test 2, Addition and Subtraction

Grade	5	6	7	8
Number Improving	1973	1934	1525	295
Number Tested	3570	3619	2936	578
Percent Improving	55.3	53.4	51.9	51.0

Test 3, Multiplication and Division

Grade	5	6	7	8
Number Improving	2235	2182	1785	348
Number Tested	3560	3616	2923	575
Percent Improving	62.8	60.3	61.1	60.5

Test 4, Fractions

Grade	5	6	7	8
Number Improving	1095	1670	1724	282
Number Tested	3537	3593	2920	574
Percent Improving	31.0	46.5	59.0	49.1

Test 5, Decimals, Mixed Computation, and Problem Solving

Grade	5	6	7	8
Number Improving	1659	1934	1735	339
Number Tested	3521	3570	2910	573
Percent Improving	47.1	55.6	61.3	59.2

Test 6, Time and Measurement

Grade	5	6	7	8
Number Improving	1851	2028	1692	308
Number Tested	3176	3478	2829	546
Percent Improving	58.3	58.3	59.8	56.4

Program Results (continued)

The diagnostic test results give some indication as to the success of the prescribed mathematics program. Student improvement was based on the criterion that each student would get at least one more correct item on each subtest.

In Table 1 the diagnostic test results for students in grades one and two showed that more than 50 percent of these students had improved scores in all of the subtests. It should be noted that grade one and two students did not have test results for multiplication/division and money, time and measurement subtests because these topics were prescribed for students in grades three through eight. More than 60 percent of the grade three and four students demonstrated improvement in four of the five subtests; fewer than 50 percent of these students showed improvement on addition and subtraction facts.

Table II shows that at least 50 percent of grade six through eight showed improvement on five of the subtests. Grade five students had difficulty with fractions and decimals; less than 50 percent showed improvement. Grade six students also had difficulty with the fractions subtest; only 46 percent improved in this skill.

Overall the diagnostic results were fair. The percent of students in the primary grades who showed improvement in the tested skills ranged from six to sixty-six percent. The percent of middle and upper grade level students who showed improvement in the different skills ranged from 31 to 65 percent.

Conclusions

The diagnostic test results illustrated that more than half of the students demonstrated improvement in most of the subtests. Perhaps the results might have been better if the teachers had maintained the daily and weekly schedules. On the other hand, the amount of scheduled work was too much for a significant minority of the students; thus, many teachers tended to revise the prescribed daily and weekly schedules. In the summer program, consideration should be given to grouping some students by their instructional level; the remaining students could be grouped by grade level.

SCIENCE COMPONENT

Evaluator: Dr. John Brunett

Description

The Summer Basic Skills Centers (SBSC) science component of 1984 differed in format and operation from that of 1983. In the summer of 1984, 210 centers implemented a science program in a session of seven weeks. Science on a Shoestring (SOAS) kits were used in grades one through six as in the previous summer and again scheduled for two 40-minute periods of instruction per week throughout the summer session. This past summer three periods of science often were noted in the site visitations. The centers modified the rigid period-by-period instruction plan to "catch up on" and reestablish the prescribed continuity of learning experiences.

In the summer of 1984, the seventh and eighth grade science lessons were changed entirely from the 1983 format. Body Power was used in 1983 in the seventh grade and was really a language-arts oriented activity with little or no hands-on or self-discovery materials. In 1984, the seventh grade used discovery oriented materials and microscopes. This was a self-motivating format, student-centered, rather than teacher-centered, through students' hands-on individual experiences. A related unit on human blood, its subcomponents and function in the circulatory system, completed the seventh grade science program. One center commendably combined the two using college-donated microscope slides of blood problems and blood components. Teachers were encouraged to use the Board of Education Science Curriculum Guides to develop units of instruction from these and other materials. A unit of instruction on pH or acid/alkalinity measurement and on atomic/molecular models was specified in the SBSC program design for the eighth grade. Supplementary science readings were observed in use and included True Books (grades 1-4

series), each of which explored an individual science topic (air, energy, the earth, etc.). The Science Activities series was intended for grades five through seven, as was the Young People's Science Dictionary.

A period-to-period summer science curriculum plan was provided for each grade and age level. It was congruent with the Board of Education science curriculum guides' spiral sequencing of science concepts.

Preservice Training

Preservice training was offered immediately before the start of the summer program, to acquaint lead teachers with tasks to be accomplished under the SBSC proposal.

Responses to the following lead teacher interview question assessing the effectiveness of the summer preservice are discussed below.

> How well did Hope Middle School orientation meetings prepare you for implementing the science program?

Approximately 51 percent of the 101 lead teachers responding stated that the Hope Middle all-day inservice prepared them "very well," while 33 percent indicated that it prepared them "moderately well." A small number (18 respondents) reported negative reactions to the preservice. During site visits, those lead teachers who attended the preservice sessions commented to evaluators that there should be preservice training for summer program classroom teachers, especially in science, at easily accessible sites during the first weekend. Their remarks also indicated that these sessions should be limited to the daily operation of the instructional components without including publishers' sales perceive by some presentations. Some found the science publishers'

remarks entertaining but not helpful, while 62 percent found them helpful. A small number stated that publishers' presentations of their products did not make good inservice content.

Science Component Implementation: Science Specialists Views

During the summer of 1984, the SBSC program added a much needed center-by-center inservice training program by science specialists. (The science specialists included consultants of the Bureau of Science of the Department of Curriculum and teachers of the ECIA Chapter 1 Teaching Reading Through Science Program.) Seven specialists conducted over 200 inservice meetings in SBS centers throughout the summer session and covered the four components of the summer science program described above. A survey showed that most of these specialists had both sufficient materials and sufficient texts to conduct the inservice program. The science specialists' recommendations are listed for future SBSC planning:

> "When schools send grade levels for potential SBSC participants, they should be required to send the instructional levels for each child, especially in reading abilities. This would allow better selection of units to be taught, especially in science."
>
> "All teachers (in these districts) had trouble with the eighth grade materials because most of the students were one or more years behind in reading since the students had to meet that ECIA Chapter 1 requirement for participation. Because of these limited reading factors and late deliveries, the pH measurement and molecular models units were not taught in two districts."

Other related remarks on the Science Inservice Survey concerned the effectiveness of materials supplementary to Science on a Shoestring (SOAS). They were assessed by all the specialists responding as appropriate in interest levels, content and language vocabulary to the age and ability levels of students in grades three to six inclusive.

Questions were raised by a majority of responding specialists about the inappropriateness of language and vocabulary of SOAS materials at the first and second grade levels and of the blood program at the seventh grade level. They split in opinion on the eighth grade materials.

All found the molecular studies not appropriate in interest levels, content and language for eighth grade participants. This underscores the quotation above, since each eighth grade participant was a year or, more often, two or more years below in reading. It should be noted that the SBS centers were planned for these slower students. One specialist found the pH measurement unit inappropriate in all three categories: interest levels, content and language. Others indicated similar responses: language and content tended to be inappropriate, as elicited from the survey responses and then discussed with the evaluator. The other specialists found the pH measurement unit acceptable in interest when the content was modified but inappropriate in language and vocabulary.

Science Component Implementation: Classroom Teachers' Views

In a self-assessment of the SBSC program instruction in 605 classroom teacher questionnaires, a majority of respondents felt that they handled the teaching tasks of Science on a Shoestring quite well. The teachers were asked how well they were prepared to manage the science component during the first four weeks of the summer session. Of 585 respondents, slightly more than 11 percent indicated they had difficulty managing the component, while 21 percent indicated that the component was handled moderately well. Those who managed the science teaching tasks "well" or "more than moderately well" comprised 68 percent of the respondents.

About 76 percent indicated that science consultants' inservices were "moderately helpful" or "very helpful." Management guidance from the lead teacher should not be overlooked. This often dealt with science instruction problems as well as mathematics, and reading. Ninety-three percent of the respondents found the training provided by the lead teacher moderately helpful or very helpful, while six percent found it not helpful. Only five respondents indicated "Does not apply," which may have indicated that management inservice was handled by other personnel or did not occur.

The summer program classroom teachers also assessed the appropriateness of science instruction materials prescribed for their students. Of those responding, eight percent found the science materials were inappropriate. Although questionnaire information did not yield data indicating which grade levels these teachers taught, the science inservice survey and lead teacher interview suggest that these assessments pertained mostly to materials in the seventh and eighth grades. A review of teacher questionnaire data further shows that in grades one to six, 26 percent of the respondents agreed that the materials were appropriate, while 66 percent expressed stronger approval. In 100 centers SOAS materials were used by well over 500 teachers in grades one through six. About 50 percent of these respondents found materials purchased for the summer centers were appropriate for the participants. Classroom observations underscore these teachers' opinions that the students were enthusiastic in using the science materials. Twenty teachers strongly agreed that the materials should be used during the regular school year program.

Delivery of Science Materials

Lead teacher interview summaries indicated that the following materials were delivered on time for early implementation of lessons:

Summer Basic Skills Centers' Science Materials

	Sufficient Quantities		Appropriate Levels
	Percent		Percent
	YES	NO	
SOAS Science Materials	95	5	90
Microscope Program Materials	78	22	10
Blood Program Materials	85	15	--
pH Measurement Materials	63	37	--

SOAS materials were delivered promptly. Only five percent of the lead teachers who were interviewed reported shortages of these materials. The delivery of seventh grade science materials was completed at about 80 percent of the centers included in the evaluation sample. The pH and molecular models' materials were delivered in full to 63 percent of the centers with an eighth grade science program.

The microscope materials were provided for seventh grade science teachers during the third week. About half of the lead teachers who received materials for the blood program and microscope studies at the end of the second week were able to begin science lessons the third week.

Of the responding lead teachers, 65 were at sites that did not implement an eighth grade program and 23 did not have science lessons for the seventh grade. According to the science inservice survey and the lead teacher questionnaire and interview the following were not implemented:

- The Science Library reading books program was not used in four schools.
- The Blood program was not taught in two schools provided with these materials and in 21 centers without these materials.
- Both the Molecular Models and the pH Measurement were not taught in three districts' schools.

Of the centers that conducted upper grade science instruction, lead teacher interview data cited fifteen as not receiving microscopes and microscope materials. Fourteen centers received microscope materials after the third week of the summer session; 21 centers received no blood program materials. Nineteen centers with the eighth grade science program did not receive any pH materials. Sixteen had no molecular model kits. This was approximately 10 percent of the sampled centers with upper grades. Four lead teachers cited SOAS kits as missing. Classroom teachers' comments concerning the loss of materials through break-ins numbered 10.

Lead teachers, administrators, the science specialists and the classroom teachers all strongly urged that each teacher have a science manual, instead of just three allotted per center. The lead teacher interview and science inservice survey noted 17 cases where the manual was needed and not available. Many schools duplicated the lessons or directions for experiments from the manual as they were needed.

Distribution and Use of Materials

Each center developed a staggered science lesson schedule if they were short of materials. The staggered lessons permitted several classes to use just one kit of materials. In several centers, all SOAS materials were pooled in one resource room where the instructional aide and a

tutor prepared each experiment's materials for individual teachers. All things needed were put into carrying trays and delivered to the teachers. It is difficult to overestimate the effectiveness of preparing the science materials in this manner. The resource room staff serving to expedite materials for science experiments to classroom teachers was a valuable addition to the 1984 SRSC program design.

Lead teachers, in 17 of the 100 responses, noted that having to revise the daily lesson schedules prescribed in other subject areas caused conflicts with the sharing schedules of SOAS materials. A few instances were noted by this evaluator of one teacher using the entire science kit herself where she also taught science lessons to one neighboring class. Also noted were two cases at the higher grade levels where one teacher alone handled the science instruction for the others.

There were 12 centers, in the sample, with resource rooms where tutors and aides compiled all lending materials for science and brought the sets to the classrooms as needed.

The teachers' comments included the following:

- "We were able to maintain the weekly SOAS schedule."
- "Science on a Shoestring was the best material of all the summer session material for my classes."
- "Perhaps it should be stated that only older tutors and adults should handle open flames in experiments."

Many schools had inservice meetings on fire safety. The lead teacher interviews reported 37 schools that had conducted such training and 18 that had not addressed fire safety at the time of the interviews.

Summary and Recommendations

Evaluation of the 1984 Summer Basic Skills Centers science component yielded data concluding that the science instruction for grades one through six was well planned and well implemented with expeditious delivery and equitable distribution of SOAS materials in the majority of centers. A few seventh and eighth grade components had difficulty in securing the materials and in using them, given the students' low reading abilities. Implementation was generally delayed in both seventh and eighth grades. As many as 23 schools did not implement the pH program. Prompt deliveries were essential. The effects of "getting the science program off to a good star'" are difficult to assess rigorously, especially the adverse fallout of delays and postponements discussed above.

The data revealed:

- The improved science component was a popular enhancement of the summer program as confirmed by student enthusiasm and acceptance.
- There is a need for more than two science periods per week at intermediate and upper grade levels.
- Inservice training by professional science consultants was an invaluable addition and improvement to the SBSC program model. Lead teachers desired it to be repeated in future summers.
- It is imperative that seventh and eight grade materials be delivered promptly.
- It is recommended that the molecular models material be dropped from the summer program and the eighth grade science material be modified to include topics of adolescent interest with easier vocabulary.

- A students' laboratory workbook should be developed at the reading levels of ECIA summer program participants or alternative materials meeting this requirement should be provided.

- Science preservice training for the classroom teachers is needed in easily accessible sites during the three or four SBSC orientation days before children begin to attend the summer session.

- Earlier deliveries and expedited distribution of instructional materials to the resource rooms or the classrooms were a notable improvement in most SBS centers in 1984.

- Teachers again praised the value of SOAS and underscored in their comments its impact on encouraging children to maintain good attendance.

LIMITED ENGLISH PROFICIENCY PROGRAM

Evaluator: Mavis Hagemann

A summer program for Limited English Proficient (LEP) students was added to specific Summer Basic Skills Centers in 1984. LEP programs were implemented in 49 classrooms in 29 summer school centers located in seven different districts throughout the city. Classes were organized at two levels: primary (grades 1-4) and intermediate-upper (grades 5-8). The students were in bilingual categories A or B.

Daily structure and instruction in the LEP rooms were similar to that of the other Basic Skills Center classes; however, the reading component consisted of specific English as a Second Language (ESL) materials and the mathematics component combined grade levels for some instruction. There was a separate handbook for teachers of LEP students that designated the daily schedules and materials.

Because of the newness of the program, full implementation with all materials was not accomplished until midsummer in most schools, and a few never received their complete orders. Bilingual teachers, however, were in place, had received inservice, and provided instruction from the first day.

In an endeavor to assess the progress of the students and the value of the new materials, the program administrators and the evaluation team asked teachers to administer specific pretests and posttests using the summer materials. Teacher opinions concerning the assessments varied from one who found everything to be too difficult for category A students to several who reported the aim for improved scores to be a

good student motivator. The teachers in general disagreed about the level of difficulty of the materials, in part because the student levels within each category were quite diversified from school to school. Student scores corroborated this variance.

An examination of test results showed primary level students making good progress, while intermediate-upper students had mixed results. Some made excellent progress, others had scores suggesting that the material was too difficult, while several had perfect scores in all areas on both pretests and posttests. Upon further examination of both test results and teacher comments, it appeared that division into only two groups, primary and intermediate-upper, was inappropriate for several students. One teacher suggested grouping grades 1-3, 4-6, and 7-8 together, especially to meet the needs of the advanced category B students. Another felt the program to be inappropriate for a beginning student with no knowledge of English. Also, teachers of fourth grade students in category B found the primary level material to be too easy for their students in both math and reading.

Although the test results were not definitive, almost all the teachers were enthusiastic about the summer LEP program and the materials that were ordered. They showed appreciation for the structure of the program and the worth of the material, even when inappropriate for their particular groups. Thus it is recommended that the program continue as implemented, with some modifications in grade level specifications.