DOCUMENT RESUME

ED 296 275   CS 009 179

AUTHOR   Guerrero, Frank; And Others
TITLE   Children's Art Carnival Creative Reading Program
                1986-87. E.C.I.A. Chapter I Final Evaluation
                Report.
INSTITUTION   New York City Board of Education, Brooklyn. Office of
                Educational Assessment.
PUB DATE   Jun 88
NOTE   63p.; Prepared by the O.E.A. Instructional Support
                Evaluation Unit. For earlier reports, see ED 142 654,
                ED 260 154, ED 278 948, and ED 284 189.
PUB TYPE   Reports - Descriptive (141) -- Tests/Evaluation
                Instruments (160)

EDRS PRICE   MF01/PC03 Plus Postage.
DESCRIPTORS   Art Education; Childhood Attitudes; *Childrens Art;
                Disadvantaged Youth; Educationally Disadvantaged;
                Elementary Education; Program Evaluation; *Reading
                Difficulties; Reading Instruction; *Reading Programs;
                Reading Research; *Reading Skills; Reading Tests;
                Reading Writing Relationship; *Remedial Instruction;
                Urban Programs; Vocabulary Development; Writing
                Difficulties; *Writing Skills
IDENTIFIERS   *Childrens Art Carnival NY; Education Consolidation
                Improvement Act Chapter 1

ABSTRACT
          The Children's Art Carnival (CAC) Creative Reading
Program, a community arts and educational organization, combines
instruction in reading with art activities. Operating in sites in
Manhattan and Queens, New York, the program served 294 second to
sixth grade students during the 1986-1987 school year. Students who
scored poorly on the Degrees of Reading Power Test or the
Metropolitan Achievement Test, many of whom came from troubled homes,
were given the opportunity to improve their reading and writing
skills in the CAC program by learning the vocabulary of art,
listening to stories and talking about characters, and working on art
projects related to the stories. Student achievement in reading
generally exceeded levels set as indicative of program success, with
88% of the second graders and 92% of the students in grades three to
six mastering at least three new skills on the McGraw-Hill
Prescriptive Reading Inventory; and a high percentage of students in
dual-cycle classes, as well as grade three and four single-cycle
classes, mastering five or more new skills. Student achievement in
writing also exceeded targeted goals, with over 50% of students in
the program improving their proficiency. Finally, student achievement
on the art vocabulary test exceeded criteria for program success.
(Ten tables of data, sample tests, criteria, and questionnaires are
included.) (ARH)

FINAL EVALUATION REPORT

Robert Tobias, Administrator
John Schoener, Senior Manager

June, 1988

E.C.I.A. CHAPTER I
CHILDREN'S ART CARNIVAL
CREATIVE READING PROGRAM
1986-87

Prepared by the O.E.A.
Instructional Support
Evaluation Unit

Frank Guerrero,
  Unit Manager

Sharon Walker,
  Evaluation Specialist

David Kritt,
  Evaluation Consultant

3

EVALUATION SUMMARY

BACKGROUND

The Children's Art Carnival (C.A.C.), a community education and arts organization, has operated its Creative Reading Program in conjunction with the New York City Board of Education for 14 years. The program's goal is to improve children's language skills through exposure to the arts. The program operates sites in Manhattan and Queens, and served 294 second- to sixth-graders during 1986-87. The program was funded with $267 thousand from the E.C.I.A. Chapter I, Part A, Basic Grant Program.

EVALUATION METHODOLOGY

The Office of Educational Assessment's Instructional Support Evaluation Unit conducted an evaluation of the program using both qualitative and quantitative data. The Prescriptive Reading Inventory measured reading performance, holistically scored writing samples determined students' writing skills, and a program-developed test measured acquisition of art vocabulary. In addition, C.A.C. workshops were observed, and interviews were conducted with students, home-school teachers, and C.A.C. staff.

FINDINGS

The major findings of the C.A.C. evaluation were:

- All goals for reading achievement were met. Eighty-eight percent of the second-grade students demonstrated mastery of three or more targeted skills on the McGraw-Hill Prescriptive Reading Inventory (the criterion was 65 percent). Ninety-two percent of the third- to sixth-graders mastered three or more targeted skills (the criterion was 75 percent). Sixty-six percent of the second- to sixth-graders mastered five or more skills (the criterion was 25 percent).

- Student achievement in writing met targeted levels program-wide. Sixty-six percent of the single-cycle students demonstrated increased proficiency, as measured by holistic scoring of pretest and posttest writing samples (the criterion was 50 percent). Statistically significant gains in writing were obtained in grades two, three, and six.

- Ninety-five percent of the second-grade students scored above 60 percent on the pictorial section of the program-developed art vocabulary test. Eighty-five percent of the students in grade three to six scored 75 percent or above on the complete test (the criterion was that 75 percent of students were expected to score 75 percent or better).

5

- Observations of C.A.C. workshops were conducted. The basic findings were: (1) arts and reading/writing instruction were integrated, but there was room for improvement; (2) writing instruction was usually incorporated in the curriculum, but at times was merely a perfunctory activity for students; and (3) classroom teachers varied considerably in their participation in the C.A.C. art workshops and small-group instruction.

RECOMMENDATIONS

Based on these findings and other information presented in this report, the following recommendations are made to maintain and expand the benefits students derive from this program:

- Greater attention should be given to artists' and classroom teachers' preparation for participation in small-group reading/writing instruction.

- Use of a common theme to integrate the arts, reading, and writing should continue to be emphasized.

- Efforts should be directed toward developing modes of presentation that serve to integrate instruction, especially the use of manipulatives to facilitate thinking strategies related to comprehension and elaboration of text.

- Writing should continue to receive attention. This year's results suggest the program has had difficulty in achieving a positive impact on students in grades four and five.

6

ACKNOWLEDGEMENTS

iii

7

TABLE OF CONTENTS

LIST OF TABLES

I. INTRODUCTION

PROGRAM PURPOSES AND FEATURES

The Children's Art Carnival (C.A.C.) is a community arts and educational organization; its Chapter I Creative Reading Program provides eligible students with art and reading workshops at C.A.C. sites in Manhattan and Queens and small-group reading sessions at the participating elementary schools. The program served two classes for the full academic year and eight additional classes during one of two 18-week cycles.

ELIGIBILITY

Superintendents of several community school districts (C.S.D.s), which are located in low-income areas in proximity to either of the two C.A.C. sites, were asked to recommend schools for participation in the C.A.C. Program. Principals of the selected schools chose classes using the criteria of Chapter I eligibility, low academic achievement, and behavioral difficulties.

The Degrees of Reading Power (D.R.P.) Test, for grades three through six, and the Metropolitan Achievement Test (M.A.T.), for grade two, were used in the citywide testing program. Pupils were eligible for Chapter I services if they scored at or below the following performance levels on these tests:

- Grade two M.A.T.; the 35th percentile
- Grades three and four D.R.P.; the 35th percentile
- Grade five D.R.P.; the 36th percentile
- Grade six D.R.P.; the 34th percentile

STUDENTS SERVED

A total of 294 second-to-sixth grade students from ten classrooms in C.S.D.s three and five in Manhattan and 27 in Queens participated in the C.A.C. Creative Reading Program during the 1986-87 academic year. A breakdown of students by grade and cycle appears in Table 1. This table shows that 59 percent of students were in the lower grades (grades two and three), and 80 percent of students participated for only a single cycle.

Many of the children participating in the program had problems outside of school, such as emotional difficulties or foster homes situations. Twenty-six children (nine percent) were current holdovers.

PROGRAM OBJECTIVES

The goals of the Creative Reading Program are to provide coordinated instruction in literacy skills and participation in creative arts activities.

The successful implementation of the C.A.C.s Creative Reading Program will be demonstrated by its impact on student performance on the McGraw-Hill Prescriptive Reading Inventory (P.R.I.); holistically scored student writing samples; and a program-developed test of vocabulary. Specific student achievement objectives established by the C.A.C. staff were:

- By the end of the program, 65 percent of the students in grade two and 75 percent of the students in grades three through six will have gained mastery in at least three additional reading skills as determined by their pretest and posttest scores on the P.R.I.

2

11

TABLE 1

Number of Participating C.A.C. Students by Grade, 1986-87

Grade	Cycle I	Cycle II	Full Year	Total	%
2	29	65	—	94	32%
3	—	51	28	79	27
4	29	—	—	29	10
5	28	—	32	60	20
6	32	—	—	32	11
Total	118	116	60	294	100

- Three-fifths of the participating students were in grades two and three.

- Only 20 percent of the students participated for the full year.

3

12

- By the end of the program, 50 percent of the students will have gained mastery in four additional reading skills as determined by their pretest and posttest scores on the P.R.I.

- By the end of the program, 25 percent of the students will have gained mastery in five additional reading skills as determined by their pretest and posttest scores on the P.R.I.

- By the end of the program, 50 percent of the students will have increased their writing proficiency as determined by holistic scoring of pretest and posttest writing samples.

- At the end of the program, the students will demonstrate their mastery of specific arts-related vocabulary words, as determined by a C.A.C.- and O.E.A.-developed vocabulary test. Seventy-five percent of the second-grade students will score at least 60 percent on the posttest, and 75 percent of the students in grades three through six will score at least 75 percent on the posttest.

EVALUATION QUESTIONS

The following questions on the implementation and impact of the program were investigated:

- Were student achievement objectives met?

- How well are art, reading, and writing integrated?

- What is the impact of the termination of services by the social worker and psychology externs?

In addition, the program staff asked for assistance in determining whether testing procedures for obtaining diagnostic information on individuals' reading performances could be improved.

The evaluation procedures included: on-site observations; interviews of program personnel, home-school teachers, and students; and analyses of test results. This report emphasizes evidence of program effects on students' achievement based upon

4

13

pretest and posttest comparisons. The tests employed were designed to measure reading skills (P.R.I.), writing skills (holistically scored writing samples), and arts-related vocabulary (staff-developed vocabulary test).

Based on State Education Department (S.E.D.) reporting requirements, a data retrieval form was revised to report students' reading and writing test scores and specific demographic data. This form was filled out by C.A.C. staff and returned to O.E.A. The students' data was then transmitted to the S.E.D.

SCOPE OF THE REPORT

This report describes the implementation and the impact of the 1986-87 Chapter I C.A.C. Creative Reading Program. The first Chapter introduces the program, eligibility requirements, and objectives. Program organization and funding, as well as technical assistance provided by O.E.A., are discussed in Chapter II. Chapter III reports program outcomes as measured by classroom observations and interviews with home-school teachers, students, and C.A.C. staff. Students' outcome data are described and analyzed in Chapter IV. Conclusions and recommendations are presented in Chapter V. Appendices include a summary of holistic scoring criteria for writing samples, interview protocols, and a copy of the Vocabulary Test.

5

II. PROGRAM ORGANIZATION

<u>PROGRAM ORGANIZATION AND FUNDING</u>

The Children's Art Carnival Creative Reading Program
operates under the direction of the Division of Curriculum and
Instruction and was funded with a grant of $267 thousand from the
Educational Consolidation and Improvement Act (E.C.I.A.) Chapter
I, Part A, Basic Grant Program. During the 1986-87 school year,
the program provided instruction to 294 children in grades two
through six from ten classrooms. The program staff included a
program director, three reading specialists, six artist teachers,
and an administrative assistant.

Eight classes participated for an 18-week cycle during the
fall or spring semester, and two classes participated in the
program for the full academic year. The C.A.C. Program provided
students with four hours and 15 minutes of instruction weekly.
During one morning every week, each class visited a C.A.C. studio
site for a two-hour art workshop. In the afternoon, a one and
one-half hour session took place in the home-school classroom;
reading, comprehension, and writing skills were related to
creative art activities. On another day of each week, the C.A.C.
reading teacher conducted small group and individual reading
instruction for three-quarters of an hour in the pupil's home
school.

6

Prior to the beginning of the 1986-87 academic year, a decision was made by the program director to terminate services by the social worker and psychology externs. Budgetary considerations were cited as the impetus for this move.

THE ART WORKSHOP

Art workshops are offered in Manhattan and Queens in C.A.C.-designated rooms in P.S. 123 in Queens and P.S. 208 in Manhattan. The latter is a new site for the Manhattan workshop. Each workshop offers three types of creative art activities: puppetry, printmaking, and ceramics. Art workshops are taught by professional artists, usually assisted by the home-school teacher and the C.A.C reading teacher. Reading and language arts were incorporated with the art activities. Intended by-products of the production of art include its contribution to cnildrens' motivation to learn, their self-esteem, their development of symbolic processes, and the facilitation of their self-expression.

READING AND LANGUAGE ARTS INSTRUCTION

C.A.C. reading teachers conducted two sessions a week with each class. One session, on the same day as participation in the art workshop, combined reading or writing with art work. The artist teachers and classroom teacher assisted in this session. A second weekly session, conducted by a reading teacher from C.A.C., was devoted to small group instruction.

7

The items students did not master on the P.R.I. suggested
activities for individualized or entire class instruction.
Themes for reading materials and art projects were cooperatively
chosen by C.A.C. staff and home-school teachers in response to
areas of expressed student interest.

STAFF DEVELOPMENT

Staff development activities for C.A.C. Chapter I staff
concentrated on reading lessons; this was implemented by informal
weekly staff meetings at each site. In addition, the program
coordinator met with each participating classroom teacher for an
orientation meeting and informally on an ongoing basis to
implement classroom integration of art, reading, and writing.

During the year, there were four joint meetings of the
Manhattan and Queens staffs. Also, C.A.C. staff participated in
the annual Reasoning Skills Conference conducted by the N.Y.C.
Board of Education's Division of Curriculum and Instruction,
along with other agencies. In addition, during each cycle an
open house was held for parents of participating children.
Artwork was displayed, and C.A.C. activities were discussed.

TECHNICAL ASSISTANCE

During the year, an O.E.A. consultant gave the program
technical assistance aimed at finding an alternate diagnostic
reading test. This assistance was provided in response to
concerns voiced by C.A.C. staff regarding how time-consuming it
was to grade the current test. An additional concern was that
the current diagnostic test (the P.R.I.) and the citywide reading

8

tests focus on different aspects of the reading process. The P.R.I. reports a large number of discrete skills. The citywide M.A.T. Survey Test is used to assess reading in grade two; it focuses on "skill clusters" that contribute to reading. The citywide D.R.P., used for citywide assessment of reading in grades three and above, focuses on text comprehension (a holistic process which, presumably, incorporates a variety of skills).

A range of available reading diagnostic tests were examined. A recommendation was made to the program to consider the M.A.T.6/Diagnostic Reading Test (M.A.T.6/D). The M.A.T.6/D, as well as the M.A.T. Survey Test, reports a student's score on a "skill cluster." This unit of measurement is larger than those obtained on the P.R.I. and the contribution of each "skill cluster" to reading performance is expected to be greater. Given this difference in unit of measurement, a student would be expected to master fewer M.A.T.6/D skills than P.R.I. skills; therefore, performance would not be comparable to performance in previous years. However, switching to the M.A.T.6/D would provide at least two advantages. The larger units are closer to the level of measurement in the citywide D.R.P. test and identical to that of the M.A.T. Survey Test used for grade two. Secondly, the M.A.T.6/D can also save time since it may be used as the pretest and the M.A.T. Survey Test on Reading, which is less time consuming, may be used as the posttest.

9

III. PROGRAM IMPLEMENTATION

WORKSHOP OBSERVATIONS

C.A.C. workshops involving four different classrooms were observed on five occasions during the 1986-87 academic year. Several themes served as foci for summarizing these observations:

- integration of the arts and reading/writing instruction;
- attention given to writing; and
- classroom teacher involvement.

Integration of Arts

Artists incorporated literacy instruction in their introduction of art activities and were involved in small group reading/writing instruction. The observer had no indication that artists received more than a cursory explanation of reading /writing lessons (i.e., very brief synopses of the day's lesson). Yet the artists were quite effective by simply sitting with groups of children, encouraging them to sound-out words, and discussing children's answers to questions with them. Similarly, during the art workshops reading teachers circulated among children and tried to get them to talk about what they were making.

A variety of procedures employed by artists during art workshops integrated the arts with reading, writing, and cognitive processes related to literacy skills. At times, art projects carried through a theme introduced in a story, students read and copied instructions into their notebooks, or children

10

made prints of letters and named and wrote the name of something that began with that letter and drew a picture of it.

Listed below are some of the best techniques for encouraging thinking skills that are pertinent to comprehension and that emphasize the principles implicit in producing a piece of art.

- A puppetry artist discussed features of a face that distinguished between individuals; students enthusiastically participated in this discussion.

- An artist and students discussed mixing paint, followed by the students experimenting a bit, along with more group discussion. The children wrote down the color combinations, the ones they had discovered and those which had been discussed in the group.

- A printmaking artist demonstrated how certain effects were achieved (e.g., layering of colors). He later pointed out the printmaking effects in various children's prints and also encouraged remarks.

- An artist led the children in discussion of their puppets in relation to the play they had worked on.

Writing

Writing was incorporated with other activities on every occasion that the C.A.C. workshops were observed. In many instances, writing was part of a total creative expression, as when a play was collaboratively authored by students in a puppetry workshop or printmaking students wrote captions for their prints. At other times, writing was a less creative part of the curriculum. Typically, prior to initiating work on art projects, children were required to read and then copy procedures or descriptions of the activities.

11

Classroom Teacher Involvement

Home-school-teacher involvement differed between individuals, but the home-school teachers (viewed during the second cycle) whose classes participated for both cycles were generally more actively involved.

Full-Year Teacher

One of these home-school teachers stayed with a group of students at an art workshop station, serving as a resource person. In the afternoon session, which focused on differentiating fact and fiction, this teacher had very good interaction with the children in her group, discussing their answers and supporting arguments. The other full-year teacher circulated quite a bit during the arts workshop, stopping to give personalized attention to students who seem stuck, inattentive, or a bit disruptive. During the afternoon reading session, she quietly encouraged children to answer questions. For example, when the C.A.C. reading teacher asked who knew about various figures in black history, the classroom teacher asked, "Didn't someone read a book on him/her?"

Single-Cycle Teachers

The single-cycle teachers seemed somewhat less involved. For example, one classroom teacher made an art object alongside her students in the morning, giving control to the artist (i.e., both pedagogic and disciplinary control). During the afternoon, this teacher sat with the children primarily as a spectator. She assisted a couple of children sitting near her. Later she

12

distributed materials and circulated among students. A number of
students did not finish their artwork, and the teacher said she'd
follow up on this lesson the next day.

HOME-SCHOOL TEACHER INTERVIEWS

At the end of the classes' participation in the C.A.C., the
home-school teachers were interviewed. All ten teachers who
participate during the year completed the survey: two of them
were full-year participants; the other eight had participated in
one cycle. The survey addressed three primary issues: perceived
benefits of the program for students; the teachers' role in the
program; and possible areas for improvement.

In general, a majority of teachers cited two benefits of the
program for students: improved artistic skills (n=10; 100
percent) and self-esteem (n=6; 60 percent). Teachers indicated
that participation in the program motivated their students,
keeping their interest and enabling them to take part in a
variety of art projects. Doing an art project from start to
finish gave low achievers the chance to see what they could
accomplish; moreover, at the end of the project students had art
work to take home. In addition to giving students the oppor-
tunity to express themselves, the C.A.C. developed skills such as
following instructions and making plans. Individual projects
were noncompetitive and promoted sharing. A very important part
of the program was its ability to motivate low-achievers through
participation in the arts.

When asked which three skills students picked up the most as

13

a result of the program, home-school teachers indicated the following: completing tasks; deriving satisfaction from the completed project; and taking greater part in classroom discussion.

Teachers also noted improved self-esteem as a major benefit of the program. They cited the additional benefits of small reading groups and individualized attention; associated with these benefits was the excellent way staff worked with children. They were consistently open and available in their interaction with students, speaking in ways that were calming to the children. Discipline was also maintained in an open manner by such procedures as requiring a student to sit and think about his/her behavior, or writing a letter of apology when necessary. The art activities provided students with a means of self-expression. Elaboration on the artwork, in conversation and writing, was perceived by teachers as having resulted in improved literary skills. Teachers cited the good reading materials provided by the C.A.C. as particularly effective in keeping students interested.

For the most part, home-school teachers reported taking part in the art projects along with their students. Teachers learned about their role in the program at an orientation meeting, but mainly they learned by observing techniques and speaking with the staff. The three ways the teachers benefitted most from the program were as follows (in order of frequency mentioned): they learned to integrate art activities with other academic ac-

14

tivities; they learned more about individual students' talents and skills; and they had a better opportunity to observe students in different environments. Teachers cited a number of ways of improving their participation in the C.A.C.; they indicated that communication might be improved by a pre-participation workshop and explicit discussions about the teachers' role in the work- shop. Teachers also wanted the chance to communicate with reading teachers about day-to-day activities; some teachers indicated that meeting in advance with C.A.C. staff would enable staff to match art projects with the home school teacher's curriculum. The teachers also requested training on the concur- rent use of the reading program in their classroom. Some teachers thought that follow-up sessions after single-cycle participation would be helpful; others would have liked par- ticipating for a full school year.

STUDENT INTERVIEWS

Approximately 25 percent (N=75) of both the single-cycle students and dual-cycle students (N=15) participating in the program were interviewed. Since responses of the two groups were similar, they were combined (N=90). Students surveyed were very positive about the C.A.C. Program. The things most frequently mentioned as the best liked about C.A.C. are: the artwork, making objects, doing new things. About 15 percent of the students reported something they do not like about the C.A.C., most frequently mentioning "making us write" or "writing." Students mentioned a variety of things that would make C.A.C.

15

better, including: longer classes, more classes, and more new activities or projects. There are several very interesting findings: an overwhelming majority (91 percent) of the students reported that they read at home. Of these, 72 percent said they read books, including fairy tales and stories; 47 percent said they read comic books; and almost one-third said they read magazines (32 percent) and newspapers (30 percent). Seventy-one percent of the students reported that an adult in their home reads with them or to them; of these, 30 percent said that this was a daily occurrence, and 19 percent said that this was a weekly occurrence. Sixty-two percent of the students said they went to public libraries; 37 percent said that they used the school library.

Forty percent of the single-cycle participants and 67 percent of the dual-cycle participants felt their grades had gotten better since being in C.A.C. Sixty and eighty percent, respectively, felt that, since being in the program, their teacher cared more about them. Most students (71 percent of single-cycle and 60 percent of dual-cycle participants) reported that they like reading in school more since being in C.A.C. And about three-quarters of the participants (72 percent of single-cycle and 87 percent of dual-cycle participants) reported "feeling good" about themselves more.

It should be noted that there is a tendency for students to respond in ways they think are socially appropriate. Results of the interviews should be interpreted with this in mind.

16

STAFF INTERVIEWS

Six workshop artists (three at each site) and four reading teachers were interviewed. Each site has the services of one-and-a-half reading teachers.* In an attempt to ensure anonymity, staff interview responses were grouped together because there were relatively few respondents.

Perceptions of Program Impact

Staff members thought the program benefitted students in a variety of ways, including: exposure to art, individual attention in small groups, and childrens' success at making objects and trying to tackle things they wouldn't before. Additional benefits were cited for dual-cycle participants. The staff was able to spend more time with each child, learning more about them and gaining trust. It is believed that the children became familiar with both the C.A.C. context and the process of making art, enabling them to relax and be more creative.

Program Changes

Staff members perceived the loss of several important contributions of the social worker and psychological externs since termination of these components. Several staff members said there had previously been a feeling of dealing with the "whole child" (e.g., including emotional and home problems), whereas now the program had more of a "straight educational

---

*One reading teacher left during the second cycle and was replaced; therefore, a total of four reading teachers were interviewed.

17

emphasis." These "whole child" components provided beneficial insights about specific children to artists and reading teachers.

Also, when present during workshops, they helped with children who were acting-out and, in general, provided individualized attention to students. Alternative ways to achieve these benefits were cited, including better communication with the classroom teacher and the school support staff (e.g., social workers, guidance counselors). It was acknowledged, however, that the C.A.C. staff cannot give as much attention to problem children as in the past.

Program Issues -- the Future

A number of priorities for the program in the future were cited, including making reading instruction more creative and integrated with artwork and emphasizing work on creative writing (e.g., story boards). A concern was expressed that the program should continue to provide more than supplementary reading instruction, providing intervention focused upon the needs of children who are accustomed to failure.

Staff members made a number of suggestions of program improvements, including providing more individualized and small-group attention, better orientation and integration of classroom teachers, active involvement of artists in all aspects of the afternoon reading sessions (including planning), expansion of staff so artists could have reading teachers working with them during workshops, and expansion of the program to serve more students. A number of staff members thought the program should do more to familiarize students with things outside their

18

experience by: taking them on field trips to museums, concerts,
or plays; reading them good stories that they cannot read
themselves; teaching the children not to fight in school; and
emphasizing group activities and teamwork.

28

IV. STUDENT OUTCOMES

READING SKILLS

Student reading skills were assessed by performance on the
P.R.I. at the beginning and end of each program cycle. Reading
skills assessed by this inventory include phonic analysis (e.g.,
consonant substitution), literal comprehension, interpretive
comprehension (e.g., inference, knowing the main idea), critical
comprehension, and translation (e.g., use of content). The
various levels of the inventory each include 120 or more multiple
choice items.

Rather than providing for classification of students or for
comparison to a standardized sample or norm-group, the P.R.I. is
a diagnostic inventory intended to prescribe areas of individual
instruction. This information is used by C.A.C. reading special-
ists and shared with home-school teachers. The appropriate index
of the effect of participation in the program is a within-
individual comparison, summarized as the number of criterion-
referenced test skills not mastered at the time of the initial
testing but which are mastered by the end of the program. The
number and percentage of participants mastering the targeted
skills are presented in Table 2. The findings from this table
are briefly stated below.

- All goals for reading achievement, as measured by the
  P.R.I., were met.

- On the posttest, 88 percent of the second graders and 92
  percent of the students in grades three to six demonstrated
  mastery of at least three skills on the P.R.I. which they
  had not mastered at the time of the pretest.

20

TABLE 2

Number and Percentage[a] of Students
Mastering Targeted Skills on the P.R.I.,
1986-87

		Number of Students Mastering							
Grade	N[b]	Three or More Skills 65% Criterion		Three or More Skills 75% Criterion		Four or More Skills 50% Criterion		Five or More Skills 25% Criterion	
		N	%	N	%	N	%	N	%
2	77	68	88%	—	—	47	61%	29	38%
3	45	—	—	44	98%	42	93	32	71
3[c]	24	—	—	23	96	22	92	20	83
4	25	—	—	24	96	23	92	21	84
5	26	—	—	23	89	18	69	8	31
5[c]	23	—	—	20	87	19	83	18	78
6	25	—	—	21	84	18	72	12	48
TOTAL	245			155[d]	92	142	85	111	66

[a]Percentages do not total 100 percent because students may be in more than one category.

[b]N represents only those students for whom there were both pretest and posttest scores.

[c]Two-cycle participants.

[d]The percentage of students mastering three or more skills has been calculated for grades three through six, which included a total of 121 single-cycle students and 47 two-cycle students (total=168).

- More than 80 percent of the students at all levels mastered three or more additional skills.

- A high percentage of students in dual-cycle classes, as well as grade three and four single-cycle classes, mastered five or more new skills.

- Mastery of five or more new skills on the P.R.I. was achieved by 71 percent and 84 percent, respectively, of the grades three and four single-cycle students.

- Over eighty percent of the students who participated for two cycles mastered five or more additional skills on the P.R.I. (42 percent of the grade three dual-cycle participants mastered eight or more additional skills.)

WRITING SKILLS

Students' writing skills were assessed by holistic scoring of writing samples obtained at the beginning and end of program participation. Students were asked to write a letter to a friend or relative telling them about the Children's Art Carnival. Holistic scoring of writing emphasizes the communicative adequacy of a writing sample in terms of the coherence of topical content, general adequacy of sentence structure and sequence, and awareness of audience. Scoring criteria appear in Appendix A.

Matched writing samples were analyzed using correlated t-tests in order to determine statistical significance of the difference between pretests and posttests. Statistical significance indicates whether the changes in achievement are real or occur by chance, but is affected by sample size. However, statistical significance does not address the issue of whether the achievement changes are important to the students' educational development. Thus, effect size (E.S.)[*] is reported for each

---

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

22

comparison to indicate the educational meaningfulness of each gain or loss independent of the sample size.

Inter-coder reliability was determined by comparing the ratings of two coders on approximately one-fifth of the writing samples (N=88, 24 percent). The matched pretests and posttests of a second-grade class (N=22) and a sixth-grade class (N=22) were selected as being representative of extreme points of the range of papers.

The standard procedure for application of the four-point rating scale allows for a one-point discrepancy between coders. Matching or adjacent scores are combined. Discrepancies greater than one point require a third coder, whose score is combined with whichever original score it is adjacent to or matches. Using this criterion of agreement, the percentage of inter-coder agreement was 98 percent (the percentage of exact agreement was 56 percent).

Sixty-six percent of the single-cycle students had higher posttest than pretest scores, meeting the program's student achievement goal (i.e., 50 percent of students will improve). It should be noted that a fifth-grade class did not meet the performance criterion; 46 percent improved. On the other hand, grades two, three, and six greatly exceeded the 50 percent criterion (see Table 3). Additional analyses are summarized below (see Table 4).

- Three-quarters of the single-cycle classes (six of eight) achieved an average posttest score that was a statistically significant increase over the average pretest score.

23

TABLE 3

Number and Percentage of Single-Cycle Students Increasing
Writing Proficiency as Determined by
Holistic Scoring of Pretest and Posttest Writing Samples,
1986-87

Grade	Number of Students Tested[a]	Students with Higher Posttest Scores	
		N	%
2	69	48	70%
3	44	35	80
4	21	11	52
5	26	12	46
6	25	17	68
TOTAL	185	123	66

[a]This represents only those students for whom there were both pretest and
posttest scores.

- The writing of over 50 percent of students in the program improved.

- Fifth-graders' scores fell slightly below the 50 percent level.

- Performance of fourth- and fifth-graders was substantially below that
of other grades.

24

TABLE 4

Average Holistic Scores of
Pretest and Posttest Writing Samples,
Single-Cycle Classrooms, 1986-87

Grade	Cycle	N[a]	Pretest		Posttest		Difference		Effect
			Mean	S.D.	Mean	S.D.	Mean	S.D.	Size
2	1	23	.9	1.3	3.3	1.6	2.4[b]	1.7	1.4
2	2	27	2.8	1.2	3.8	1.4	1.0[b]	1.5	.7
2	2	19	4.2	1.5	5.8	1.3	1.6[b]	1.2	1.3
3	2	23	4.1	1.4	6.2	1.3	2.1[b]	1.6	1.3
3	2	21	3.9	1.5	5.1	1.7	1.2[b]	1.2	1.0
4	1	21	2.8	.9	3.5	1.7	.7	1.9	.4
5	1	26	4.3	1.5	4.5	1.3	.2	1.8	.1
6	1	25	5.0	1.3	6.2	1.5	1.2[b]	1.9	.6
Total		185	3.5	1.8	4.8	1.8	1.3[a]	1.8	.7

[a]N represents only single-cycle students for whom there are both
pretest and posttest scores.

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

- Statistically significant differences between the
  pretest and posttest were obtained by three second-
  grade classrooms, two third-grade classes, and
  one sixth-grade class.

- All single-cycle second- and third-grade classes
  achieved educationally significant effect sizes.
  No single-cycle classes in higher grades achieved
  comparable results.

25

- Half of the single-cycle classes achieved an education ally meaningful effect size for writing improvement. Classes that achieved educationally meaningful effect sizes were in grades two and three; none were in higher grades.

- Mean posttest writing scores for three of the eight single-cycle classes were approximately 6.0 (range, 5.8 to 6.2; $S.D.=1.3$ to 1.5). This indicates that the writing samples were clearly written communication with some mechanical errors.

- The second-grade class which participated during the first cycle should be noted. The average pretest score was very low (mean = .9; $S.D.=1.3$), and the gain was substantial (as indexed by both statistical significance and effect size).

Sixty-two percent of the dual-cycle students had higher posttest than pretest scores, meeting the program's student achievement goal (i.e., 50 percent of students will improve; see Table 5). Additional analyses are summarized below (see Table 6):

- Three-fifths of the single-cycle classrooms (three of five) achieved an average posttest score that was a statistically significant increase over the average pretest score.

- Dual-cycle participants' mean posttest scores did not appreciably differ from those of single-cycle partici-pants.

ART VOCABULARY

Specific art vocabulary was used in the course of studio art activities and was explicitly taught. A program-development test was administered to assess student acquisition (i.e., retention, identification, and comprehension) of these terms. The test included 19 multiple-choice items requiring labeling of line-drawings of art materials and 15 sentence completion items, which

26

TABLE 5

Number and Percentage of Dual-Cycle Students Increasing
Writing Proficiency as Determined by
Holistic Scoring of Pretest and Posttest Writing Samples,
1986-87

Grade	Number of Students Tested[a]	Students with Higher Posttest Scores	
		N	%
3	24	15	63%
5	23	14	61
Total	47	29	62

[a]This represents only those students for whom there were both pretest and posttest scores.

- Three out of five dual-cycle students demonstrated improved writing skills.

27

TABLE 6

Average Holistic Scores of
Pretest and Posttest Writing Samples,
Dual-Cycle Classrooms, 1986-87

| Grade | N[a] | Pretest | | Posttest | | Difference | | Effect |
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Size
3	24	3.8	2.0	4.7	1.7	1.0[b]	1.8	.6
5	23	3.8	1.4	4.6	1.5	.8[b]	1.4	.6
Total	47	3.8	1.7	4.7	1.6	.9[b]	1.6	.6

[a]N represents only single-cycle students for whom there are both pretest and posttest scores.

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

- Both dual-cycle classes achieved statistically
  significant differences between their pretest and
  posttest performances.

28

37

required understanding what a term meant or how an item is used. Both a pretest and a posttest were administered. The primary purpose of the pretest was to aid artist/teachers in diagnosing student needs.

The program set the following criteria levels for performance by 75 percent of the students on the posttest: 60 percent correct for second-grade students, and 75 percent correct for students in grades three through six. At the beginning of the first cycle, the program staff felt that one second-grade class in the program did not have reading skills adequate to take the sentence completion portion of the test. For the sake of consistency, this procedure was followed with all the second-grade classes. Student performance is summarized below (Table 7):

- Second-graders were administered only the 19-item picture identification section of the test; 95 percent of the students correctly answered 60 percent of these items. One class of third-graders did not meet performance goals on the art vocabulary test;

- Students in grades four through six met performance goals on the art vocabulary test. Fifth- and sixth-grade scores far exceeded the goals;

- One of the dual-cycle classes met the performance goal of attaining 75 percent posttest performance (grade five, N=22, 100 percent met the goal) and one class did not (grade three, N=17, 68 percent met the goal); and

- As seen in Table 8, 90 percent of students (at all grades) who took both the pretest and posttest demonstrated improvement.

29

38

TABLE 7

Number and Percentage of Students Scoring at Criterion or Above on the Program-Developed Art Vocabulary Test, 1986-87

Grade	Number of Students Tested (N)[a]	Students Scoring 60% or Above on Posttest		Students Scoring 75% or Above on Posttest	
		N	%	N	%
2	80	76	95%[c]	—	—
3	48	—	—	36	75%
3[b]	25	—	—	17	68
4	25	—	—	21	84
5	26	—	—	23	88
5[b]	22	—	—	22	100
6	25	—	—	24	96
TOTAL	251			143[d]	85

[a]N represents only those students for whom there were posttest scores.

[b]Two-cycle participants.

[c]Students in grade two were administered only the picture identification portion of the test. Percentages reflect student scores on this abbreviated, 19-item test.

[d]The total number of test-takers in grades three to six was 167.

- Ninety-five percent of second-graders scored 60 percent correct or higher.

- Seventy-five percent or more of students in grades three to six -- with the exception of one third-grade class -- got at least three-quarters of the items on the posttest correct.

30

TABLE 8

Number and Percentage of Students Whose Scores Improved on the
Program-Developed Art Vocabulary Test,
1986-87

Grade	Number of Students Tested[a]	Number of Students Demonstrating Vocabulary Gain	
		N	%
2	79	71	90%
3	69	60	87
4	25	21	84
5	48	44	92
6	25	25	100
Total	246	221	90

[a]This represents only those students for whom there were both pretest and
posttest scores. Dual-cycle participants are included in the table.

- Ninety percent of students who took both the pretest and posttest
  demonstrated improvement.

- All students in grade six who were tested demonstrated a gain in
  art vocabulary.

COMPARISON WITH PAST PERFORMANCE

Reading and writing performance during the past two years is compared to current performance in Tables 9 and 10. Acquisition of three additional reading skills, as indexed by the P.R.I., has remained at a high and, despite fluctuation, stable level. In previous years, approximately half of the students acquired five or more additional reading skills (45 percent in 1984-85 and 46 percent in 1985-86); in the current year this increased to two-thirds of the students.

Writing performance was initially monitored in 1985-86. That year approximately half of the students (48 percent) increased proficiency in writing, as indexed by holistic scoring of a writing sample. In 1986-87, two-thirds of the students (66 percent) demonstrated increased proficiency in writing.

32

41

TABLE 9

Comparison of Reading Performance,
1984-85 to 1986-87

| Year | Number Tested[a] | READING | | | | |
| | | 3 or More Skills | | 5 or More Skills | |
		N	%	N	%
84-85	284	259	91%	128	45%
85-86	278	222	80	127	46
86-87	245	223	91	111	66

[a]The number tested includes students with both pretest and posttest scores.

- In the current year, the percentage of children acquiring five or more reading skills increased in comparison to previous years.

33

TABLE 10

Comparison of Writing Performance, 1985-86 to 1986-87

Year[a]	Number Tested[b]	Increased Proficiency	
		N	%
85-86	222	106	48%
86-87	185	123	66

[a]Writing performance was not tested before fall, 1985.

[b]The number tested includes students with both pretests and posttests.

- The percentage of students whose writing proficiency increased has been greater in the current year than in the prior year.

V. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The C.A.C. Creative Reading Program combines instruction in reading with arts activities at sites in Manhattan and Queens. The program served 294 second- to sixth-graders during 1986-87. The C.A.C. Program met all of its objectives for improvement of student reading and writing skills, although one single-cycle, fifth-grade class did not attain the criterion levels for writing. One class of third-graders did not meet performance goals on the vocabulary test, but students in grades four through six did. Second-grade students met performance goals on an abbreviated administration of the vocabulary test.

Comparison of student performance during the current year to that of the previous year showed that a greater percentage of students demonstrated mastery of five or more reading skills than students did in the two previous years, from 45 to 46 to 66 percent. And, in comparison to 1985-86, the percentage of students in 1986-87 with improved writing increased from 48 percent to 66 percent.

The integration of the arts and reading/writing instruction was successful, but the quality of coordination of reading and art instruction was inconsistent. At times, artists appeared to have received little prior preparation for reading/writing lessons. A number of instances were observed in which the mode of presentation of art activities complemented the development of thinking skills relevant to literacy. However, other lessons

35

44

were less successful in integrating arts and reading/writing instruction. This was especially the case with the integration of writing into the curriculum. Classroom teacher involvement varied greatly.

RECOMMENDATIONS

Despite evidence of efforts to address issues cited in the previous year's report, many of these concerns persist. Primary among them are concerns about writing instruction and the coordination of art and reading.

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

- Efforts to increase artists' and classroom teachers' preparation for participation in small-group instruction should be extended. This sort of intensive attention to students may be the single most effective intervention technique for improving literacy skills and the most straightforward to implement.

- Use of a common theme to integrate the arts, reading, and writing should continue to be given greater attention. Yet the theme cannot be relied upon to carry the entire weight of integrating instruction.

- Attention should be directed toward modes of presentation that serve to integrate instruction. This does not mean making instruction more explicitly didactic. Rather, manipulatives can be used to facilitate thinking strategies (e.g., alternate focus on details and a whole object) which can relate to comprehension. Strategies can also be devised to use artistic imagination to elaborate upon printed text (e.g., artistic creations related to a story can be coupled with a focus upon inferring information not explicitly stated in the written text).

- Writing should continue to receive attention. This year's results suggest the program has had difficulty in achieving a positive impact on students in grades four and five.

36

45

HOLISTIC WRITING SAMPLE
CRITERIA FOR RATING STUDENT RESPONSES*

LEVEL 4	LEVEL 3	LEVEL 2	LEVEL 1
Develops the assigned topic in an interesting and imaginative way.			
Demonstrates a logical plan of organization and coherence in the development of ideas.	Develops the assigned topic using an acceptable plan of organization.	Attempts to develop the assigned topic but demonstrates weakness in organization and may include digressions.	Minimally addresses the assigned topic but lacks a plan of organization.
Develops ideas fully through the use of support material (examples, reasons, details, explanations, etc.) that is relevant and appropriate.	Demonstrates satisfactory development of ideas through the use of adequate support material.	Demonstrates weakness in the development of ideas with little use of support material.	Does not use support material in the development of ideas or uses irrelevant material.
Shows skillful use of sentence variety.	Uses some sentence variety.	Demonstrates sentence sense but has little sentence variety.	Demonstrates a lack of sentence sense.
Uses specific, vivid language.	Uses appropriate language.	Occasionally uses inappropriate or incorrect language.	Frequently uses inappropriate or incorrect language.
Makes few or no mechanical errors.	Makes mechanical errors which do not interfere with communication.	Makes mechanical errors which interfere with communication.	Makes mechanical errors which seriously interfere with communication.

ZERO PAPER: Is totally unrelated to the topic; or
Is illegible, i.e., includes so many indecipherable words that no sense can be made of the response; or
Is incoherent, i.e., words are legible but syntax is so garbled that no sense can be made of the response; or
Is a blank paper.

*Minor revisions have been made in these criteria since they were first published in the <u>Writing Test for New York State Elementary Schools, Rater Training Packet,</u>

37

47

OFFICE OF EDUCATIONAL ASSESSMENT
NEW YORK CITY PUBLIC SCHOOLS

Children's Art Carnival, 1986-87
STUDENT'S QUESTIONNAIRE

SCHOOL:_____   SITE:_____   GRADE:_____
                                               AGE:_____
_____

1. Would you like to have more C.A.C. classes, fewer of them, or the same number as now?

More than now ____
Less than now ____
Same amount   ____
Not sure   ____

2. What do you like best about the C.A.C ?

3. Is there anything you do not like about the C.A.C. Program?

No ____
Yes ____

4. a. Since being in C.A.C., do you like coming to school more, less or about the same?

a. more   ____
b. less   ____
c. about the same ____

b. Since being in C.A.C., do you feel your teacher cares about you more, less or about the same?

a. more   ____
b. less   ____
c. about the same ____

c. Since being in C.A.C., do you like yourself more, less or about the same?

a. more   ____
b. less   ____
c. about the same ____

d. Since being in C.A.C., have your grades gotten better, gotten worse, or stayed the same? you can also tell me if you don't know.

a. gotten better ____
b. gotten worse   ____
c. stayed the same ____
d. I don't know   ____

38

e. Since being in C.A.C., do you like reading in school more, less, or about the same?

        a. more

        b. less   ____

        c. about the same ____

5. Do you read anything at home?

        Yes ____

        No ____

6. What do you like to read at home for fun?

        Newspapers

        Magazines   ____

        Comic books   ____

        Books - what kind? ____

        Other: _____

7. A. Do any of the adults in your home read with you or to you?

        Yes ____

        No ____

B. How often do they read with you or to you at home- once a day, once a week, or less than once a week?

        Once a day   ____

        Once a week ____

        Less   ____

8. Do you ever go to a library?

        No ____

        Yes ____; what kind of library?

                Public library ____

                School library ____

                Other: _____

If so, why do you go to the library?

_____

_____

_____

9. What would make the Children's Art Carnival better?

_____

_____

_____

OFFICE OF EDUCATIONAL ASSESSMENT
NEW YORK CITY PUBLIC SCHOOLS

CHILDREN'S ART CARNIVAL, FIRST CYCLE 1986-87
POST-PROGRAM CLASSROOM TEACHER SURVEY

The Office of Educational Assessment is asking classroom teachers who participated in the Children's Art Carnival program to answer a few questions in order to assess the services offered in the 1986-87 cycles.

1. Do you think program participation benefitted your students?
            Yes: No:

    b. If so, in what ways?

2. Have students' reading skills changed?   Yes ___   No ___

    a. If so, in what ways?

3. Could you describe your various functions in the C.A.C. program?

4. In what ways did your students benefit the most from participation in this program? (Check up to three)

____Improved Reading Skills   ____Improved Self Esteem

____Improved·Writing Skills   ____Improved Social Skills

____Improved Artistic Skills   ____Improved Speaking Skills

____Other:

5. Since participating in the C.A.C. program, which 3 of the following skills do you think students have changed in most?

a. Works on a task until completion
b. Works in an organized manner or according to a plan.   ____
c. Ability to work alone.   ____
d. Demonstrates satisfaction with accomplishment.   ____
e. Takes greater part in classroom discussion.   ____
f. Talks more about things they have read.   ____
g. Improved story telling ability   ____
h. Fewer discipline problems.   ____
i. Other: ____

6. In what 3 ways did you most benefit from this program? (Rank your choices by placing 1, 2, & 3 next to the items listed; 1=most important)

____Learned more about individual students' talents and skills

____Learned to integrate art activities with reading or other academic classroom activities.

____Opportunity to observe students in a different environment

____Classroom instructional assistance

____More free time

____Improved relationship with students

____Other:

41

7. a. Did you get any type of C.A.C. training prior to
       your participation?   Yes _____   No _____

    b. If so, what type of training:

    c. If you received no training, how did you learn about
        your role in the C.A.C. program?

8. Would you want to participate again in the C.A.C.
    program?

        Yes: No: Please explain:

9. Please point out strengths and weaknesses of the
       program.

strengths:

weaknesses:

10. Do you have any suggestions for program improvements that will benefit
your students more?

11. Do you have any suggestions about how the classroom teacher's role in
the C.A.C. program could be improved?

OFFICE OF EDUCATIONAL ASSESSMENT
NEW YORK CITY PUBLIC SCHOOLS

CHILDREN'S ART CARNIVAL, 1986-87
POST-PROGRAM
C.A.C. STAFF SURVEY

1. In what ways do you think program participation benefitted the children you've come in contact with?
Specify how you think children have changed.

2. a. How do you feel the program has changed since there is no longer a psychology or social work component ?

    b. If you feel there is something missing in the program as currently structured, what do you propose as a remedy ?

43

3. Do you have any suggestions for program improvements that will benefit students more ?

4. What would you like to see as a priority for C.A.C. to work on in 87-88 ?

VOCABULARY TEST

STUDENT'S NAME_____

SCHOOL_____GRADE & CLASS_____

TEACHER_____

CYCLE_____DATE_____

Conceived by:

The Children's Art Carnival Title I
Staff - 1982

Illustrations by: Buist Hardison
                  Claire Fergusson
                  Emily Berger

Revised
Fall 1985

This test was designed to test students' knowledge of some basic vocabulary words used in The Children's Art Carnival Creative Reading Program E.C.I.A. Chapter 1.

DIRECTIONS: Students should be instructed to circle the word that goes with the picture in each box.
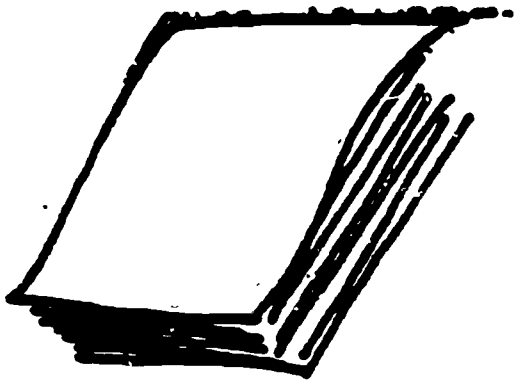
puppet
pencil
design
paper

1.
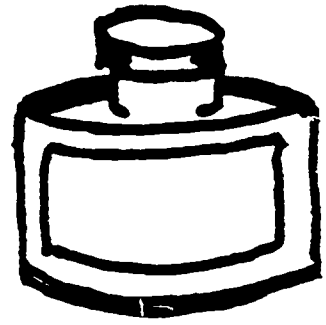
rubber cement
sponge
brush
bench hook

2.
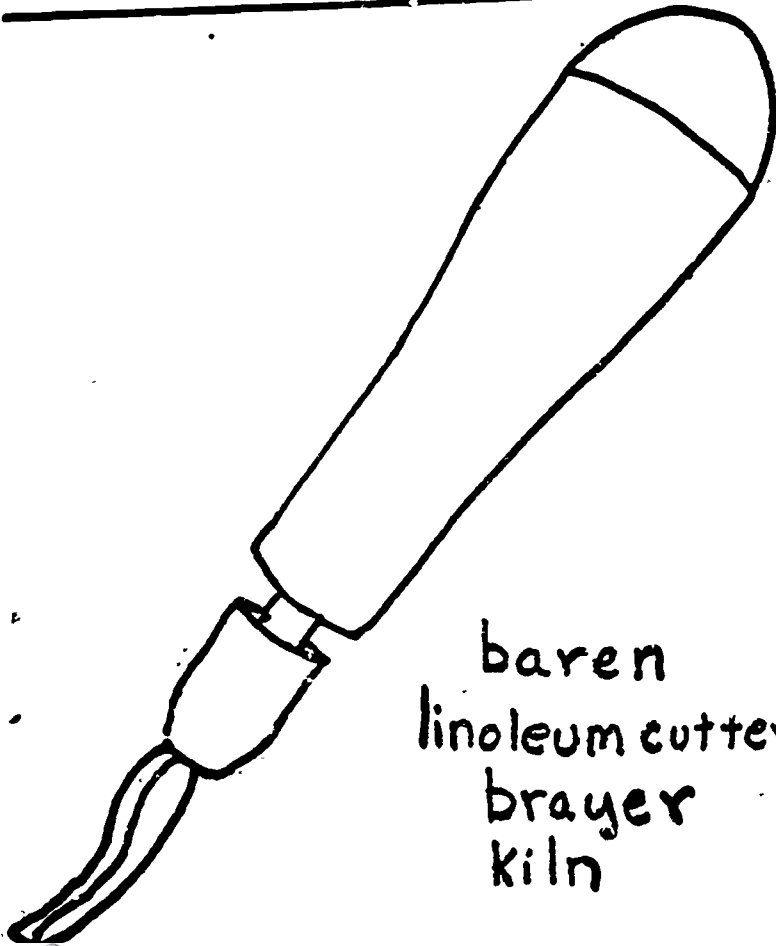
baren
linoleum cutter
brayer
kiln

3
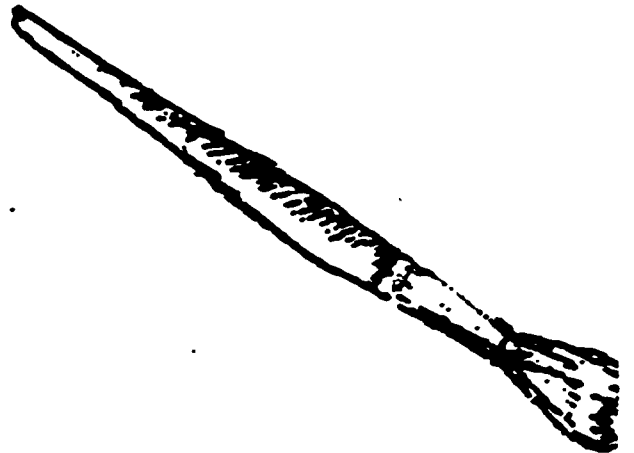
baren
brayer
brush
bench hook

4

clay
scissors
puppet
design

table
sponge
shapes
scissors

5.

6.
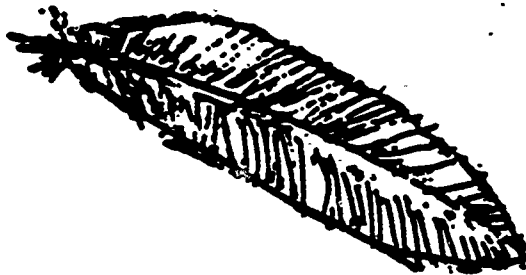
shapes
magic marker
brayer
feather
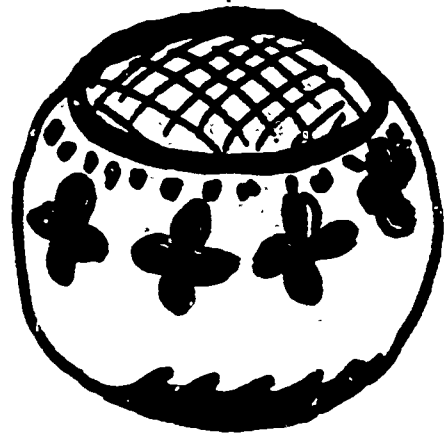
pinch pot
shape
sponge
kiln

7.

48
58

8.
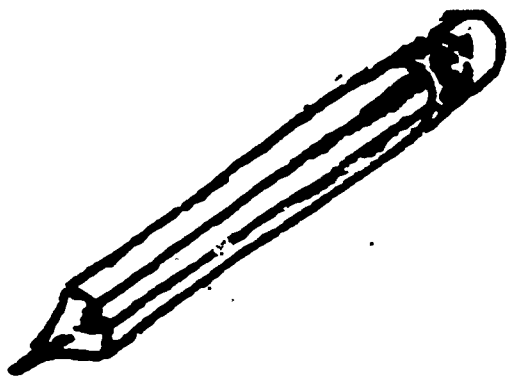
pencil
puppet
paper
shape
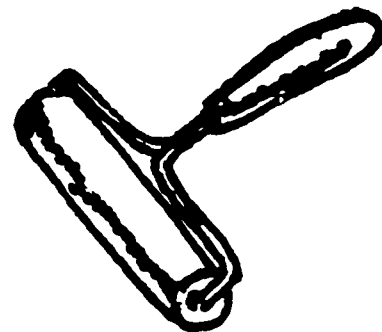
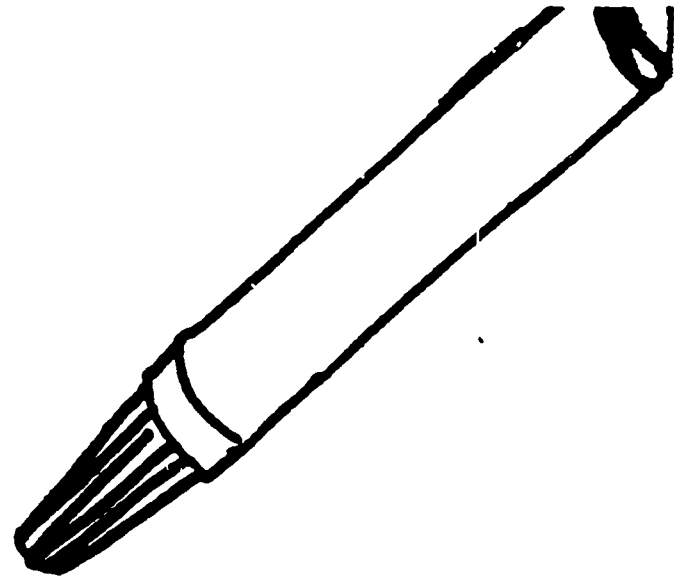kiln
brayer
baren
bench hook

9.

10.

spine
shape
sponge
scissors
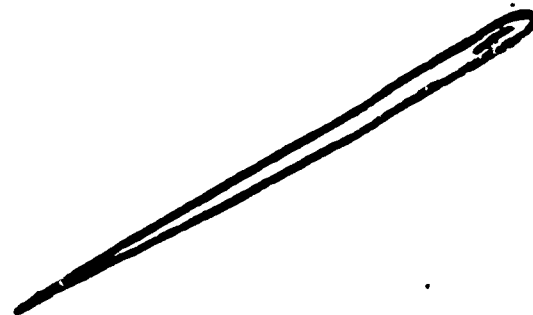
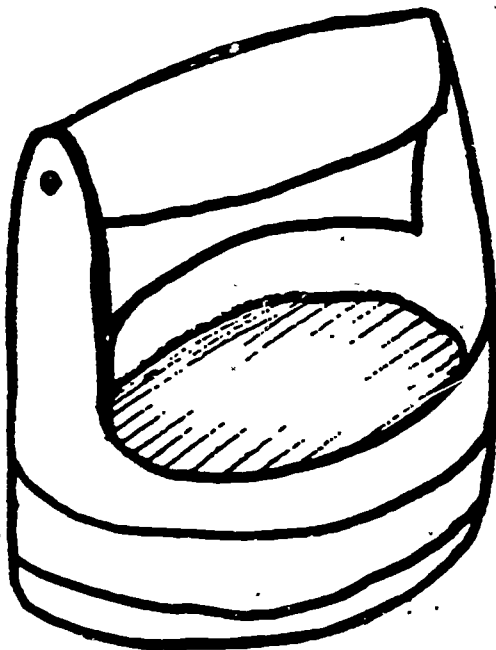linoleum cutter
brush
needle
spine

49

59

12.
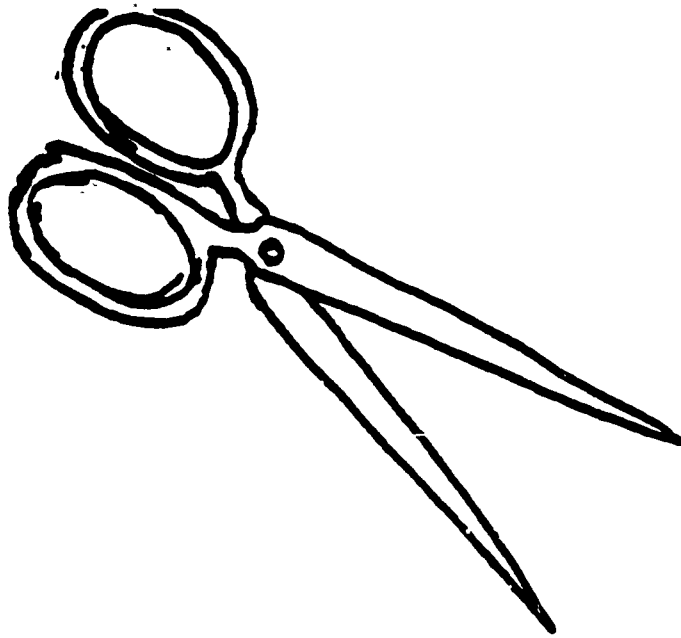
scissors
spine
shapes
sponge

13.

needle
pencil
baren
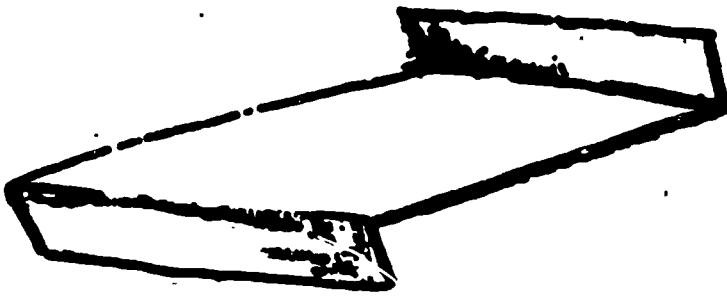magic marker

14.

baren
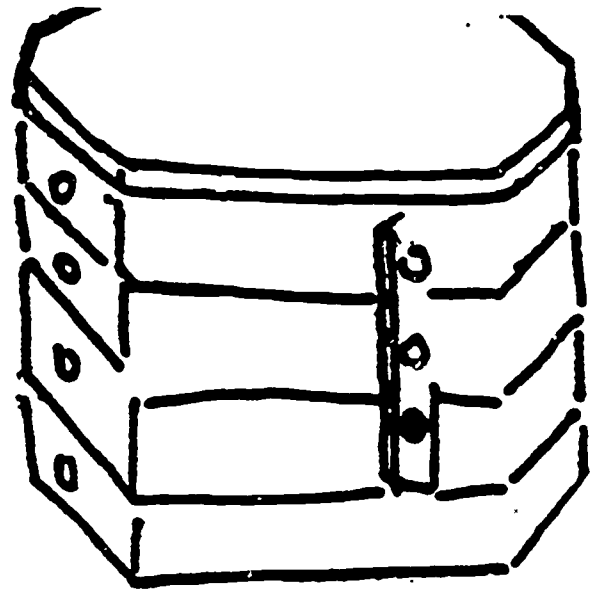brush
bench hook
slip

paper
baren
thread
linoleum cutter

60 50   16.

baren
kiln
brayer
bench hook

17.

brayer
kiln
bench hook
baren

18.

pencil
puppet
paper
shapes

Circle the word that fits in the sentence.

1. A _____ is used to press the pattern or design onto paper.

   baren   brayer   spine   pencil

2. The ____ is like an oven. It is used to bake clay pieces.

   brayer   kiln   oven   baren

3. When you use a ____, you should always push forward so that you will not cut yourself.

   brush   baren   linoleum cutter   spine

4. A _____ is like a doll which can be made to move and talk.

   puppet   book   pattern   brayer

5. ____ are used to hold the linoleum in place while the design is being cut

   barens   brayers   bench hooks   brushes

6. When we begin to work with clay we must ____it first by throwing it.

    wedge   roll   wash

7. We throw or bang clay to take the ____ out.

    color   glaze   air

8. We put our pinch pot into the ____ to harden it.

    Kill   Kiln   stove

9. The clay pinch pot can be ____ with different colors.

    glaze   coiled   glazed

10. We use a brayer to ____ out ink.

    roll   clean   rub

11. The baren is used for ____ .

    rubbing   glazing   rolling

12. Texture is something we can ____ .

    smell   hear   feel