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ABSTRACT

The report summarizes findings and accomplishments of a 3-year project on adaptation of arts curriculum materials for elementary handicapped students. Year 1 focused on identifying and estimating the efficiency and effectiveness of practitioners' judgements regarding the instructional characteristics of materials and the adaptation of those materials to special education classrooms. The data confirmed the belief that "hands-on" activities result in more meaningful learning experiences for the teachers. In Year 2, observation of teachers supported the previous year's finding that participation in actual classroom trials with curriculum materials resulted in greater numbers of and more specific recommendations by teachers than participation in introductory or in-depth work sessions. In the final year, Year 3, handbooks on adaptability of arts curricula were developed, and classroom trials were conducted in classrooms of students with orthopedic and multiple handicaps. Among findings were that a team approach in the classroom appeared to have a multiplier effect on adaptations and that single adaptations seemed appropriate for many kinds of students. Appended are sample agendas for teacher workshops and examples of project products. (CL)

Access to Learning for Handicapped Children

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Access to Learning for Handicapped Children

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PREFACE

This final report is a result of a three-year study to refine a process whereby writing curriculum materials and instructional strategies might be adapted for use with handicapped students. The report is divided into eight sections:

I. Background

Access to Learning for Handicapped Children was a 36-month study conducted to make all learning materials accessible to handicapped children.

II. Design and Analysis

The project involved a three year design, asking practitioners with varying degrees of familiarity with materials, to make judgments about curriculum materials relative to their adaptability and to conduct a process by which adaptation could be articulated. The adaptation process is articulated in the project's final product, Access to Learning for Handicapped Students: A Handbook on the Instructional Adaptation Process.

III. The Study Group

Membership in the Study Group expanded throughout the project. This section explains the role of the Study Group and the expansion of the group to people in the field as they carried out activities for purposes of review, evaluation, and recommendation.

IV. Field Activities

Certain field activities that were not an integral part of the research initially, developed in response to expressed needs of people in the field. This section describes these field activities carried out to improve the project's final products.

V. Documentation and Dissemination

Documentation of the project occurred by means of technical memoranda describing each step of the project and through required project reports and products. Dissemination occurred regularly by means of presentations, answered inquiries, and follow-up reporting to project participants.

VI. Implications for the Future

The outcomes of the project are seen to bear on evaluation of an adaptability process, cost effectiveness of adaptation, and inservice and preservice training. Several ideas for consideration of future research are also presented.

VII. Summary

A successful adaptation process must attend to several salient points, outlined here.

VIII. Appendix

The Appendix includes technical memoranda not included in previous reports, and the handbook, and supplementary curriculum guides of CEMREL's Aesthetic Education Program materials, along with the original teacher guides.

Throughout the report there are several references to the technical memoranda and to the handbook, Access to Learning for Handicapped Children. All technical memoranda are available on request from CEMREL, Inc., 3129 59th Street, St. Louis, Missouri.

I. BACKGROUND

A 36-month study was conducted to articulate a process by which instructional materials could be successfully adapted for use with handicapped children. Arts education curricula provided the content for the adaptation process to be articulated. At the time the proposal was written the rationale for focusing on arts education curricula was four-fold:

1. The present level of services for the handicapped in the arts and arts education was considerably lower than that of their non-handicapped peers. The National Committee, Arts for the Handicapped (1975), reported that in one state, 85% of the non-handicapped students (K-12) had access to arts programs in schools. In another state, less than 1% of the handicapped were serviced, while the non-handicapped had virtually full services. Most of this lack of access to arts programs can be assumed to be due to a lack of curriculum resources targeted for handicapped children, as well as teachers' general inability to make curriculum designed for regular students appropriate for handicapped populations.

The National Center for Educational Media and Materials for the Handicapped (NCEMMH) has identified the desperate need for instructional materials for the handicapped. A recent booklet, Developing Instructional Materials for the Handicapped: Guidelines for Preparing Materials Suitable for Wide Distribution (Belland & Rothenberg, 1973), gives practical advice about

searching the field, copyright and product clearance, and production. Missing from this advice, however, are guidelines for pilot testing, evaluation, and quality control. With the exception of a few programs developed by individual teachers or for specific children, no set of curriculum resource materials in the arts exists for handicapped children.

2. Exposure of handicapped children to the arts can serve to advance the acquisition of needed basic skills. Researchers in the field of arts for the handicapped have found strong evidence attesting to the ability of children to improve their perceptual skills with the aid of arts programs. A study (Neale) conducted in 1964 showed that trainable mentally retarded children made significant gains in classroom behavior, speech, and language skills through arts programs. Creative drama can free a deaf child from failure associated with spoken words (Bragg, 1972). Irwin and McWilliams (1974) found that in dramatic activities used with cleft palate children, each child showed significant improvement in verbal as well as social skills. Use of a music activity with exceptional children improved speech, helped regain use of limbs, improved rhythmic sense, and served to relax muscles (Gilliland, 1975). Unexpected artistic talent has been found in mentally retarded children (Tyszkiewiez, 1972). Pitman found (1965) that blind children score significantly higher than sighted subjects on tests of music ability. Significant gains were noted when art lessons were provided for emotionally disturbed children (Gallagher, 1972). Similar gains in reading skills by emotionally disturbed learners were noted by Nuske (1975) after arts programs were introduced.

3. Accompanying the research findings are strong moral and legal imperatives for extending arts programs to handicapped children.

Assistant Secretary of Health, Education, and Welfare, Virginia Trotter, has perhaps stated the moral imperative most eloquently:

> I am convinced that the quality of our individual lives and the quality of our society are directly related to the quality of our artistic lives. If we really care about the dignity of the individual--about his potential for self-fulfillment--then we must have a deep sense of a place for the arts in our education, in special education, and in our individual lives. We need the arts if we are to be whole human beings--fully alive and vital--in control of ourselves and our environment.

Testimony taken in support of the recently passed PL 94-142 Education for All Handicapped directly addresses the question of the accessibility of arts programs for the handicapped:

> The use of the arts as a teaching tool for the handicapped has long been recognized as a viable, effective way not only of teaching special skills, but also of reaching youngsters who had otherwise been unteachable. The Committee envisions that programs under this bill could well include the arts component and, indeed, urges that local educational agencies include the arts in programs for the handicapped youngsters, and the utilization of the arts as a teaching tool per se.

4. The Aesthetic Education Program (AEP) developed at CEMREL was used in developing the adaptation process.[1] The arts content of CEMREL's Aesthetic Education curriculum has already been established. Based on ten years of interaction with internationally-known arts specialists and philosophers, teachers, developers, and children, the concepts included in the AEP instructional units have been shown to be aesthetically valid and "teachable" at the suggested grade levels. Incorporation of additional

[1] AEP curriculum consists of a series of media-rich units of manipulable objects, games, student books, tape cassettes, etc., boxed with enough materials for 6-10 students.

objectives for handicapped children can only occur after an arts content has been selected, tested, and verified for its validity and classroom effectiveness. The CEMREL AEP instructional units already reflect input from the content areas of aesthetics and the arts. They await only modification based on expert advice and consultation in the area of special education.

In an instructional sense, the AEP curriculum is already "adaptable." Although all the arts forms are at the core of the curriculum, it is designed to be taught by the generalist classroom teacher. The materials and the content of the curriculum take into consideration the situation in most elementary classrooms where a generalist has some, if not all, of the respnsibility for teaching the arts. Comments from teachers who have used the AEP instructional units often refer to the fact that although they didn't feel they were experts in dance or films, they felt comfortable using the units, and they and the students learned together.

However, the curriculum design does not ignore those elementary schools where personnel trained in the arts have responsibility for teaching or supervising teaching in one or more of the arts. This curriculum was designed to accomodate the variety of staffing patterns found in elementary schools. Therefore, while the division of teaching responsibilities between the generalist and arts specialist will be unique to each school building, the teacher who is specially trained in the arts can also use this curriculum as a comprehensive arts approach to all students in the elementary grades.

Objectives and Projected Outcomes

Guiding the research activities were five major project objectives:

1. To develop, test, and refine a methodology for the adaptation of instructional materials and teacher training programs for use with handicapped children.

2. To provide a means of evaluating the adaptation methodology to ensure high quality, on-line instructional materials which are able to meet the needs of handicapped children and still remain true to their original pedagogical goals.

3. To provide instructional materials in the arts for elementary-aged handicapped children which are based on completed instructional units from CEMREL's Aesthetic Education curriculum.

4. To gain insights about the future modification of teacher training involving the adaptation of materials.

5. To gain insights about cost effectiveness in the adaptation of instructional materials.

Based on these objectives, several outcomes were expected:

1. A handbook on the instructional adaptation process.

2. Instructional units, including teaching procedures and guides, student materials, manipulables, etc. (The teachers' guides for regular classroom teachers and special education teachers would be designed to give them strategies and techniques for dealing with mainstreamed handicapped children in integrative public school settings.)

3. A research and evaluation report about various teacher and child outcomes from use of the materials; about the cost-effectiveness of adaptations; and about the evaluation procedures or strategies for maintaining high quality in the adaptation process.

II. DESIGN AND ANALYSIS

Design

The general design within which research activities through the duration of the project were conducted is shown in Figure 1.

Practitioners with various roles (e.g., classroom teacher-special education, itinerant teacher, etc.) were exposed to three different treatments. Each treatment represented a level of familiarization with the curriculum materials to be adapted. Treatments 1 and 2 comprised the first field experiment. Treatment 3 was implemented during a second field experiment. Both experiments were conducted during Year I and repeated in Year II. In Year III, only Treatment Level 3 was implemented. After each treatment, practitioners made judgments about the curriculum materials on an adaptation assessment inventory. The variables derived and measured from the practitioners' judgments were divided into three categories.

1. Those that bear directly on the instructional characteristics of the materials
2. Those that index the costs of the suggested adaptations.
3. Those that index the time to make the suggested adaptations.

Sample:

The participants in the project were elementary-level handicapped students and their teachers.[2] The elementary-age group was chosen because much of

[2]Elementary school-aged handicapped students have been identified in individual educational and clinical evaluations as children whose problems are of such a nature as to require intensive educational intervention of the type found in two types of special education settings--an upgraded special education classroom located in a regular elementary school and an upgraded special education classroom located in a special center. Class enrollments range from approximately six to fifteen students.

the existing aesthetic education curriculum has been tested for use with very young non-handicapped children. Further, there is a paucity of arts resources for elementary and handicapped populations.

Based on the research design, various numbers and groups of students and teachers participated in the project activities each year. Specific samples are described in the description of activities for each year.

Figure 1

Project Design

Teacher Type	Treatment Level 1	Treatment Level 2	Treatment Level 3
A	X	X	X
B	X	X	X
C	X	X	X

Design for Year I

Research activities during the first year of the project focused on two field experiments through which the impact of three levels of familiarity within materials could be assessed. The purpose of Experiment #1 was to study the impact of little and moderate familiarity with a set of curriculum materials on practitioners' judgments concerning the adaptation of these materials for special education students.[3] In Experiment #1 the independent variable, familiarity, was manipulated by having teachers participate in two different kinds of work sessions or treatment levels.

[3]See Technical Memoranda #SE-01: Access to Learning for Handicapped Children; #SE-02: Design of Experiment 1; and #SE-03: Design of Experiment 2, for further explanation of "familiarity" variable.

Treatment Level 1 consisted of an introductory review, in which the participants examined a set of curriculum materials, as if they were looking at a materials catalog. The treatment was aimed at providing only a superficial introduction. This treatment represented the lowest level of familiarity.

Treatment Level 2 consisted of participation in a work session designed to familiarize the participants with the theory and pedagogy of the materials in considerable detail and provide some "hands-on" opportunities. This treatment represented a moderate level of familiarity.

It was hypothesized that contributions of different types of practitioners would vary. Thus, types of practitioners represented a second fixed effect studied. Three types of practitioners (classroom teacher, itinerant teacher, and curriculum specialist) were included in the design.[4] Figure 2 shows the design of Experiment 1.

Three types of practitioners were exposed to two treatments (Work Sessions A and B).[5] Subsequent to each work session the participants made judgments about adaptations by completing the adaptation assessment inventory. Groups

[4]Every attempt was made to select a random sample of practitioners from the participating public school districts in the St. Louis metropolitan area, and in Jefferson County public schools, Colorado. The unavailability of various types of practitioners, particularly curriculum specialists, prohibited a completely random sampling.

[5]Three kinds of teachers were involved in the first year of the project. All of the teachers and curriculum specialists were involved with the learning disabled students. The three categories of teachers were: (1) itinerant teachers (resource room), (2) classroom teacher (full-time or part-time special class in a regular elementary school, and (3) classroom teacher (full-time special class in a special school).

Figure 2
Design of
Experiment 1

Site	Practitioner	Introductory Work Sessions	Judgments	In-Depth Work Sessions	Judgments
St. Louis, Missouri	Classroom Teacher N = 15	X	X	X	X
	Itinerant Teacher N = 16	X	X	X	X
	Curriculum Specialist N = 9	X	X	X	X
Jefferson County, Colorado	Classroom Teacher N = 9	X	X	X	X
	Itinerant Teacher N = 10	X	X	X	X
	Curriculum Specialist N = 10	X	X	X	X

of students, teachers, and curriculum specialists from classrooms at two sites participated: (1) in the St. Louis metropolitan area in programs sponsored by the St. Louis Special School District, the City of St. Louis, and in regular public elementary classrooms in local suburban public school districts; and (2) in classrooms in the Jefferson County, Colorado, public schools. About 400 elementary-level children, classified as learning disabled, and 72 teachers participated in Year I of the project (1978-79)[6]

Six of the CEMREL AEP curriculum packages were used during Year I. Packages were stratified, then blocked according to several criteria.[7] Subjects

[6]During Years I and II the majority of teachers worked with students diagnosed as learning disabled or behavior disordered. This population of students was selected because of the high incidence of these diagnoses and because they are the most likely population to be mainstreamed. This same selection was endorsed by the project monitor at the Bureau of Education for the Handicapped, Washington, D.C.

[7]See Appendix A: Summary of Criteria Used for Package Selection.

(by type) were randomly assigned to packages for which judgments would be made following the introductory work session. Prior to the in-depth work session, subjects (by type) were assigned to packages by permutation to counterbalance variations in the dependent variable as a function of practitioner type, curriculum package, and/or the interaction of type and package.

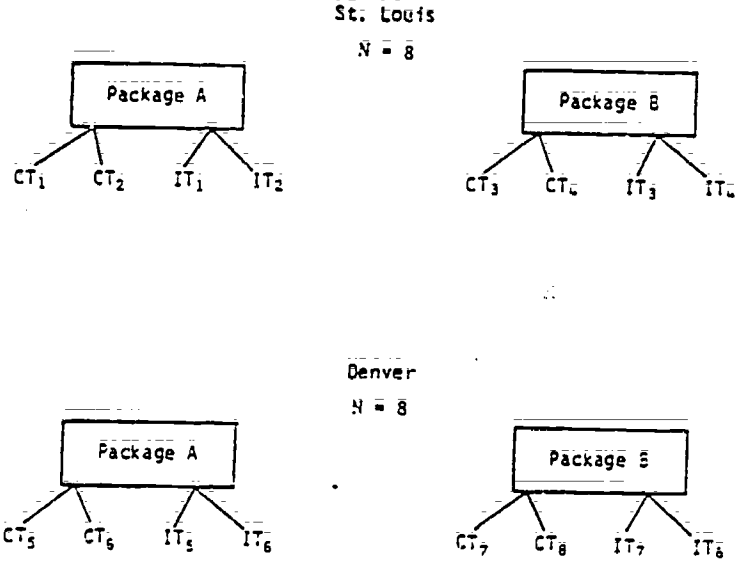
Experiment II was the classroom-trial component and represented the third of three treatments to which practitioners were exposed. The classroom-trial component provided the teachers with the greatest degree of familiarity. Sixteen teachers, eight in St. Louis and eight in Denver, implemented one of two possible curriculum packages with their students during a four week period.

Figure 3 shows the design of Experiment II. To maximize between teacher variability on the dependent variable teachers were matched on several dimensions.[8]

[8]The teachers were initially screened for volunteers showing an active interest in arts materials and/or aesthetic education. Classroom variables used as criteria for matching teachers were: type of contact with students (i.e., self contained classroom [CT] vs. itinerant [IT], chronological age range of pupils effected by experimental treatment. The feasibility of field management was a major factor in the determination of the geographical distribution of the participants.

Figure 3

Design of Experiment II, Phase I



To study the effects of different curriculum materials on teachers' judgments about adaptations, two dissimilar curriculum packages were selected for use in the classroom trials. All participants in Experiment II had had prior exposure to the selected curriculum packages.

The curriculum packages selected were Creating Characterization and Creating Word Pictures. The packages were composed of dissimilar types of materials (e.g., Creating Word Pictures contained student word books, game cards and game sheets, and workskeets. Creating Characterization contained a filmstrip, theatrical gels, a record, a wall chart, self- and peer-evaluation sheets, masks, and an "emotion book.").

The Characterization Package focuses heavily on articulating the affective--feelings and ideas. It affords the students a broad range of open-ended responses. The activities often require performances for an audience. It has been assessed as "easy" to adapt.[9]

Creating Word Pictures is composed of individualized, cognitively oriented activities. While imagination plays a large role in the exercises, the responses are less open-ended as they are constrained by accepted word meanings. It has been assessed as "difficult" to adapt.

Both Characterization and Word Pictures rely for responses on multi-sensory modalities.

A set of implementation guidelines, called Classroom Trial Instructions, was developed to insure consistent treatment across teachers.[10] Some of the

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[9]See Technical Memorandum #SE-10 for explanation of rating scheme.

[10]See Appendix for Classroom Trial Instructions.

major concerns over implementation were that the materials get similar use over the four-week trial period.

A range of usage from one to two hours per week was set:

a. To maintain the integrity of the curriculum package, the guidelines required that the teachers not rearrange the sequence of activities. However, rearrangement of the components of individual activities particularly in terms of presentation was condoned.

b. Since the nature of many of the activities would be altered considerably by extreme changes in group size, a recommendation was made concerning the number of students that should participate in the activities.

c. During the course of the four-week classroom trial many changes or considerations about the materials would undoubtedly be made. To insure the assessibility and recollection of these changes or considerations, the teachers were required to keep a brief log to document their activities and thoughts. (See Appendix for Activity Log.)

Instruments. The instrument developed to collect and compare teachers' judgments concerning the adaptation of the curriculum packages was called the "Adaptability Rating Form."

During the first year several versions of the instrument were subjected to rigorous pilot testing, and modifications were made as a result of teacher and project staff recommendations.

The test version of the Adaptability Rating Form for Year I contained several components: Packet 1 focused on the general, introductory material of the curriculum package about which judgments are to be made. The first page of Packet 1 contained several orienting statements followed by task-specific instructions. Packet 2 focused on specific student activities with emphasis on teacher, student, and material concerns as they related to the activities. Again, several orienting statements followed by task-specific instructions were presented in the first page of the packet. The last page of the Rating Form focused on the student materials for a specific curriculum package. That is, in the case of the teachers judging Point of View, the last page would be directed only to the student materials from the Point of View package. Since a total of six curriculum packages were used during Phase 1, six distinct pages of questions concerning student materials were developed and administered.

Data Collection. Year I data collection activities yielded a considerable volume of data: the 158 completed Adaptability Rating Forms contained more than 22,000 pieces of information that required coding. Extensive activity logs were completed by each of the 16 teachers participating in the classroom trials. Further, there was an assortment of pilot data from work done on instrument development, informal interviews with teachers, observations, and personal communications with project consultants.

Analyses and Results: Year I

Management of data from the Rating Form was accomplished by dividing the Form into two parts, corresponding to the type of data yielded: Part 1, Quantitative and Part 2, Qualitative.

The Quantitative data consisted of 48 variables including some demographic figures on each participant (i.e., experience, training, population taught). Quantitative responses in the form of forced choice questions and Likert-type rating scales were recorded from questions 1a, 1b, 1c, and 11a, 11b, in Packet I and questions 1, 2 and 6 in Packet II. Quantitative data from a work session evaluation form, administered after each work session were also recorded.

A coding scheme was developed and pilot tested. Three coders were trained, and they recorded the quantitative responses on 80 column Fortran Coding Forms. The data were subsequently key-punched onto computer cards and basic statistical programs were written and run.

Similarly, the qualitative data, consisting of open-ended responses in the form of "Additional Comments" and "Recommendations," were coded, key-punched, and programmed.

The range of responses to the open-ended questions required the development of an elaborate content-analysis coding scheme.

A hierarchy was developed so that responses could be ordered along a continuum of extensiveness. An assumption made was that more extensive responses would yield more information about how to adapt the curriculum materials. Verbosity was accounted for so as not to confound extensiveness with length of response. The responses ranged from general, neutral comments

with little relation to the question or materials, to comments composed of a critique of the materials and/or instructional methods supported by a rationale, and followed by a recommendation for adaptation. (See Figure 4).

A Recommendation Matrix, similar to the matrices developed during the "Fishbowl" workshops was constructed from the domain of recommendations gathered in Experiment 1.[11] After the extensiveness of a respondent's comments was determined, the specific recommendations were coded utilizing the Recommendation Matrix (see Figure 5).

Coding Specifications
Extensiveness of Comments

Figure 4

Hierarchy of Comments

Code	Content of Responses
01 =	No comment
02 =	General, neutral comment with little relation to question or materials and no new information
03 =	General expression of satisfaction (eg., 'yes')
04 =	General expression of dissatisfaction (eg., 'no')

CODE	CRITIQUE	EXPLANATION	RECOMMENDATION
05 =	+	0	0
06 =	-	0	0
08 =	+	X	0
09 =	-	X	0
15 =	0	X	0
07 =	0	0	X
12 =	+	0	X
13 =	-	0	X
14 =	0	X	X
10 =	+	X	X
11 =	-	X	X

[11] See Technical Memorandum SE-02 Fishbowl: Summary of a Workshop on Gathering Teachers' Ideas about Adapting for Special Education Classes, October 25, 1978.

Figure #5

RECOMMENDATION MATRIX

Changes	01 Omit	02 Substitute	03 Simplify	04 Clarify	05 Add	06 Modify	07 Repeat	08 Expand	09 Decrease
1. Teacher Assistance									
2. Teacher Information									
3. Teacher Directions									
4. Expectations for Student Outcomes									
5. Teacher Evaluation									
6. Adult Help									
7. Suggestions for Specific Handicaps									
8. Mode of Presentation									
9. Group Size									
10. Pacing/Time Limits									
11. Sequencing									
12. Individualzing Instruction									
13. Environmental Organization									
14. Structure of Activity									
15. Student Interaction									
16. Sensory Experiences -- Auditory									
17. Sensory Experiences -- Tactile									
18. Sensory Experiences -- Visual									
19. Sensory Experiences -- Kinesthetic									
20. Peer Tutor/Teaming									
21. Written Materials									
22. Manipulatives									
23. Visual Format									
24. Examples/Illustrations/Objects									
25. Supplemental Activities									
26. Reinforcement Activities									
27. Language									
28. Warm-up Activities									
29. Student Self-Evaluation Procedures									
30. Mode of Response									
31. Other									

Summary of Results[12]

The design of Year I focused on identifying and estimating the efficiency and effectiveness of practitioners' judgments with respect to the instructional characteristics of materials and the adaptation of those materials to special education classrooms. Initial investigations were designed to provide a basis for distinguishing the content and implications of teachers' judgments from those provided by curriculum specialists.

In general, it was hypothesized that both teachers and curriculum specialists can provide judgments and comments which are pedagogically important to the development of a methodology for adaptation, and the cost and time implications of actually making adaptations.

More specifically, it was hypothesized that increasing degrees of familiarity would yield different quantities and kinds of judgments about adapting materials. The hypothesis was tested by comparing responses to the Adaptability Rating Form.

Perusal of the data yielded some anticipated and some unexpected results.

In general, of the three treatment levels, the classroom trials appeared to have the greatest impact on teachers' perceptions of their own adaptation

[12]Specific results and detailed descriptive information can be found in the technical memoranda series previously submitted. A listing of the technical memoranda is located in the Appendix.

involvement, as well as on teachers' ability to assess several crucial dimensions of curriculum materials. The trials seemed to increase the skepticism or caution toward an unconditioned acceptance of the curriculum materials.

Tentatively, the data confirmed the educational adage that "hands-on" activities result in more meaningful learning experiences. Further, one could argue that the combined effects of Treatment Level 3, which involved use of new materials and record-keeping of the ways in which the materials were implemented, facilitated the teachers' reflections on their own classroom activities with respect to materials. These reflections, in turn, were measured as increases in the teachers' awareness or sensitivity to the amount and extent of adaptations in which they were engaged.

An unexpected result was the apparent inflationary impact of Treatment Level 2 (work session) on teachers' judgments of the general suitability or appropriateness of the curriculum materials. That effect surfaces in the question concerning amount of teacher information as a greater tendency for the Treatment Level 2 group to respond that there is "more than enough information." Results of both the "Sequencing and Rate" question and "Appropriateness" question show a tendency for the Treatment Level 2 group toward an inflated assessment of the materials either as "suitable," in the case of the sequence question, or "appropriate without change," in the appropriateness question.

As noted, the qualitative data, which consisted of teachers' comments and recommendations, were content analyzed according to fifteen categories.[13] A general pattern of the way in which responses were distributed was obtained by calculating the frequency of responses found in the fifteen "extensiveness" categories.

The distribution of responses suggested the collapse of the original 15 categories into seven categories. Figure 6 shows the correspondence between the original category labels and the recorded category labels.

With the recorded value labels, responses were tabulated to determine the relative frequency of comments in each of the seven "extensiveness" categories. This method provided general information concerning participants' tendencies toward more extensive or less extensive treatment of issues raised in the Adaptability Rating Form.

Figure 7 presents a rank-ordering of the relative frequency of six of the seven "extensiveness" categories.

The data indicated that nearly half (48%) of the time participants offered no comment at all. Of the responses offered, more than half (59%) contained a recommendation concerning the treatment of an issue raised in the Rating Form. And nearly two-thirds (65%) of the responses containing a recommendation also included a critique of the materials, and/or an explanation justifying the recommendation.

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[13] TM SE-14 describes the content analysis procedure and the categories developed.

Figure 6 Recode of Category Labels

Recoded Category Label	Original Code	Original Label
1 = No Comment	01	No Comment
2 = General Comment	02	General,neutral comment on new information
	03	General expression of satisfaction
	04	General expression of dissatisfaction
3 = Critique or Explanation only	05	Positive critique
	06	Negative critique
	15	Explanation only
4 = Critique and Explanation	08	Positive critique or explanation
	09	Negative critique or explanation
5 = Recommendation only	07	Recommendation only
6 = Critique or Explanation with Recommendation	12	Positive critique with recommendation
	13	Negative critique with recommendation
	14	Explanation with recommendation
7 = Critique with Explanation and Recommendation	10	Positive critique,explanation,recommendatio
	11	Negative critique,explanation,recommendatio

Figure 7 Rank Order of Extensiveness Categories

Category Code		Category Label	Relative Frequency (PCT)	Absolute Frequency
5	=	Recommendation Only	21	608
7	=	Critique, Explanation, and Recommendation	20	573
2	=	General Comment - No new Information	20	568
6	=	Critique or Explanation with Recommendation	18	520
3	=	Critique or Explanation Only	12	347
4	=	Critique with Explanation	09	266
			100%	

It seems that the participants that did respond to an issue would, more often than not, invest some amount of time in that response and evaluate the materials (coded as critique), suggest a means for dealing with the issue (coded as recommendation), as well as provide a rationale for their recommendation and/or critique (coded as explanation).

Approximately one-fifth (20%) of the participants that did respond, however, provided general comments with little or no relevant information about the issues raised on the Rating Form.

One clear implication for the refinement of the Adaptability Rating Form was that comments and recommendations concerning materials and rationales from

participants should be strongly encouraged. The importance of the practitioners' input must be recognized.

The nature of the experimental design demands that caution be exhibited when interpreting the results. Because the instrument was administered to the same individuals over three treatment levels, it might be argued that some of the variation in responses might be based on the effects of practice. It could be argued, however, that the time between measures was great enough to rule out attributing the variance in scores to practice effect.

A second criticism is that the tasks to be addressed in the Adaptability Rating Form might be viewed as different stimuli at each point of measurement. That is, teachers in Level 1, who were involved no work session or prior exposure to the materials, might be responding to the questions from a general standpoint. Subsequently, each exposure, with its consequent greater degree of familiarity, would result in responses that were progressively more focused on the materials used in the experiment. In anticipation of such a problem, identical directions were given each time the intrument was administered.

Design for Year II

The experimental design for Year II contrasted three conditions under which responses from four types of school practitioners are evaluated. The criteria for evaluation, as established in Year I, were:

a. variables which bear directly on the instructional characteristics of the materials

b. variables which index the costs of the suggested adaptations

c. variables which index the time to make the suggested adaptations

Figure 8 shows the experimental design. The three experimental conditions are shown in the Figure as Treatment Levels 1, 2, and 3. (Treatment Level 1 is the introductory review, consisting of having the participants examine a set of curriculum materials as though looking at a materials catalog. Treatment 2 represents the work session in which participants are familiarized with the materials. Treatment Level 3 is the classroom trial component of the design. Teachers implement and adapt the aesthetic education curriculum materials in their classrooms.)

The Adaptability Rating Form was administered after each treatment. Participants responded by making judgments and offering recommendations concerning adaptations of the curriculum materials. In contrast to Year I, a different group of participants was involved in each of the treatments. As Figure 8 indicates, four groups (at both sites) participated in Treatment Levels 1 and 2. The population of teachers was expanded to include regular classroom teachers with mainstreamed students, art/music teachers, and art/music supervisors; special education teachers and supervisors. Figure 9 shows the expanded population. Increased costs of a more complex design and data collection scheme prohibited study of the effects of Treatment Level 3 at the Colorado site during Year II.

Figure 8

Experimental Design

Year II

Location	Teacher Type	N	Treatment Level 1	Treatment Level 2	Treatment Level 3
St. Louis Missouri	1 Classroom Teacher Special Education	22	X	X	X
	2 Classroom Teacher Regular	25	X	X	X
	3 Itinerant Teacher Special Education	38	X	X	X
	4 Art/Music Teacher	22	X	X	O
Jeff. Co. Colorado	1 Classroom Teacher Special Education	15	X	X	O
	2 Classroom Teacher Regular	8	X	X	O
	3 Itinerant Teacher Special Education	15	X	X	O
	4 Art/Music Teacher	14	X	X	O

Figure 9

Teacher Types

	Group I	Group II	
Classroom Teachers: Special Education	(CTS)	(ITS)	Itinerant Teachers: Special Education
Classroom Teachers: Regular	(CTR)	(AMT)	Art and Music Teachers

Key

CTS and ITS represent both special education teachers working with one or more handicapping conditions.

CTR represents a regular classroom teacher with mainstreamed special education students of varied handicapping conditions.

AMT represents an art and music teacher having had some experience with special education students.

Four of the six Aesthetic Education Program (AEP) curriculum packages used during Year I were selected for use in the second year of the Project. Reduction in the number of materials was necessitated by the increased complexity of the research design. Criteria for selection was based on a general concern for maintaining longitudinal consistency throughout the project. The packages selected for Year II include the two packages used in the classroom trials during the first year. Selection was based, in part, on practitioners' ratings of the general appropriateness, adaptability, and appeal of the curriculum materials with respect to the expanded handicapped population. The broadest range of AEP materials was represented through the packages selected. The four packages tapped four different art forms.

Variations in the dependent variables as a function of practitioner type, curriculum packages, and/or the interaction of type and package were experimentally controlled by random assignment of subject (by type) to the packages.

Instruments. The test version of the Adaptability Rating Form, as in Year I, contained several components. Nevertheless, the number of pages was reduced by more than 50%, a fact enthusiastically greeted by the users. The first six questions were general in nature while the last seven were more specific. Questions one through six focused on general goals and objectives, amount of information, instructional techniques, management concerns, and evaluation methods. Questions seven through fourteen focused on specific, graduated goals and materials, with respect to the cognitive, perceptual, language, physical, and social skills of the students. A sample of actual activities was also evaluated in terms of management and instructional techniques, sequencing, amount of material, time allotment, and evaluation procedures.

A major change was made in the form of each question. There were three parts. Part 1 required a judgment about the materials and techniques as they are presented in the package. Page 2 required an explanation of the rating in Part 1. Part 3 required a recommendation for adapting the materials or techniques. Judgments were indicated by checking along a Likert-type scale and the explanation and recommendation parts to the question are open-ended. The three-part design of the questions evolved from analyses and interpretation of Year I data. Responses from participants could be separated into these three categories. It made sense to structure subsequent questions in a way that might facilitate the natural response patterns of the practitioners and in a way that might help them articulate their ideas and feelings.

When completing the Adaptability Rating Form, participants were asked to indicate the type and grade level of the students for whom their judgments and recommendations would be made. This aided in comparing responses pertaining to the appropriateness and adaptability of a set of curriculum materials from practitioners dealing with different populations.

For the project in general, the significance of the changes was that refinements were accomplished without forfeiting the consistency of the form of the data from Year I to Year II. From the standpoint of the practitioner, the significance of the refinements in the Adaptability Rating Form rests in its reduced complexity, its concretization, and the time required for completion. Based on staff, study group, and actual user evaluations, the refined Adaptability Rating Form was considerably more manageable and better suited to the needs of school personnel than the instrument used during Year I.

Development of an Observation Form and an interview schedule was necessary to fulfill the design requirements for Treatment Level 3. Furthermore, data from Year I indicated that most teachers had only fragmented conceptions of the complexity and pervasiveness of adaptation activities. This was true even for teachers who engaged often in adaptations. To gain further insights into the activities teachers engage in while adapting curriculum materials, and also to test the validity of Year I findings, an observational system was developed and implemented in Year II.

In keeping with the field-based research philosophy of the project, project staff collaborated with practitioners during the development of the Observation and Interview Forms. Treatment Level 3 was partitioned into three parts in order that the teachers involved in classroom trials would have experiences similar to those of Treatment Levels 1 and 2 participants. Parts a and b of the Treatment Level 3 were designed as condensed replications of Treatment Levels 1 and 2.

After participation in the work sessions (Parts a and b of Treatment Level 3), arrangements were made with teachers for systematic observations to be conducted during the time in which the materials were used.

Treatment Level 3 was conducted in St. Louis during December 1979 and continued during January and February 1980. Twelve teachers were involved. A set of implementation guidelines, called Classroom Trial Instructions, were administered to strengthen the consistency of curriculum implementation across teachers.

The consistency desired was not aimed at insuring similar implementation, but at insuring that the teachers understood the purposes of the project, the goals of the materials, and that the integrity of the curriculum package be maintained. While a range of usage from one to two hours per week was established, a good deal of latitude was afforded the teachers so that the AEP materials and activities would more easily fit established instructional schedules.

While the Observation Form was designed for ease of use by school personnel with a variety of curriculum materials, it was important to guard against misunderstanding and to insure the reliability of teachers' responses. A list of operational definitions of all observational categories was provided. Observer training sessions were held to review the basic principles of observational techniques, to provide an orientation to the Observational Form, and to establish consistency in standards of information collection. Four observers were involved in this activity.

The Observation Form used for Treatment Level 3 was specific to the two AEP packages used in the classroom trials. The form ultimately became a checklist that was completed during the course of each lesson. It was completed by the observer while the teacher was implementing the curriculum package. The teacher completed the form immediately after the lesson.

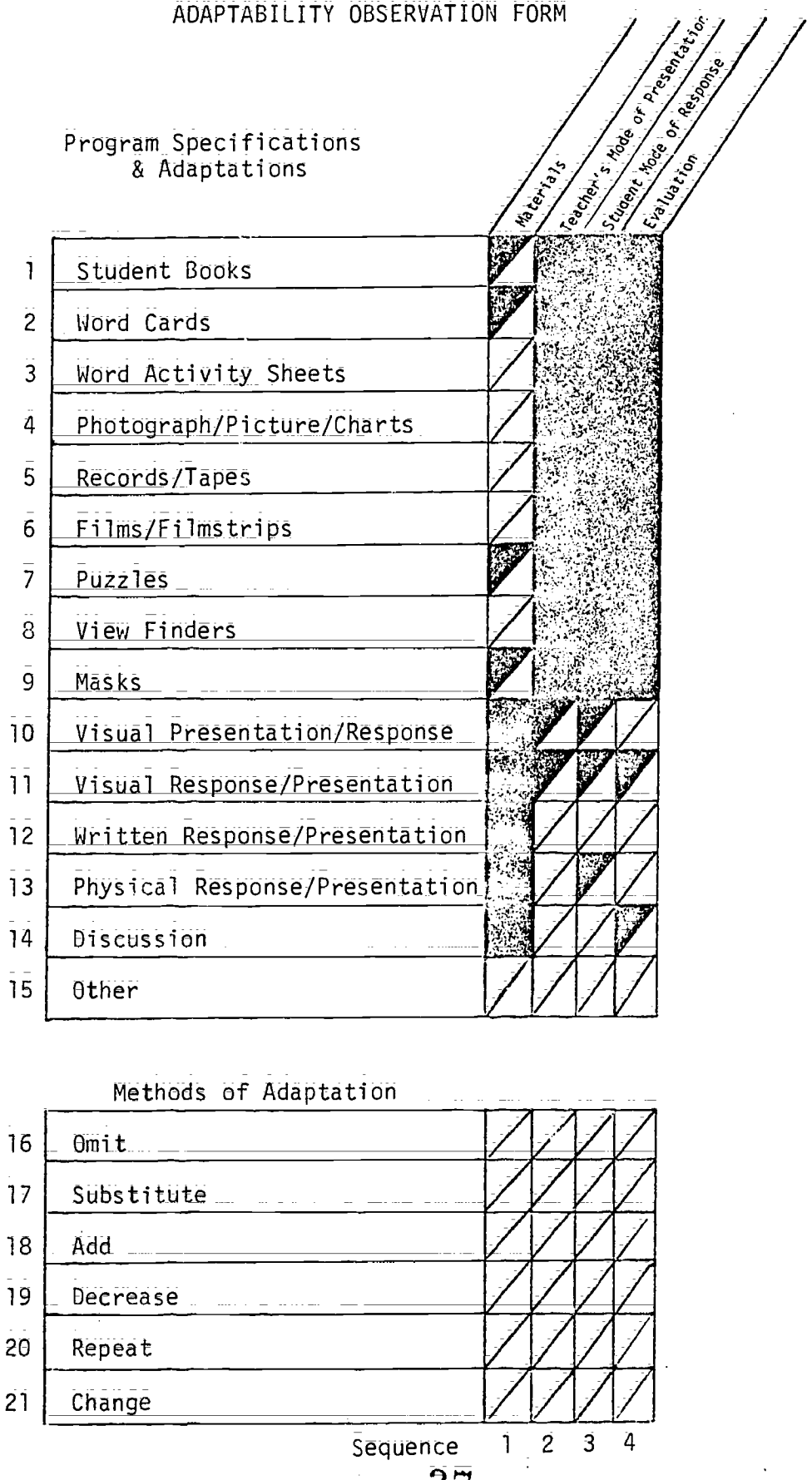
The Observation Form was constructed as a matrix representing the range of materials included in the curriculum package under consideration and several central dimensions on which student-teacher interactions can be observed.

Figure 10 presents the observation matrix. The left column consists of a list of materials included in the package and several response (for the student) and presentation (for the teacher) dimensions.

Across the top of the matrix are four categories into which any set of materials can be broken. By pairing horizontal with vertical categories,

Figure 10

ADAPTABILITY OBSERVATION FORM



specific aspects of the curriculum package, e.g., the materials, the mode of presentation, kinds of response, evaluation, etc., can be assessed.

To measure the quantity and quality of adaptations seen by the observer and perceived by the participating teacher, a single observation checklist was constructed to correspond to each activity in the package. This was accomplished by indicating on the Observation Form the materials and events suggested in the Teacher's Guide.

The Observation Form contained a predetermined system of factoring out the activity and material prescribed for the teachers in each of the AEP Teacher Guides. In Figure 10 many of the cells are partially shaded. A shaded cell indicates the activity or material was prescribed by the Teacher Guide. A check by the observer or teacher under the shaded portion of the cell indicates that the teacher complied with the Guide. A check made under a blank cell indicates an adaptation was made. If an adaptation is indicated, a second check is placed in the Methods of Adaptation Matrix and an explanation to clarify the adaptation is recorded in the appropriate space on the back of the form.

Analysis and Results: Year II

Analysis of the Adaptability Rating Form Year II was organized in a manner similar to that of Year I. The responses were grouped as either quantitative or qualitative and analyzed separately.

The Year II test version of the Adaptability Rating Form was composed of questions specifically designed to encourage teachers to make recommendations for how they would adapt curriculum materials to the needs of their students.

Based on the categories developed in Year I, an extensiveness hierarchy was constructed consisting of four categories. Figure 11 shows the Extensiveness Hierarchy.

A training session was held in which reliability was established among five staff members for content analysis of responses to the Adaptability Rating Form.

The frequency of responses in each extensiveness category was tabulated with respect to treatment level and type of practitioner.

The proportion of specific recommendations to comments with no usable information contrasts with the pattern found in year I.[14] Much of the increase in the number of recommendations may be attributed to refinements in the format and administration of the Adaptability Rating Form.

The data indicated that in Year II the number of times "no comment" was offered was reduced by more than one half; less than one quarter (22%) of the responses were "no comment" responses.

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[14]See Technical Memorandum #SE-17: Findings of Year I for Specific Information about the Qualitative Analysis.

Figure 11

Extensiveness Hierarchy

Code	Content of Response
1	No Comment/Little Information No comment at all or a brief expression of satisfaction or dissatisfaction.
2	Comment with General Information Comment contains information of little help to someone interested in adapting the materials. The comment is often complimentary of the materials.
3	Specific Recommendations - Teacher Focus Comment is specific to materials and population, but provides information pertaining to teacher needs, other uses for teachers, teaching strategies, etc.
4	Specific Recommendations - Student Focus Comment is specific to materials and provides information about behavior, skills of particular populations of students.

Specific Recommendations were offered more than twice as many times as general comments (general comments offered 25% of total compared to specific recommendations offered 53% of total).

The trends revealed were consistent with Year I findings: participation in actual classroom trials with curriculum materials will result in greater numbers and more specific recommendations than participation in introductory or in-depth work sessions.

Examination of their daily observations/adaptation forms[15] shows that teachers had recommendations and/or adaptations for multiple facets of almost every activity implemented.

Interesting differences across treatment levels emerged with respect to the focus of the recommendations. In all three treatments the recommendations focusing on teacher concerns outweighed the recommendations focusing on student concerns. However, there was an increase in recommendations focusing on student concerns after the classroom trials (Treatment 3). Examination of the Adaptability Observation Form magnifies the trend showing a dramatic increase in recommendations concerning student needs after implementing the materials in the classroom

In surveying variations among the different types of practitioners, classroom teachers (CTR) with mainstreamed students provided the greatest amount of information in proportion to comments with no information.

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[15]Technical Memorandum 29 presents the results in detail.

Except for the art/music teachers, the most frequently occurring comments were recommendations focusing on the teacher (e.g., management strategies, how to group students, evaluation techniques, how to present materials, where the materials would fit into the school day, etc.). Of all practitioners, the classroom teachers with mainstreamed students (CTR) had the greatest percentage of teacher recommendations.

Aside from minor variations, a few of which have been cited, the classroom teachers in regular and special education settings and the itinerant teachers showed similar response patterns. The art/music teachers offered a greater percentage of responses with no comments and fewer specific recommendations.

Differences in the focus of practitioners' recommendations provide vital contributions in the adaptability process. A clear implication is that any attempt to select a team to make generalizable adaptations for a school or a school system should take into consideration the importance of the multiple perspectives represented by various types of practitioners.

Another source of information about the teachers came from analyses of the Teacher Information Survey (TIS). Over 390 teachers were surveyed. The TIS was designed to a) identify a sample of volunteers for the Adaptability Project Year II activities; b) secure commitments from prospective participants; and c) provide profiles of participating and nonparticipating teachers.[16] It was administered prior to participation in project activities.

[16] TM #26 and #27 present detailed descriptions of the analyses.

The data show fairly consistent patterns of experience across the four types of teachers. The greatest degree of experience across all types of teachers is with the learning disabled population. The second greatest area of experience for all but the classroom teacher in regular education exists with the mentally retarded.

Some of the findngs showed that with respect to the volunteers:

1. Most of the experience of classroom and itinerant teachers in both regular and special education comes from working with one, two, or three exceptionalities. In contrast, the arts and music teachers gain a major portion of their experience working in a greater number of areas.
2. All four types of teachers have gained most of their experience in primary and intermediate settings. Slightly more experience has been gained through work in primary settings by the classroom itinerant teachers.
3. The classroom teacher/special education and itinerant teachers show similar patterns of experience in all three content areas. About half of both types have had somewhere between one and four courses in curriculum methods and the arts. Almost all of the teachers in both groups had nine or more courses in special education. In contrast to the course work of the special education classroom teachers and itinerant teachers, almost half the art/music teachers have had no curriculum methods or special education courses. One hundred percent of the art/music teachers have had nine or more courses in the arts.

4. Approximately two-thirds of the classroom teachers in regular education have had one to four courses in special education. One-third have had one to four courses in curriculum methods and another one-third have had nine or more courses in curriculum methods. More than 50% of the classroom teachers in regular education have had one to four courses in art.
5. Of the four teacher types, art/music teachers indicate that they make new materials most often.
6. Itinerant teachers make adaptations on published materials more often than the other teacher types.
7. All four teacher types rarely use published materials without making changes.
8. In terms of attitudes, art/music teachers appear to be most inclined to enjoy making frequent adaptations of materials.
9. The classroom teachers and itinerants working in special education make changes in the amount of materials more often than do the other teacher types.
10. The difficulty level of curriculum materials is most often altered by classroom teachers in special education.
11. Art/music teachers appear to make the most sequence changes of the four teacher types.
12. Classroom and itinerant teachers in both special and regular education settings make slightly more changes in mode of response than do the art/music teachers.

13. A large majority of the teachers involved in the project had only recently entered the teacher profession. This fact may have implications for future selection of participants for field studies.

The most specific information regarding changes in the curriculum materials is obtained and found in the Adaptability Observation Sheets. During the classroom trials of November and December 1979 and January 1980 observation sheets were completed by teachers and observers for every lesson taught.

During the spring of 1980, a format was developed to summarize the observation data from the 12 participating teachers.[17] The summary form provided a means for viewing the range of adaptations on any activity specified in the teachers' guides.

The data extracted and summarized from the actual observations was used in the development of the Adaptability Handbook.

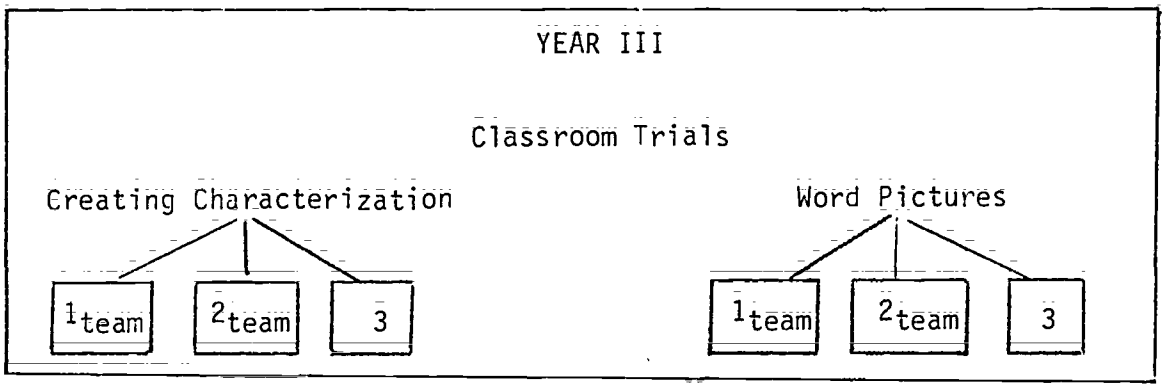
Design for Year III

While the primary task of Year III was the development and production of the Adaptability Handbook and Guidebooks, some classroom trials of the AEP materials did occur. The classroom trials were incorporated into the Year III activities to continue gathering adaptation recommendations and information from the broadest possible range of practitioners and student populations.

[17] The summary form can be found in Technical Memorandum #28. The entire set of summary forms on the 12 participating teachers can be found in Technical Memorandum #29.

The classroom trials during Year III were conducted in six classrooms with students who were orthopedically and multiple-handicapped and hearing impaired. The students ranged from six years to sixteen years of age.

The AEP materials, Creating Characterization and Word Pictures, were used in Year III, as in Years I and II.



There were several conditions in Year III that differed from those of the first two years of classroom trials: in four of the six classrooms, lessons were taught by teacher teams. Furthermore, five of the six classrooms were in the same building. As suggested by the teachers from previous years and from analyses of the data, the teachers were strongly encouraged to talk about and share with each other their experience with the AEP materials and the adaptation attempts. This was facilitated by the team setting and the proximity of the classrooms.

The teachers were required to complete a Strategy for Adapting Log[18] that described their use of and changes made on the AEP materials. Observations of the six classrooms were made by a single observer on a rotating basis.

Analysis and Results: Year III

The data collected from the teachers' logs and observation notes were used to enlarge the pool of adaptation recommendations for activities covered in the Handbook.

A content analysis of the adaptations revealed several additional insights not clearly articulated during Years I and II:

1. Single adaptations seemed appropriate for many kinds of students. That is, changes made on the manipulatives for the orthopedically handicapped students, for example, were often identical to the changes made for the behaviorally disordered.
2. The team approach in a classroom seems to have a multiplier effect on the adaptations that occur. When teachers work together they seemed particularly adept at building on each other's ideas. They often turned near failures into successful and enthusiastic adaptation.
3. Planning adaptations is deceptive. Many teachers commented about their experiences with elaborate adaptation plans that didn't work when implemented. Some suggested that the adaptations are quite situation-specific. The success of an adaptation seemed to be dependent on meeting the student's needs, but always in the context of the classroom and the general ambience of the day.

[18] A sample of the Strategies for Adapting Log is located in the Handbook.

Summary of Findings

Year I

1. The classroom trials appear to increase teachers' sensitivity to curriculum adaptation and to provide a clearer understanding of the suitability of a given curriculum to student needs.
2. Greater familiarity with the curriculum materials (measured in terms of more use) yields more frequent and a greater range of adaptations.
3. Classroom teachers provide more frequent and more specific recommendations for adaptation than curriculum supervisors.
4. Supervisors are in the best position to communicate and dissemination adaptability information.
5. Documenting adaptations through the use of an activity log increases the number and specificity of recommendations.
6. Generally, articulated recommendations are difficult to solicit.

Year II

1. Compared with two types of work sessions, classroom trials yielded the most extensive and concrete recommendations.
2. Itinerant teachers compared to regular classroom teachers and arts and music teachers, most frequently adapt published materials.
3. AMT make new materials more often than CTR, ITS, CTS.*
4. The most adapters are ITS and CTS. When they adapt, they most often change the amount of material.

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*AMT = Arts and Music Teachers
CTR = Classroom Teachers in Regular School
ITS = Itinerant Teachers in Special Education Setting
CTS = Classroom Teachers in Special Education

5. Other ways that practitioners frequently adapt materials are: changes in the difficulty level, changes in the sequence, and changes in the student mode of response.

Year III

1. The majority of adaptations focus on basic skill areas.
2. Peer teacher teams in the same building yield more frequent and a broader variety of adaptations than do teachers using the materials by themselves.
3. Teachers frequently comment that a vehicle to assist in curriculum adaptation would be helpful.
4. Establishing communication channels across departments or sites for large-scale adaptations presents many logistical problems.
5. Teachers confirm that a step-by-step adaptability handbook would help facilitate communication and management of large-scale adaptations.

Selection and Use of the Materials in Relation to Student Outcomes

The intention of the project was to provide arts materials for special students that had been successfully implemented by non-arts teachers for regular students. The project outcomes indicated that the materials with adaptations could be used with a wide range of handicapped students. About the materials, it was found that:

1. Ten out of the twelve available sets of materials could be used with adaptation.
2. Six out of the ten sets of materials were rated by teachers.
3. Two sets of materials were adapted in classroom trials.
4. A set of general adaptations was provided by teachers in the worksessions for four of the six sets.
5. Special-education teacher interest in using these aesthetic materials seemed to parallel regular teacher interest, in that those who felt comfortable teaching the arts, valued the arts, or had positive student response to the activities, tended to give more time and attention to the teaching of these aesthetic materials. The only difference appeared to be that special education teachers found it necessary to make adaptations.

Student Outcomes

Some comments by classroom trial teachers about effects on students were:

> ...about carryover: "sometimes it did carry over. If we had written a story...a lot of times the kids would bring up something later on...so it was carried on in that way."

"A lot of the basic concepts in the materials are carried over into other instructions, particularly in terms of expressive writing skills and sentence construction. It was beneficial."

"The kids were very excited about the kit, even one kid who denies all negative emotions joined right in."

"They had fun with the more unusual matches, explaining what they imagined their new words to be and how it would look, sound, etc...."

"These materials improved my kid's creativity."

"I started seeing more parents coming back again. Forcing them into coming and observing and seeing how things were...It was just interesting..."

"I felt the children had absorbed a great deal and I noted the difference between before I taught it and afterwards. It was a tremendous difference."

"It helped some of the kids improve their sentence writing..."

"I thought I got the kids with the kit--a good way to look at faces and bodies to have emotions, which is what I was hoping they'd get out of it..."

"I think they had fun..."

"Increase in their output, you know verbal, more varied descriptions, becoming more descriptive, for them to start thinking more about things rather than just giving me one or two words about things..."

"I think the kids got a lot out of it..."

"I saw a lot more verbal responses."

"She's able to come out a lot more than she was before..."

Specific student outcomes were difficult to measure and more than the scope of the project could include. However, specific student outcomes as measured by project participants functioned to modify the types of adaptations that ultimately resulted from the classroom trials. A more in-depth evaluation of individual student outcomes and effects is still needed. As indicated in the

original proposal, arts materials available for the handicapped are limited. For many of the students the activities provided by this project and the materials given to the classroom-trial teachers allowed for arts experiences that had never before occurred. The project itself introduced arts materials and concepts to over 250 teachers of special students. Many teachers who were not in the classroom trials borrowed the materials from the materials resource center in their school after the worksession.

The following is a statement provided by one of the worksession teachers who chose to use the materials in her classroom.

"Conclusions I could not escape as a result of this unit were:

1. Because it was highly motivating, the student's book was readable even to those who tested at first grade reading level. They quickly learned words like photography, photograph, photographer, point, view, etc., and remembered them each day.

2. The change of material, format, and presentation acted as a stimulus for learning to take place. They came charging into the lab each day, eager to get at the day's lesson. I had no discipline problems.

3. Because they read in small groups, they benefited from peer contact. They helped each other, and I acted mostly as facilitator.

4. When the unit was over and they went back to their regularly assigned work, they worked harder and more carefully than they had been working before we stopped for the unit.

I am eager to try more of this kind of activity in P.C. Lab. I feel that it has enormous potential for sparking the student's interest, creating a desire to learn which, in turn, leaves a residue of self confidence and fulfillment which is invaluable to the P.C. student.

Thank you for sponsoring the workshop. I, for one, would welcome more of this kind of curriculum."

In summary, teachers seemed initially hesitant to utilize aesthetic materials with handicapped children because of the tremendous need to remediate so many other core curriculum areas. However, at the project's conclusion, teachers indicated that they found the materials quite useful for their students in relation to other curriculum areas. They also reported student progress in affect, self-expression, and creativity.

Product Development Based on Research Outcomes

The Handbook and Supplementary Guides

"Field-initiated study" clearly describes the context of this project. Adaptation is not a new idea for special educators, project participants have said. Educators are continually adapting existing materials for a variety of reasons. The context of the handbook is a result of teacher behavior, knowledge, and experience with the project staff. The adaptation strategies are not new or invented merely by those with good intentions. Rather, they are products of classroom instruction. From the initial Fishbowl Activity (Technical Memorandum) to year III classroom trials, the strategies came from actual classroom activity.

Due to the emphasis on mainstreaming the trend toward non-categorization and the expressed needs of the majority of teachers working with special students (itinerant, resource, regular education), the handbook took its present form.

Developing a systematic approach that can be useful to many teachers was the major goal of the project. The handbook is designed to be used to assist

school districts or individual schools in adapting existing curricula for special students. The teachers used CEMREL's Aesthetic Education Program materials for the first time, and from their recommendations, supplementary guides were developed and tested with other sets of teachers.

The steps in the process were derived from actual project activities. The project staff acted as facilitators. It was clear from this experience that the selection of an appropriate facilitator is crucial to the project's success. There are two other essential elements to the process--communication and coordination. Without these two elements, the adapters adapt and other teachers continue to become frustrated and limited in their ability to meet student needs. It is also necessary that teachers volunteer their service in the project. Teachers who were drafted in Year I developed resentment and responded in a limited fashion.

The synthesis meetings are one part of the sharing that project participants and workshop participants stressed as essential for their own ability to develop new approaches and improve their instructional strategies. The synthesis meetings are also important for evaluating the adaptations. Through these meetings the products are evaluated and refined prior to developing the supplementary guide or materials to be implemented and tested by other teachers.

The project staff met regularly in May 1980 to develop an outline for the handbook and to determine the content. It was evident that the process described should include recommendations for implementation, but it was necessary to determine how much of the background information on the project,

research findings, and literature review was necessary. The recommendation of several administrators, inservice facilitators, and curriculum specialists was to get to the process as quickly as possible and to include a list of the technical memoranda for those interested in project documentation in the Appendix with information on memoranda might be obtained. It was also suggested we provide options for each activity when appropriate.

Several curriculum and group facilitator handbooks were reviewed to collect ideas for a format. Again, the consensus of appropriate school personnel was for keeping the rhetoric brief and for describing each activity briefly.

As an outcome of a study group meeting, teacher interviews, and a meeting involving Year I and Year II participants, it was recommended that the adaptations be related to a basic skills profile rather than to the broader categories of learning disabled, mentally retarded, or emotionally disturbed. The teachers felt that the basic skills profile was noncategorical and paralleled special teachers' program planning and task analysis activities. Classroom teachers felt a basic skills profile would help them become more familiar with special education vocabulary and help them determine how to individualize instruction for mainstreamed students and for students with other learning problems.

Teachers felt that a checklist with suggested adaptations would be helpful, along with a guide suggesting those adaptations that would be most suitable for various basic skills deficits. The program staff referred to the outcomes of the Fishbowl Activities, which describe what teachers do when

they adapt materials and to the logs and observation data collected from the classroom trials, and so created the Strategies for Adaptation Log and Guide. The second part of the log asking for a description of the adaptation was used in Year II classroom trials. Teachers judged it most useful and so it was changed very little. The Strategies for Adaptation Log and Guide was used by a team of special education teachers and classroom teachers from the St. Louis city schools to adapt career education curriculum for mainstreamed students in self-contained classrooms. The teachers were most enthusiastic and felt the guide was extremely useful. They used the guide and the suggested format for adapting curriculum.

When we determined that the classroom trial was the most appropriate method of adapting curriculum materials, it was also determined that a large number of school personnel was not needed for adaptation. Although the work sessions did not provide many suggestions for specific adaptations, they did provide a great deal of information about parts of the curriculum that needed adapting. The Rating Form was developed as a refinement of the original form used to survey the curriculum users in a district. This information is to be analyzed and provided to the adapters, who are members of the curriculum users' population. The analyzed data provides a focus for adaptation.

The adapted lesson plan was developed to help teachers synthesize the adaptations and put them in a useable format. Teachers need information that is easy to follow and that can be easily incorporated into existing curriculum guidebooks. The total approach is based on teachers helping other teachers, with the assistance of a facilitator.

The development of the supplementary guides for the AEP packages was a direct outcome of the classroom trials and work sessions. As noted, after review by special education teachers and supervisors, ten out of twelve packages were found acceptable for special education students and six of the ten were selected for Work Sessions I and II, Year I. Four of the six were included for Work Sessions I and II, Year II. Two of the original six were used in the classroom trials for all three years. All six packages were considered adaptable, although some were easier to adapt than others. Throughout the three years, two music teachers found the music package unacceptable due to a conflict in philosophy, rather than any difficulty in adapting for special children. The age and nature of the student's disability required one classroom trial teacher to drop out. Her students were behaviorally disordered adolescent boys, and the teacher said the students felt the activities were juvenile. She felt if she had started with a different approach, the reaction may have been different, but she admitted that there was no turning back. Another teacher used the same materials (Creating Characterization) with five- and six-year old students who were performing at a much lower level. She found that she could use the basic concepts but had to substantially revise the curriculum because of the low ability of her students.

Generally, the materials were well received. All classroom trial teachers received an AEP unit of their choice as an incentive for participating. This gesture of reinforcement helped compensate teachers for their time investment and to attempt to insure on-going arts activities in these schools.

The production of the supplementary guides are a direct result of successful classroom adaptations over the three years. Adaptations were consolidated into the four major categories--teacher presentation, student behaviors, materials, and evaluation. Adaptations were matched to skill deficits and put into the format developed over the three years in the field. The project staff matched the outcomes of the classroom trials to the outcomes of the work session just to be sure no good ideas were missed. As stated earlier, the classroom trials produced a greater number of adaptations, more concise adaptations, and adaptations that related directly to specific student needs than had been produced earlier.

Project staff reviewed the adaptations for change in content. The adaptations were true to the content, in general, although there was some shift in emphasis to accomodate working with the aesthetics of daily life, as opposed to studying the aesthetic elements in the arts. The shift in focus appeared to depend on teacher level of skill and experience in teaching arts activities. For example, in using Creating Characterization, more attention was given to the expression of one's feelings in daily activities than to the study of character development by professional actors.

III. STUDY GROUP

A study group, composed of the project director, project staff, and five consultants, was established during the beginning weeks of the project. Study group members provided guidance about the potential adaptability process on individual units of instruction from their different profesional and pedagogical perspectives. They also reviewed the total scope of work for Year I, and gave advice on how to maintain the goals of the project.

The following project staff members comprised the study group:

Jerilynn Changar, Curriculum Coordinator

Jerome Davis, Project Director

Michael Edenhart-Pepe, Research/Evaluation Specialist

Sue Harvath, Site Coordinator (St. Louis, Missouri)

Don Miller, Director, Research Studies

Carolyn Spearman Nelson, Site Coordinator (Jefferson County School District, Colorado)

The project consultants and study group members represented areas of arts instruction in general. Specifically, they represented education for the handicapped, elementary education, special education, and program design and evaluation. They were the following:

Sandra Cooke, Editor, Comenius, Inc., Weston, Connecticut

Diane Davenport, Supervisor of Music, School District of University City, University City, Missouri

Rawley Silver, Adjunct Associate Professor, College of New Rochelle, Graduate School Departments of Art and Special Education, New Rochelle, New York

David Sabatino, Chairman, Department of Special Education, Southern Illinois University, Carbondale, Illinois

Richard Wolfe, Director, The Ontario Institute for Studies in Education, Department of Measurement, Evaluation and Computer Applications, Toronto, Canada

The study group was to meet as a whole three times during Year I at the beginning, middle, and end of the year. In addition, study group members were to meet individually or in small teams with the project staff to conduct their work.

Initially the study group provided input regarding the direction and focus of Year I in regard to the selection of the population and level of disability for Year I; the number of sets of AEP materials that could be adequately evaluated; questions to be asked; and implications for Year II and III. Although the study group meeting was profitable in Year I, there were several reasons for a change in procedure throughout the project.

Each study group member represented a different level of intereste and expertise in relation to the project (e.g. researcher, special education supervisor, art specialist, specialist in research and teaching visual arts for the hearing impaired, university special education department head). General issues were attended to by the group. Specific issues, also addressed, were the design of the rating form; analysis of data; organization of the work session; and review of the handbook. However, it was felt that the three study-group meetings a year was an ambitious schedule.

As a result of the experience, the project staff came to two conclusions:

1. The study group members provided more useful information when the focus of their involvement was quite specific.
2. Additional qualified school personnel could contribute in the capacity of a study group member and provide recommendations to reinforce those of the study group and involve school district supervisory and administrative personnel who would be in a position to facilitate the process.

The data was collected and analyzed for each year. Problems and potential revisions were identified and feedback from the work sessions and classroom trials were presented to a group of school personnel and to one or two study-group members. The school personnel always included some past participants and some new participants. At each session participants received a progress report and update of the project activities. Packets of information were sent to the participants prior to each meeting with a set of questions and possible revisions for consideration. Each meeting included eight to ten participants plus the project staff.

There were nine such meetings during the project, plus three reviews by mail, along with several telephone conferences with individual study group members. Some contributions or outcomes of these meetings were:

1. an emphasis on a non-categorical approach,
2. simplification of the rating form to include a checklist and a place for comments and open-ended statements,

3. inclusion of more than one teacher in a building-team approach,

4. the handbook format,

5. modification and clarification of the forms.

One meeting was held to obtain more information about school district supervisory and administrative personnel concerns and perceptions of the role of the facilitator. The participants for this meeting were three special-education supervisors, three elementary-school principals, and project staff.

The following is a list of concerns written by the participants prior to the meeting. Each participant had received a project abstract and summary, a handbook excerpt, and the questionnaire.

The question was:

> "When you think of facilitating a systematic approach for adapting curriculum materials for handicapped students in your district or school, what are you concerned about? (Do not say what you think others are concerned about, but only what concerns you.)"

Responses were:

> "When I think of facilitating a systematic approach for adapting curriculum materials for handicapped students in my district, one concern is who will act as facilitator and what specifically will their duties involve?"
>
> "Will a program of this type conflict with Special School District programs?"
>
> "Which handicapping conditions will be offered instruction in these curricula areas?"
>
> "Who will implement the program in each school?"

"Who will provide the teacher training? When would it take place? What opportunity would be provided for on-going evaluation and follow-up?"

"I am concerned about a process for classroom teachers to utilize that can realistically be applied to the existing curriculum. This process should include a (1) proper introduction (possible workshop); (2) sample lessons; (3) follow-up for further discussions with more ideas for techniques; and (4) coordination with total staff in the school as well as junior/senior high schools - central office, etc."

"Is there a consistent use of the same curriculum and materials? Or are teachers just using what they have available to them? Often we rely on what local schools provide in the way of a wide variety of materials."

"Establishing priorities for what needs to be adapted. Most special education teachers tend to focus more on the basics of reading, writing, and math."

"Establishing channels of communication across departments with the authority to implement some curriculum adaptations could be difficult to do without a commitment from the district."

"Teachers are already working under pressure with all the requirements and procedures necessary to compy with PL 94-142 and accountability to parents. Time is a factor for them. A vehicle to assist them more in routine daily tasks and/or increased assistance from aides would be vital for them to devote more time to curriculum adaptation."

"In order for adaptation to be utilized in public schools, especially at the secondary level, the administrator and sometimes the Board of Education must approve the adaptations. How can they be convinced?"

"Resource teachers already have limited time for developing curriculum. Will they have time to do other adaptations?"

"Grading is a big concern. Should students working with adapted materials be given the same grades as those not needing adaptation?"

"Teachers need to be made aware of these steps in adaptation."

"With reference to adapting curriculum for use with handicapped students, my specific concerns involve three major considerations: (1) analyzing the existing curriculum with regard to strengths and weaknesses; (2) identify the "type" of learner who can best be taught through the vehicle of a specific curriculum accessible to all learners. Students in a "mainstream" situation are subject to the expectation of being able to function in a regular class with supportative services. The reality of the situation is that local

> schools usually find themselves "locked" in to a specific series and the special educator assumes the role of adapting the curriculum. This role is often assumed by the special educator in that they perceive themselves as the most appropriate person to do the adaptation, or the regular educator feels the special educator is the only person trained to make these adaptations--the bottom line appears to me to be attitude. I am concerned about establishing a framework which will enable regular and special educators to work together as a team in adapting curriculum for the handicapped.
>
> (Afterthought - many times adaptation is seen as changing content - emphasis on "what is adaptation" is vital.)"

The responses to the questionnaire were used as basis for discussion. Participants were also asked to describe their concept of the role of the facilitator. Much of what was said reinforced earlier project outcomes, but helped to clarify the role of the facilitator and provided information that needed to be emphasized in the handbook (see handbook).

Each group meeting provided us with further insight and clarification that led to a refinement of the process and products. These meetings were similar to the synthesis meetings as described in the handbook. The field-based participants were essential. The mixture of study-group members and field-based reviewers insured realistic and on-target products. The emphasis was on realistic, workable and practical goals, rather than highly idealistic goals with little potential for fulfillment.

During the third year of the project, the handbook was completed and submitted to a group of reviewers for recommendations for final revision.

Nine people in the field reviewed the handbook for final editing and revisions. The reviewers included two elementary school principals, three

university professors, an associate superintendent (large special-education district), a classroom teacher, a state area resource center director, a director of special education in-service training of a large urban district, and a special education supervisors of a large county district. These people represented schools and school districts in five different states. In addition panels of teachers, specialists, and supervisory personnel were brought in to make recommendations for improvement of a process and the forms throughout the 36 months of the project.

The reviewers were asked four questions about the handbook:

1. Purpose: Is the purpose of the handbook clear? Why would you use it?
2. Process: Is the description of the process clear? If not, what parts are unclear?
3. Content: Does the handbook provide you with useful information about strategies for adapting curriculum? How is the information useable in your work or school district?
4. Format: Is the format helpful in understanding the material? Suggest format changes that would improve it.

They were asked to evaluate each form for usability, clarity, and content.

All recommendations were taken into consideration and the majority were implemented. One general recommendation was that the forms all be included as part of the document and not left in the Appendix, since the forms include the heart of the process. It was decided to include them within the body of the handbook and also keep them separate for reproduction purposes.

Reviewers made the following comments relative to purpose and process:

1. School Principal
"The purpose of the handbook is clearly explained and supported with a philosophical prospective. I find this particularly helpful. Principals and teachers are frequently asked to justify curriculum decisions such as these. I would use this handbook as a guide for working with handicapped students as well as any student who does not fit the 'norm'--the potentially gifted student as well as the marginal performer."

2. College Instructor
"The purpose of the handbook is clearly stated. The handbook can be useful for all individuals interested in education, providing a systematic recorded plan for adapting curriculum, improving opportunities for learning. It can be particularly useful for teachers of mainstreamed children, providing a process to help meet the student's needs of participating, assimlating and utilizing the lesson."

3. Classroom Teacher
"The purpose of this handbook is quite clear as far as providing a procedure for adapting existing curriculum. I would use this guide (with a few changes) if I were a beginning teacher who did not know where to start with individualization and as an experienced teacher who might get another view (on adaptations of present curriculum) for the handicapped."

4. Principal
"The purpose of the handbook is clear. At the present time, it would be used in our school situation as a means to assist staff in developing a methodology for the adaptation of instructional materials for special students."
(This principal asked us to come to the school and talk with teachers. A supervisor who attended has asked us to run a workshop this summer to begin the process.)

5. Special Education Supervisor
"The purpose as defined on pages 4-5 seems very clear and rationale is well defined on pages 6-11, in understandable language to educators."

6. Principal
"I really appreciated the section on the decision to adapt or not to adapt. The explanations flow easily. As I read, I kept saying, AMEN! AMEN!"

Apropos of content, comments were the following:

1. College Instructor
"Very useful! As an instructor in a teacher training program with non-experienced teachers (pre-service), I see this information as invaluable for use in methods and techniques classes. It is something I've been looking for and plan on using it as part of my course design."

2. Principal
"The information is very useful. The strategies are appropriate for elementary settings. It is also a helpful tool for stimulating curriculum discussions among teachers--a general sharing of ideas and tricks of the trade."

3. College Instructor
"The handbook gives excellent information about strategies for adapting curriculum. As an instructor of Special Education courses, this information supplements teaching strategies for children having special needs. It provides a method for adapting all curriculum."

4. Classroom Teacher
"Yes. For my classroom--for current curriculum the strategies and the samples may be applied to my mainstreamed L.D. children. In fact, I have been using Creating Word Pictures to help a few of my L.D. children with our current language curriculum. I have not used your checklist on a daily basis but it seems easy enough to incorporate and to use."

5. Principal
"This section is just simply outstanding! This is exactly what classroom teachers are hungry to receive. It would be excellent for teacher training workshops. We used a bit of it recently for a two-day introduction to adaptations."

6. Special Education Supervisor
"Yes! This information is usable in this school district in piloting new curriculum which is developed but not yet approved. It is usable in my work in consulting with teachers as I internalize the process and make collaborative efforts with teachers for changes for a given student."

7. Urban District Inservice Director
"Yes and no, however the crux lies in the actual implementation. I see use actually taking place in the following fashions. (1) Big Area. Developing appropriate vocational programming at the secondary level--Realistic Approach--A district committee begins by identification of vocational programs that are viable in terms of employment potential within the community. This can be facilitated if an occupational advisory council exists of business people. Specific jobs within an occupational area are identified, and related to a vocational program within the district if one exists in that area. Then task analysis takes place for specific job titles from most basic to increasing complexities, (i.e., tire and battery person [to] mechanic). Then we bring in your processes of actual curriculum adaptation to (1) meet the needs of various special needs learners BD, LD, EMR, TMS, Deaf, etc. Leading to a district-wide curriculum for the special needs learner with an open entry exit type arrangements, example (TMR student goes to auto for four weeks only to learn tire and battery, then to word to learn simple hand tool usages, etc.). This is also a good area for a publisher if they want to follow through with the actual curriculum development or adaptation in terms of developing a product, i.e., carpentry related careers and curriculum for the special needs learner, etc. (2) Many districts I believe are having a difficult time changing the role of the special educator. Teachers,

whether resource or primarily self-contained, have been trained to 'work their magic' alone within the special class. Your systems can be applied not only to adapt curriculum but through its use to get special ed/reg. ed., voc. ed working together. But again through the special education teacher whose program and time is flexible. However, I don't think your present system is usable; I think you need to extensively develop and illustrate this process as part of direct instruction in relationship to the IEP with forms, suggested activities, etc. for the resource teacher process in individualized and curriculum adaptation. I think viewing this process as curriculum development with volunteers, teachers giving up, free time, etc. (without additional structure as mentioned in my comments under purpose) is NOT Feasible."

There were several suggestions for changes in the format. The handbook as it is now reflects those recommendations.

The Forms

Generally the forms received a high rating. Where it was possible and made sense, changes were made. The Strategies for Adapting Guide, which is included in the handbook, is one of the key pieces in the process and can be used in many ways. Included are several comments about the Guide.

1. Urban District Inservice Director
"Clarity - very clear
Usability - always usable to show examples of procession action.
Content - appropriate"

2. College Instructor
"Clarity - very clear
Usability - yes
Content - excellent"

3. Principal
"Clarity - clear
Usability - very useful alternatives
Content - very good"

4. College Instructor
"Clarity - excellent
Usability - Provides a variety of teaching strategies for corresponding skill deficits. This can be used as a reference for the adapters to help meet student(s) needs.
Content - covers all areas relating to skill deficit profile"

5. Classroom Teacher
"Clarity - excellent
Usability - excellent. Possibly putting the materials 1-12 all on one chart on one fold out piece of paper. Also, Inst. Strategies, Directions, Motivations, Feedback, etc. Each have a concise foldout so that the teacher can have it at one glance.
Content = excellent"

6. Principal
"Clarity = so much information in clear, concise terms
Usability = best section of handbook
Content = based on most recent research in strategies for special student needs."

7. Special Education Supervisor
"Clarity = good format
Usability = could be used by teachers in writing Individual Education Programs
Content = Include more intervention strategies, methods, techniques or materials in each area. Cite references such as Fernald Technique in footnotes."

8. University Instructor
"This is, obviously, potentially the most useful part of the process. I like the format although the appropriate appendix is a must to clarify many of the suggestions. I would agree that the two never get too far apart. (Strategies for adapting - check list and log and the Guide.) I would also hope that this would serve as a guideline for teacher discussions and not the 'Bible' with all the answers."

An article about the process was included in the December 1980 issue of American Education. The article was also reproduced in the April issue of "CEMREL Reports." Over ninety letters of interest have been received as a result of these articles. Each letter was answered and an excerpt from the handbook, which includes several of the forms and a brief description of the process, were included.

Those who received an excerpt were asked to respond to the questions:

1. Objectives:

   Did the excerpt satisfy your purpose or objective in seeking information about the acceptability process?

2. Content

   Is the description of the process clear? Does the excerpt provide you with information about strategies for adapting curriculum that you did not have before? Explain.

3. Format:

   Is the format helpful in understanding the material? If not, what do you suggest?

4. Usability:

   How is the information usable in your work or school district?

Question 1. Objective: Did the excerpt satisfy your purpose or objective in seeking information about the adaptability process?
The responses to Question 1 included nineteen people who said yes, three who said partly, and several people who said they want the completed book.

Question 2. Is the description of the process clear?
Yes - 15 No - 3 No Response - 1 Partly - 2
Does the excerpt provide you with information about strategies for adapting curriculum that you did not have before? Explain.
Yes - 5 No - 6 Needs More Info - 1 Well Organized - 8
Comments

1. "Strategies for adapting helpful."
2. "Good overview."
3. "Descriptions hard to follow. Suggestions for adapting clear."
4. "I commend you for the thoroughness of the categorized strategies."
5. "New format."
6. "Appreciate format - useful."
7. "Categorization is easily used for selection of strategies as per deficit."
8. "Confirmation of value of strategies - provide many options "
9. "Basic Skills Checklist unclear."
10. "Concise and easy to use - it's great."
11. "Crystallized and clarified - useful."

12. "All the hints I stumbled upon, methods that take years of teaching in a classroom are listed - that is excellent information for all teachers, but especially for new teachers."

13. "I have not seen a checklist and guide in such a concise form."

14. "All the strategies make a great deal of sense. They are the kind of approaches one thinks of, if given sufficient time, but I have not seen them so well defined and spelled out in one place.

15. "Have tried to suggest similar strategies to teachers but most find the adaptation too difficult and/or inconvenient. Much inservice needed and acceptance of needs of learner versus traditional methods of teaching."

16. "Clearly defined - detailed - useful."

Summary - Question 2

It appears that many of the strategies are not new to a third of the people that responded, but having them in this form is useful and needed. Half the people commented on the organization of the handbook. A few suggestions about clarity have been incorporated in the revisions.

Question 3. Format: Is the format helpful in understanding the material? If not, what do you suggest?

Yes - 16 No - 0 No Response - 1 Partly - 4

Comments:

1. "The format provides for easy quick reference - really enhances adaptability."

2. "Excellent."

3. "Hopefully, techers will notice that there are many ways of helping a particular problem."

Summary - Question 3

There were several suggestions for including directions for using each form. These directions are part of the handbook but were not included in the excerpt.

Question 4: Usability: How is the information usable in your work or school district?

Comments:

1. "Share with special education teachers and classroom teachers for specific methodology in adapting curriculum."

2. "Not certain, completed study or process will be more useful."

3. "Need more information to determine this."

4. "As a regional center, we will find it useful in assisting 24 Special Education Programs to adapt curriculum."

5. "Presently I am a resource person working in a State Arts Council, however I can see where this information would be very valuable if staff teachers are trained in its use."

6. "Through workshops offered by my department: Special Services."

7. "Probably needs behavioral management component since teachers typically focus on both behavior problems and instructional issues."

8. "I am teaching a class this summer on Media Needs of Handicapped Students. Adaptation of material will be my prime component."

9. "I start to teach a course in mainstreaming for the pre-school - primary teacher this summer."

10. "I am the Learning Disabilities Consultant for the State of South Dakota. I get many requests for information on curriculum adaptation."

11. "As a Supervisor of Curriculum Development and Instruction, I would definitely use this very valuable tool."

12. "I would like to obtain a copy of your handbook this summer. I feel this material can be used to help teachers successfully serve children with special needs both in the mainstream and in special education."

13. "As a resource teacher, it will help me assist teachers with modifications to their program."

14. "As a reference when evaluating a situation providing input into adapting curriculum."

15. "Inservice with groups or individuals. Evaluation of materials before purchasing, i.e. how adaptable is the material?"

16. "The information is useful to me as a guide or checklist. Sometimes you need a special little 'idea' to get a message across and I'm sure that your packet will help me pick up a quick idea."

17. "I plan to follow up and order the handbook as soon as possible."

18. "No comment."

19. "My work with prospective teachers in learning about materials will be enhanced by this work."

20. "For me it will be a handy tool to share with a teacher and/or the Learning Center teacher to show the possibilities that she/he has to adapt after I have pinpointed the problem."

21. "Reference - In-service."

General Comments:

1. "Questions I still have are mainly about who could initiate such a program, who should conduct the inservice workshop, what it would entail, can this be done by our school personnel with use of your materials or is assistance from your project personnel necessary/ available."

2. "I am impressed with the development of a process for adapting materials. In my experiences I have found teachers working as individuals to adapt an individual item for an individual student. The team approach of reviewing the curriculum in terms of the needs of all students appears to be a very usable model. I especially like the exclusion of disability labels. By focusing on the skill deficits, the program will have a much wider application.

3. "Thanks for letting me evaluate this and in sharing it with me. I didn't mean to be critical but it is difficult to understand what I'm supposed to do with the forms especially Form F and G. I love your strategies, am anxious to see the finished product."

Seven out of the twenty-one people who completed the response form asked for copies of the handbook as soon as possible. The completed handbook addressed the reviewers' concerns.

The range of respondents included:

Classroom teacher with mainstreamed	0
Itinerant or resource teacher	3
Self contained - special education teacher	1
Other, including:	17

1. Educational Assessment Coordinator of Diagnostic Center
2. Librarian
3. Education Service Center Consultant
4. Coordinator - State Arts Council
5. Supervisor and Research Associate
6. University Professor
7. State Consultant - L.D.
8. Supervisor - Curriculum and Developmen
9. Materials Specialist
10. School Psychologist
11. Guidance Counselor

Seventeen of the twenty-one respondents would be in the position to play the role of the facilitator in the process; the remaining four would be likely adapters. It would be a mistake to conclude that classroom teachers are not interested in the process, based on the inquiries we received. Rather, it appears that the inquiries simply reflect the readership of American Education.

The geographic area covered by the respondents includes people from the following states:

New York	Missouri	Kentucky	Illinois
Texas	Oklahoma	Washington	Oregon
Iowa	South Dakota	California	New Jersey
Massachusetts	South Carolina	Idaho	Michigan

Expressed Interest by People in the Field

The letters requesting information were received from a wide range of people in the field. It appears that the interest and potential application of the process or its components is widespread. Letters were received from people in the following positions during the last five months of the project. Numerous letters from people in the following categories were received during the grant period.

Information Services Coordinator
Special Education Service Center
Learning Disabilities Consultant
Instructor, Department of Education
Associate Curator, Art Gallery
University Librarian, Resource Center
School Psychologist
Special Education Student
University P.E. Instructor
University Art Instructor
University Music Instructor
Senior Research Associate
University Professor
Migrant Tutorial Program Director
Teacher
State Department, Arts for the Handicapped Consultant
Guidance Conselor
Director, Special Education, Public Schools
Public School Program Specialist
Mainstream Consultant, Educational Improvement Center
Supervisor of Curriculum
Special Services Coordinator
Resource Center Coordinator
Resource Teacher/Career and Vocational Education
Special Education Program Director, Children's Television Network
Public School Personnel
Special Education Consultant
EMR Supervisor

Visually Handicapped Consultant
Public Museum Education Specialist
Community Arts Coordinator
Public School Child Study Team Coordinator
Assistant Superintendent of Schools
Regional Educational Assessment Coordinator
Other

The letters came from 28 states and Canada.

Ohio	South Dakota	Connecticut
Idaho	Michigan	Illinois
South Carolina	Kentucky	Missouri
New York	Iowa	Washington
California	New Jersey	Texas
Maine	Massachusetts	Mississippi
Oregon	Minnesota	Tennessee
Wisconsin	Georgia	Oklahoma
Indiana	Nebraska	North Carolina
West Virginia	British Columbia, Canada	
Alberta, Canada		

Although this is not an extensive evaluation, it should be borne in mind that over seventy letters of interest occurred primarily as a result of one article.

IV. FIELD WORK

Additional Workshops and Presentations

During Years II and III of the project, several presentations and workshops occurred. Project staff responded to requests but did not advertise workshop capabilities due to the limited time to complete the project tasks.

Local universities requested presentations for special education students. These included Fontbonne College; St. Louis University; Southern Illinois University, Edwardsville, Illinois; Harris Stowe Teachers College; Maryville College. SLATE St. Louis Public Schools Career Project; Warren County, Indiana, Special Education Services; Andersonville, South Carolina, Public Schools; Clayton, Missouri, Public Schools; Mehlville, Missouri, Public Schools; requested workshops. These were above and beyond the workshops that were an intrinsic part of the project and included participants from school districts in the St. Louis metropolitan area and Jefferson County, Colorado.

Several individual teachers and supervisors requested information and visited CEMREL. Whenever possible we shared materials and information (see dissemination). A team of teachers working in the St. Louis City SLATE career education curriculum used the format and the strategies for the special education component of their materials. The teachers expressed great satisfaction with the format and the strategies. The materials were tested in 1981; outcomes are not available.

The participants in the adjunct workshops were primarily arts and special education teachers. Regular classroom teachers and supervising staff were also included.

The design of the adjunct workshops were based the field activities and the outcomes of the research and the expressed needs of the clients. When planning the workshops emphasis was teacher sharing; problem-solving; focus on student strengths and weaknesses versus disability label; provision of a variety of suggestions and strategies; and adapting existing curriculum used by the teachers or curriculum that teachers were anxious to use with students. As indicated by the few examples of workshop evaluation summaries attached to this report, the two features that teachers were extremely positive about were the sharing of ideas and the selection of strategies matched to student basic skill strengths and weaknesses.

The workshop outcomes were comparable to treatment Level 1 and 2 outcomes, in that teachers explored ideas made recommendations, but felt they needed to try them in the classroom. The workshops only provided an increased level of awareness, some new skills and strategies. The impact and full development of adaptation capabilities to meet student needs, comes from classroom trials. The most successful workshop in this respect was the one in which the teachers had a chance to go back to the classroom, try some adaptations and return with information to share. The teachers helped each other with ideas to expand on what occurred in the classroom.

Types of Workshops

There were primarily three different kinds of workshops in which the outcomes of Year I and Year II were implemented. They were (1) a continuous, two-day workshop, initially held in Warren County, Indiana; (2) a three-part workshop allowing for workshop experience, classroom trials, and sharing, initially held in Clayton, Missouri; and (3) an overview presentation made to a university class, like one held at Southern Illinois University, Edwardsville, Illinois. The agenda and evaluations for each kind of workshops are given on the following pages

1. Indiana Workshop: "Sprout and Grow"
Through Arts for Special Education

AGENDA

Sessions included techniques to better motivate and provide successful experiences for mainstreamed students by:

Hands on experiences in the arts, adapting them to classroom needs

Small group team interactions

Appropriate handouts

Opportunities to work with Indiana resources

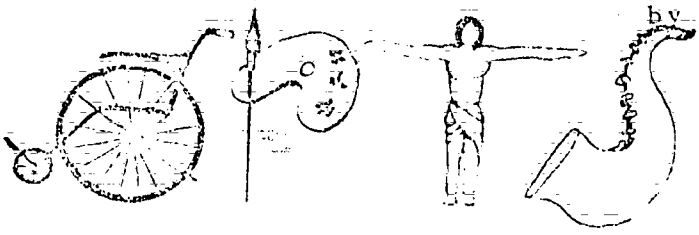
The workshop had instructors from CEMREL, Inc., a national model site for adapting curriculum for handicapped students. Ms. Jerilynn Changar led with her assistant trained in special education.

Workshop topics included:

The mainstreamed child's point of view

A team approach in adapting creative curriculum for the mainstream

read a dynamite book this week- "Drawing on the Right Side of the Brain" by Betty Edwards



Sue H. Moreland, Coordinator
Center for Exceptional Children
9039 East 10th Street
Indianapolis, IN 46229
1-317-897-6724

April 18, 1980

Dear Jerilynn;

I am enclosing the xerox of the evaluations and letter but wanted to share with you some of the comments I have overheard in the building also. Most resource staff were very pleased with the teachers reactions. They have mentioned some teachers I should follow up immediately Some of the comments which you may want to think about for other workshops included:

Wonder what Karen's background was and if she could have added anything to our discussion on adapting? (LD resource).

Why didin't they include any info on Phy. handicapping except blind when our biggest problem is teachers fears with CP?

Could we met with you(me) soon to consider ~hods of adapting as teachers are discussing it in my building and feel frustrated. (This may well be a door opener for me.)

Several have discussed trying the ideas -particularly role playing crises

All in all I feel preety good about it. The frustration of having to sit down and adapt which is not as much fun maybe should be tempered with a "high" before they leave but all learning isn't just experimenting-there is some nitty gritty too-which is what I feel wore them out on the second day.

Sorry the workshops for this week were cancelled during the workshop but everything is working out O.K. Best ~hes with your work.

Sincerely,

A project sponsored by the Indiana Department of Public Instruction, Special Education Division

[illegible] & CENTER FOR EXCEPTIONAL CHILDREN
[illegible] National Laboratory

Summary

'SPROUT AND GROW' THROUGH ARTS FOR SPECIAL EDUCATION

30 - involved
25 - both days

APRIL 15-16, 1980

18 - responses

DIRECTIONS: Please answer the following questions carefully. Your assessment of this workshop will help us improve our procedures and become more responsive to your needs. Thank you.

1. Years of experience in Special Education: 2 - 1, 3 - 3, 5 - 1, 6 - 3, 7 - 3, 8 - 2
2. Position currently held: Music - 4, Art - 3, Spec Ed teacher - 5, Resource - 3
3. What arts for the handicapped workshops have you attended in the past (where, when, sponsored by whom)?
   Hene Convention, Music Conventions
   CEC Conf.
4. Please indicate the extent of your training in each arts area by placing the appropriate number in the space before it.

1 Little or no Training (0-6 hours) | 2 Moderate Training (7-18 hours) | 3 Extensive Training (over 18 hours)

1 - 7, 2 - 4, 3 - 2 Visual Arts
1 - 8, 2 - 2 Dance
1 - 10, 2 - 2 Drama
1 - 8, 2 - 3 Film & Photography
1 - 6, 2 - 4, 3 - 3 Literature/Creative Writing
1 - 5, 2 - 3, 3 - 4 Music

Opinion About the Workshop

DIRECTIONS: Each of the word pairs below is separated by a line divided into 7 spaces. For each pair decide quickly whether you think this workshop would be more like the word on the right or on the left. Then put an (x) in the space which best describes how you feel about this experience as a whole.

enjoyable	6	5	3	2				not enjoyable
useless					4	6	3	useful
ordinary				5	5	2	1	unusual
organized	7	6		1				disorganized
irrelevant			2		3	8		relevant
clear	2	6	6	2				vague
valuable	3	5	4	2				worthless
difficult	1	1	1	8	1	3		easy
like	5	2	2	2	1			dislike
meaningless			1		4	5	3	meaningful
successful	4	3	3	3	1			unsuccessful
relaxed	5	5	2	1		1		tense
boring			1	2	1	6	5	interesting

BEST COPY AVAILABLE

[illegible] the number which best expresses your reaction to each of the items.

[illegible] of the workshop was:	Excellent	(7) 3	(6) 8	(5)	4	3	2	1 Poor
[illegible] of the workshop were:	Well Defined	(7)	(6) 6	(5) 5	(4) 2	3	(2)	(1) Vague
[illegible] the presenter(s) was:	Excellent	(7) 5	(6) 4	(5) 2	4	3	2	1 Poor
[illegible] was presented [illegible]	Interesting	(7) 2	(6)	(5) 2	(4)	(3)	2	1 Dull
[illegible] this workshop should [illegible]	Valuable	(7) 2	(6) 5	(5) 3	(4)	(3)	2	1 Not Valuable
[illegible] additional [illegible] about the topic?		1. (Yes) 8					2. (No) 3	

OPTIONAL

[illegible] of the workshop were: 3- Great ideas for both Spec. Ed and Re[illegible]

[illegible] ideas , Good info. and ideas -6

[illegible] useful -4 Comfort and interaction of groups

[illegible] can strengthen my programs.

[illegible] feeling too rushed-2 more art and music te[illegible]

[illegible] be better defined on adaptation -1

[illegible] day role playing activity-2 Not enough examples of [illegible] to art and music with correcting of a situation-[illegible]

[illegible] Thanks for chance to attend this.

[illegible] activities . More activities, like 1st day.

[illegible] help teachers overcome their fears.

[illegible] typical art/music class

[illegible] art/music for [illegible] willingness

[illegible] valuable [illegible]

[illegible] day [illegible] "[illegible]"

2. Clayton, Missouri Workshop: Vi arts and Mainstreaming Workshop

AGENDA

This is a series of three workshops to provide classroom teachers:

1. Strategies for improving their human relations skills.

2. Developing classroom management techniques in order to better motivate and provide successful experiences for mainstreamed children.

All workshops included large group brainstorming sessions, small group interaction and/or hands-on experiences, question and answer period, appropriate handouts, and general and specific hints about materials and activities.

Audility: All interested colleagues...classroom teachers, fine and cal arts instructors, sp al education, resource people, and strators were welcome to ticipate in the workshop.

The workshop was designed pri arily for the visual arts, but with skills and techniques adaptable to other areas of the fine and practical arts as well as the regular classroom.

Instructors: Ms. Jerilynn B. Changar (a visual arts educator) and Ms. Karen Touchard (a special educator) of CEMREL's staff.

2. Clayton, Missouri Workshop: Visual Arts and Mainstreaming Workshop

AGENDA

This is a series of three workshops to provide classroom teachers:

1. Strategies for improving their human relations skills.

2. Developing classroom management techniques in order to better motivate and provide successful experiences for mainstreamed children.

All workshop will include large group brainstorming sessions, small group interaction and/or hands-on experiences, question and answer period, appropriate handouts, and general and specific hints about materials and activities.

Eligibility: All interested colleagues...classroom teachers, fine and practical arts instructors, special education, resource people, and administrators are welcome to participate in the workshop.

The workshop is designed primarily for the visual arts, but with skills and techniques adaptable to other areas of the fine and practical arts as well as the regular classroom.

Participants: Dr. Jarilynn G. Chapman (a visual arts educator) and Mr. [illegible] (a special educator) of CEMREL's staff.

Session [illegible]

Question	7	6	5	4	3	2	1	
1. The organization of the workshop was:	Excellent 6	3					Poor	6.67
2. The objectives of the workshop were:	Well Defined 6	2	1				Vague	6.56
3. The work of the presenter(s) was:	Excellent 4 1/2	4			1/2		Poor	6.33
4. The ideas and activities presented were:	Interesting 6	2	1				Dull	6.56
5. My attendance at this workshop should prove:	Valuable 1	4	4				Not Valuable	5.67
6. Do you feel a need for additional information about the topic?	Yes = 2				No = 5 Not with the handouts provided.			

(Optional)

Strengths: [illegible]

1. [illegible] presentation and well planned activities which developed empathy for the [illegible] (disadvantages) of the special child and emphasis on alternatives [illegible].
2. Activities.
3. [illegible] yourself.
4. [illegible] handout [illegible].
5. [illegible] (being the [illegible]).
6. [illegible]

[illegible]

1. [illegible]

[illegible]. Presentation of handicapped children. I didn't agree with many answers given.

2. [illegible] material presented for the amount of time and not enough "[illegible]" for discussion [illegible] the leaders gave their suggestions.

3. Same.

[illegible]

1. Very good workshop.

[illegible]. Too hot. Should be easily changed next time.

3. Very good.

4. [illegible]

[illegible]. Interesting. Wanted to learn more.

[illegible]

Session Two

[illegible]	7	6	5	4	3	2	1	
1. The organization of the workshop was:	Excellent 7	2					Poor	6.78
2. The objectives of the workshop were:	Well Defined 5	3	1				Vague	6.44
3. The work of the presenter(s) was:	Excellent 7	2	1				Poor	6.78
4. The ideas and activities presented were:	Interesting 7	3					Dull	6.56
5. My attendance at this workshop should prove:	Valuable 6	3					Not Valuable	6.66

6. Do you feel a need for additional information about the topic? Yes - 2 No - 4

[illegible]

Strongest Features

1. Sharing ideas and solutions to problems.

[illegible] closer. Tremendous enthusiasm.

[illegible]

[illegible]

[illegible] - "Something New" with participants.

[illegible] with other participants.

[illegible] information.

[illegible]

[illegible]

[illegible]

3. I wasn't sure what our main objective for the day was.

4. So many materials. Some feeling of being overwhelmed.

5. None

6. Time allotment.

General Comments

1. I feel that applying these ideas to my classroom will be valuable (planning an art activity).

2. Workshop is becoming a more vital experience. Looking forward to the third time.

3. I felt that it was good that we all got a chance to share with one another.

4. A very good experience giving many ideas and warm feelings and rapport among the group.

5. I enjoyed it very much.

6. Doing sculpture was especially interesting. Enjoyed the talk and sharing parts.

Part Time

Question	7	6	5	4	3	2	1	
1. The organization of the workshop was:	Excellent 8	1	1				Poor	6.7
2. The objectives of the workshop were:	Well Defined 6	2	2				Vague	5.7
3. The work of the presenter(s) was:	Excellent 7	2	1				Poor	6.4
4. The ideas and activities presented were:	Interesting 7	3					Dull	6.6
5. My attendance at this workshop should prove:	Valuable 3	3	4				Not Valuable	5.9

6. Do you feel a need for additional information about the topic? Yes - 5 No - 2 Always probably

(Optional)

Stronger Features

1. Enthusiasm of presenters.

2. Making me think of special problems.

3. The wide variety of material provided to participants, the opportunity to share ideas/teaching strategies with others. Enthusiasm transmitted by workshop leaders.

4. (1) Strong objective clearly-defined, (2) "learning by doing" - being the child with a problem, (3) variety of experiences offered, (4) presenters who KNOW their topic.

5. The willingness of the participants to share.

6. Enthusiasm. Lots of ideas. Expertise, understanding and dedication.

7. Sharing of ways adaptations can be made.

8. Small group, relaxed open talking, pertinent information, variety of people (grade level and subject matter), lots of information.

9. The amount of participation and sharing among the participants (which was stimulated by the leaders).

Weaker Features

1. The meetings should have been closer together, especially between second and third meetings.

2. None

3. Not enough time. We could go on and on.

4. Not enough sessions to cover materials. Too much to cover (not your fault).

5. None really, except for more time and meetings.

6. Probably need more time to carry in greater depth, but everything came off in a very natural way.

7. So much paper, too much to consume.

8. Time running short; maybe another whole session.

9. I feel the participants should have had a chance each session to make clear their own objectives.

General Comments

1. The information was interesting, however, not being in the arts area, I'm not sure how much I will be able to use the presented ideas.

2. Super. Good.

3. I learned so much. It's information that I can actually use. I hope to incorporate many of the ideas in my classes.

4. I enjoyed them, learned from them, an more aware of problems in my classroom.

5. I find I become more frustrated when I feel there is a need for more time, assistance, etc. needed to truly help the special child than is provided during a regular class.

6. Very worthwhile. Excellent rapport. Enjoyed the informality sharing.

7. Very helpful. Some very good projects.

8. Very enjoyable workshop. A lot covered well in a short time.

3: Adapting Arts Activities for the Handicapped
Two-hour Session
Art Education Class
Southern Illinois University

(Attendants were primarily teachers.)

Question	7	6	5	4	3	2	1	
1: The organization of the workshop was:	Excellent 6	2	1				Poor	6.76
2: The objectives of the workshop were:	Well Defin. 5	2					Vague	6.5
3: The work of the presenter(s) was:	Excellent 7	1					Poor	6.88
4:*The ideas and activities presented were:	10 9 8	Interesting 5	2				Dull	7.13
5.*My attendance at this workshop should prove:	12 11 10	9 8	Valuable 5	2			Not Valuable	7.38

6. Do you feel a need for additional information about the topic? Yes - 7 Absolutely No - 1

*Participant extended the scale.

(Optional)

Strongest features

1. Participation; discussion, sharing of ideas; additional information given to attenders; background given; enthusiastic and knowledgeable instructor.
2. Practical ideas and actual practical application.
3. The presenter was very enthusiastic and challenging.
4. The presentation.
5. The enthusiasm with which it was taught

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6. The activities really helped to create an understanding of what the mainstreamed child is going through.

7. Brisk, well-moving presentation, well-adapted to group. Feel materials and concrete will be of much help.

The involve of the individual in the activities.

[illegible]

1. [illegible] limit on certain activities and discussion, otherwise well and informative session.

2. Limited amount of time.

3. Lack of time.

4. Could have been longer.

General Comments

1. I really enjoyed the time together in a small group to share and learn about adaptation. That's where it really is today.

2. Great. Continue.

3. Excellent but too short.

4. Excellent learning experience.

5. Very good.

6. Appreciated your doing it for a small group, would like to investigate [illegible] further.

7. Enjoyed the workshop completely.

V. DOCUMENTATION AND DISSEMINATION

Documentation of Accomplished Activities

To insure a systematic approach to reporting project operations and accomplishments, a rigorous structure, taking the form of individual sequential technical memoranda was utilized. This system of reporting activities and findings began in the early weeks of the project with the hope that it would serve as a guide toward refinement of the design and methodology.

The following list of memoranda makes clear the activities and personnel involved in them.

Jerome Davis, Jerilynn Changar, Donald Miller, Dennis Verity, with assistance from Michael Edenhart-Pepe. Technical Memorandum #SE-01. "Access to Learning for Handicapped Children: A Research Based Methodology for Adaptation of Existing Arts Curricula (Plans of a project supported by the Bureau of Education for the Handicapped, USOE/DHEW Grant #G007801847)." St. Louis: CEMREL, Inc., Special Education Group, 1978.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller. Technical Memorandum #SE-02. "Fishbowl: Summary of a Workshop on Gathering Teachers' Ideas About Adapting Materials for Special Education Classes." St. Louis: CEMREL, Inc., Special Education Group, 1978.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller. Technical Memorandum #SE-03. "Sorting and Classifying Ideas About Adapting Materials for Special Education Classes." St. Louis: CEMREL, Inc., Special Education Group, 1978.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller. Technical Memorandum #SE-04. "Point of View and Demographic Data of Special Educational Personnel." St. Louis: CEMREL, Inc., Special Education Group, 1978.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Donald Miller. Technical Memorandum #SE-05. "Access to Learning for Handicapped Children: Interim Performance Report." St. Louis: CEMREL, Inc., Special Education Group, 1978.

Michael Edenhart-Pepe, Donald Miller, Richard Wolfe. Technical Memorandum #SE-06. "Content Analysis of Curriculum Materials: Development of a Procedure for Assessing Curricular Adaptation Needs for Special Education Classes." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller, Richard Wolfe. Technical Memorandum #SE-07. "Content Analysis of Curriculum Materials: Refinement of a Procedure for Assessing Curricular Adaptation Needs for Special Education Classes." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller, Richard Wolfe. Technical Memorandum #SE-08. "Adaptation Assessment Inventory: Item Design Matrix and Item Construction Specifications." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller. Technical Memorandum #SE-09. "Trial Workshops #1 and #2." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller, Richard Wolfe. Technical Memorandum #SE-10. "Design of Experiment I." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller, Richard Wolfe. Technical Memorandum #SE-11. "Adaptation Assessment Inventory: Test Version, Phase I, 1979." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller, Richard Wolfe. Technical Memorandum #SE-12. "Design of Experiment II." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller, Richard Wolfe. Technical Memorandum #SE-13. "Coding Specifications for Year 1 Data, Part I Quantitative Responses." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller, Richard Wolfe. Technical Memorandum #SE-14. "Coding Specifications for Year 1 Data, Part II Qualitative Responses." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Michael Edenhart-Pepe. Technical Memorandum #SE-15. "Programming and Data Analysis of Part I, Quantitative Responses." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller. Technical Memorandum #SE-16. "Findings of Year I: Preliminary Analysis of Part I (Quantitative Data)." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Donald Miller. Technical Memorandum #SE-17. "Findings of Year I Preliminary Analysis of Part II (Qualitative Data)." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Susanne Harvath, Larry Higgins, Donald Miller. Technical Memorandum #SE-19. "Adaptability Rating Form: Test Version, Phase II, 1979-80." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Karen Bouchard, Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Larry Higgins, Donald Miller. Technical Memorandum #SE-20. "Adaptability Observation Form: Test Version, Phase II, 1979-1980." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Karen Bouchard, Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe, Larry Higgins, Donald Miller. Technical Memorandum #SE-21. "Interview Format for Classroom Trial Teachers: Phase II." St. Louis: CEMREL, Inc., Special Education Group, 1979.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe. Technical Memorandum #SE-23. "Coding Specifications for Year II Data: Part I, Quantitative Measures." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe. Technical Memorandum #SE-24. "Analysis of Work Session Evaluations, Nov-Dec. 1979." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe. Technical Memorandum #SE-25. "Teachers' Recommendations for Adaptations: Qualitative Analysis of Adaptability Rating Form, Year II." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe. Technical Memorandum #SE-26. "Analysis of Teacher Information Survey." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe. Technical Memorandum #SE-27. "Analysis of the Teacher Information Survey (Non-Volunteers)." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Jerome Davis, Michael Edenhart-Pepe. Technical Memorandum #SE-28. "Summarization of Adaptability Observation Sheets." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Michael Edenhart-Pepe. Technical Memorandum #SE-29. "Summary Forms: Adaptability Observation Sheets." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Michael Edenhart-Pepe. Technical Memorandum #SE-30. "Administrator Comments on Adaptation." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Michael Edenhart-Pepe. Technical Memorandum #SE-31. "Coding Scheme for Curriculum Adaptation Assessment Survey." St. Louis: CEMREL, Inc., Targeted Programs Group, 1980.

Jerilynn Changar, Michael Edenhart-Pepe. Technical Memorandum #SE-32. "Teacher Information Survey: Year III." St. Louis: CEMREL, Inc., Targeted Programs Group, 1981.

Michael Edenhart-Pepe. Technical Memorandum #SE-33. "Curriculum Rating Form Responses: Phase II Teachers." St. Louis: CEMREL, Inc., Targeted Programs Group, 1981.

Throughout the 36-month study documentation was completed to meet the grant requirements, which include the interim reports, the final reports, the handbook, and the AEP supplementary guides. The technical memoranda are available for anyone interested in detailed information about any aspect of the project.

Dissemination

During the first months of Year III, project activities and outcomes were shared at several meetings. CEMREL's Urban Education meetings of State Department Representatives over ten states, a group of art education and art therapists at an AATA/NAEA joint conference in Washington, and several art educators at the NAEA Summer Conference in Minneapolis were a few occasions where information about the project was disseminated. The editor from the Directory of Learning Resources for Handicapped Children included a portion of the Strategies for Adapting Guide in that group's director.

As described in Section III, an excerpt from the handbook was developed and shared with interested educators. During the final months of the project, information was disseminated in the following manner:

1. Excerpts of the handbook were sent in response to letters of interest from a variety of educators, over 200 project participants, and to over 200 teachers indicating a need for help in adaptation. A summary of the project will be sent to all past project participants.

2. The handbook was distributed to administrators, study group members, and reviewers. A limited number were sent to practitioners who have requested the handbook after seeing the excerpt.
3. Information about the handbook will be made available to CEMREL's Urban Fellows and through CEMREL's Regional Exchange.
4. The AEP supplementary guides will be made available to classroom trial project participants who now own the materials. A limited amount of AEP supplementary guides will be made available upon request to people in the field. It is yet to be determined how the guides will ultimately be distributed.
5. The final report will meet grant requirements, three copies to the Office of Special Education, one to the project monitor, and ten copies for Jefferson County Public Schools, Special School District of St. Louis County, and project CEMREL staff.

As indicated in Section III, the dissemination process was integrated with the review process. All interested educational personnel who received information about the handbook were asked to respond to the information received. (See Section III. At this time, the response forms continue to be returned and the comments are most encouraging.

VI. IMPLICATIONS FOR THE FUTURE

The more familiar teachers become with the materials, the more frequent and precise are the adaptations. This is a generalization we reached based on teachers using instructional materials that they taught and adapted simultaneously for the first time. This suggests that teachers using this process and adapting materials that are already in use should produce even more specific, refined, adapted curriculum. The supplementary guides for the AEP units are examples of how teachers could try published materials at the field-test stage, teach and make recommendations that could ultimately be included in the published version, thus making materials more marketable to special educators.

The supplementary guides are very specific for each lesson or activity. This specifity comes from classroom use. General recommendations for the four sets of materials that were not used in the classroom trial were received and considered useful for teachers in providing an overview of the kinds of general adaptations that are needed in order to meet the needs of special students. These overviews now exist for the four sets of materials that were reviewed in Work Sessions I and II in Years I and II. They are not as complete as supplementary guides for the classroom trial units, but will provide teachers with general strategies to be applied in using the materials with their students.

Evaluation of the Adaptation

rocess and Products

t was not possible to develop one set of evaluation tools that can easure the success of an adapted curriculum or curriculum resource. The valuation instrument would vary due to the student population, urriculum content area, and implementation of the adaptations (i.e., hole district vs. two schools).

he process has a built-in system of checks and balances. (See handbook.)

1. The classroom trial gives teachers immediate feedback.
2. The synthesis meeting asks the teacher-adapters to review their outcomes based on three questions:
    a. Is the adaptation so simple it should be included as general information and is not really an adaptation, simply a difference in teaching style? Is the adaptation so complex that it is only useful for one teacher and difficult to translate for others? Is it so complex that it is really a new activity?
    b. Is the content intact or is it no longer true to the intended objective of the educational program?
    c. Does the adaptation meet student needs? Did the child learn?
3. Implementation of the adapted activities provides an opportunity for testing the adaptations and getting feedback.

4. Running a test with control groups would assist in testing the usefulness of the adaptations.

Some teachers feel the adaptations help them to involve more children more frequently in positive learning experience,--that is all the evaluation of the adaptation that is needed. Of course, the approach to evaluation will depend on the individual needs of each district.

Implication for Teachers' Inservice and Preservice Training

The implications for teacher inservice training and preservice training based on this three-year experience are several:

1. Teachers or university students with little experience with special students need awareness sessions to better understand the IEP process and the breakdown of basic skills strengths and weaknesses. Before adaptation can take place in an intelligent, effective, and systematic way and not purely by trial and error, this level of awareness needs to be developed.
2. The teachers with mainstreamed students, itinerant, and resource teachers, and supervisory personnel strongly recommended sessions like the awareness and introductory workshops, where teachers could take the time and revise instructional strategies and materials to meet student needs, followed by classroom trials. The workshops in Jefferson County, Colorado, in Year II resulted in teachers signing a petition asking for more opportunities for regular teachers, special education teachers, and art and music or

subject-area specialists to interact for the purpose of sharing ideas about adapting curriculum to meet student needs. In another instance in Indiana, teacher teams were brought together for the purpose of learning about arts activities that were suitable and how to adapt existing and new art curricula for special students. In one instance a regular teacher met the special-education itinerant teacher from her school for the first time. School had been in session for eight months.

Several projects have been funded to improve communication and change attitudes in mainstreaming situations. It appears that this can be more easily achieved with the adaptation process because it can have a direct effect on improving teachers' instructional strategies. The assumption is that this leads to improved student learning.

3. University instructors saw this approach as something needed at the preservice level. Primarily, they were interested in the use of the Basic Skills Profile, Basic Skills Definitions, and Strategies for Adapting Log, Checklist, Guide, and the adapted lesson plans. They suggested that it would be extremely useful in helping student teachers:

    a. develop IEPs,

    b. focus on specific skills,

    c. develop instructional programs,

    d. implement the programs,

    e. evaluate the programs.

University instructors felt that the forms and process provided a well-defined sequence for students and provided strategies to help students to remain flexible and open to children's needs. They saw it as providing well organized possibilities, not "pat" answers. Several university people have requested the handbook to use in summer courses and in the fall semester.

4. The adaptation process provides the school districts with the opportunity of extending the skills of a teacher who has successfully adapted materials for students, or of teachers who are new, or who need assistance with adaptation. It provides an opportunity for adapters to increase their repetoire, share with others, and have an impact on the existing instructional program.
5. The adaptation process also has the potential for allowing regular teachers with mainstreamed students to develop more individualized programs for special students that may also have a residual effect on all students.
6. Several university instructors suggested that a total course or summer mini-session should be designated for the purpose of putting the process into action. They felt the process was useful in introducing a variety of teaching strategies to improve classroom instruction and meet IEP goals.

Cost Effectiveness

There is no cost-free process, yet there appear to be some specific indications that the process is cost saving.

1. Although classroom trials take more time, it requires few teachers, and students receive the benefits of the process immediately.
2. Teachers making recommendations in a workshop setting tend to recommend more grandiose strategies. Classroom-trial teachers used strategies with resources that were immediately available. New materials that were developed were simple and required materials that were already in the school.
3. The process and synthesis meetings provide a means for teachers to improve classroom instruction and they prepare them to assist other teachers in improving instruction and implementing adapted material.
4. It is more cost effective to adapt existing materials than to develop new materials or purchase an array of new materials that still need to be adapted to meet individual student needs.
5. If both school districts and publishers use the process, individualized instruction may be more easily implemented, requiring fewer sets of curriculum and more on-target instructional strategies.

These are implications of cost effectiveness that go beyond adaptation of materials. They have implication for teacher training, data collection, and analysis.

VII. SUMMARY

In reading this report and reviewing the handbook, one has to keep in mind that quality, on-target adaptation of materials, and instructional strategies are only possible if there is administrative support, strong teacher commitment, and continuous communication of participants. This description pertains to teacher-adaptors who are recording their adaptations to be implemented by others in the field. The information in the handbook can, however, be used by individual teachers to meet their own student needs alone.

The outcomes of the project clearly indicate that for maximum benefits:

1. Special educators (itinerant/resource teachers) need to communicate more frequently with classroom teachers--the adaptation process can be a natural vehicle for teacher interaction.
2. Classroom trials are essential in developing adapted material to meet the needs of special students. That is, research indicated these trials produce the most effective adaptations in terms of cost-effectiveness and practicality in meeting student needs.
3. The process is only as good as the implementation. That is, the process is not self-fulfilling but requires the commitment of its users.
4. The process is one of teachers helping teachers. That is, all work is classroom-based and -tested.
5. The process should not be considered as complex as occurs when teachers develop a new curriculum. It is a question of taking what exists and expanding the methods of instruction to meet individual

student needs. It can be as simple as (1) establishing student strengths and weaknesses; and (2) filling out a checklist and log after each lesson to record the successful adaptation that occurred.

6. Teachers crave the sharing and synthesis. Throughout the project teachers continually recommended that a vehicle be included for teachers working together and problem-solving to improve their own instructional strategies.

7. Adaptations are most cost-effective through classroom trials. The role of the facilitator should not be an additional expense. A good supervisor or curriculum specialist should be doing this kind of activity as part of his or her job. It needs to be made clear who has what responsibility and who plays a supportive role (see section under Study Group Concerns of School Administrative Personnel).

8. Publishers willing to invest some time in classroom trials of published materials and potential materials would expand the marketability of their materials if they included a selection of possible adaptations.

9. Special teachers need more exposure to arts matrials and workshops in order to demonstrate the effects of arts experiences on basic skills and effective behavior. Many of the classroom-trial teachers were surprised to discover the relationship and possible carryover from the ACP materials to other student skills.

10. School districts possess the means to provide quality workable curriculum to their students, by utilizing their own teacher know-how in a systematic adaptation process.

There are several researchable topics that still need investigation in the area of instructional adaptation. It would be most useful to select some demonstration sites for the purpose of implementation and further research. Questions that might be explored include the following:

Do students in classrooms of teacher-adapted curriculum learn more effectively?

Do the indicators for adaptation (see handbook) begin to disappear in a school involved with the adaptation process?

Are new teachers better prepared to teach handicapped students after exposure and involvement with the process at the preservice level?

Are experienced teachers with mainstreamed students better able to provide improved instruction and integrate these students into their daily educational programs?

Does the adaptability process better prepare teachers for the development and implementation of IEP goals?

How do students naturally initiate their own type of adaptations to content, teacher methodology, and instructional environment?

Does the adaptation process improve regular teacher's attitude and lessen their feeling of frustration towards mainstreaming?

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APPENDIX A

the 1981-82 school year. Includes elementary and secondary subjects: health, parenting, careers, language arts, social studies, also inservice training. Free from Agency for Instructional Television, Box A, Bloomington, IN 47402.

State Student Incentive Grant Program: Issues in Partnership
ED-funded report by Education Commission of the States and the National Center for Higher Education Management Systems on the eight-year-old program, telling how each state matches federal contributions and administers the program. Single copies free from ED Office of Program Evaluation, Room 3-110, TransPoint Bldg., Washington, DC 20202, or call 202/245-8057.

Basic School PR Kit
Eight guides on school public relations topics, plus 25 minute audio cassette by PR pioneer Edward L. Bernays, resource packet of field-tested ideas and reference materials, planning outline and chart, and NSPRA's standards for educational public relations programs. $60 from National School Public Relations Association, Dept. M-6, 1801 N. Moore St., Arlington, VA 22209.

Breaking Down Barriers: New Evidence on the Impact of Metropolitan School Desegregation on Housing Patterns
66 pp. A 14-city study, finding that metropolitan-wide school desegregation programs contribute to such sharp increases in housing integration that some cities may need school busing only for the short term. $5 from Center for National Policy Review, Room 10, Catholic University Law School, Washington, DC 20064.

Green Survival—It's Something You Do
Audiovisual kit about interdependence of plants and animals, designed for grades 5-12. Includes 10-minute color and sound filmstrip, teacher's guide, spirit masters containing puzzles and activities, suggestions for discussion, and additional resource list. $10.95, including postage, from American Association of Nurserymen, 230 Southern Bldg., Washington, DC 20005.

Ties that Bind: The Price of Pursuing the Male Mystique
First in a series of papers on sex-equity-in-education issues, by the Project on Equal Education Rights (PEER), this issue shows how both men and women pay a price for sex bias. Includes reference notes and resources for change. $1 for single copies, 75¢ for multiple copies, plus 50¢ handling charge per order. Make check payable to, and order from, PEER, 1112 13th St. NW, Washington, DC 20005.

Your Guide to Consumer Credit and Bankruptcy
36 pp. Prepared by the American Bar Association as a public service, this booklet offers detailed consumer rights under credit laws. Useful for grades 8 through college. $1 each, 9 to 99 copies, 65¢ each; 100 or more, 40¢ each, from ABA, Order/Billing No. 625, 1155 E. 60th St., Chicago, IL 60637.

RESEARCH DEVELOPMENTS

[illegible] Learning for Handicapped Children

Adapting curriculum materials to the individual needs of students is something teachers have always done as they encounter the amazing variety of human interests, abilities, and learning styles. Now, with mainstreaming of handicapped children into regular classrooms, teachers are being further challenged to come up with new and original ways to adapt materials for blind, deaf, speech-, learning-disabled, and other handicapped children.

To share the best of these ideas with teachers across the country, the Bureau of Education for the Handicapped (now the Office of Special Education and Rehabilitative Services) is funding a three-year project by Cemrel, Inc., of St. Louis to adapt commercial curriculum materials to the needs of children with various handicaps. Now in its third year, the research is being conducted at sites in Colorado and St. Louis to provide a systematic approach for adapting materials and sharing the best ideas and resources.

Some of the techniques are as simple as enlarging print or using an overhead projector for the visually handicapped, or as complex. A few examples:

☐ When a learning disabled or emotionally handicapped student is confused by too much print, illustrations, or drawings, parts of the material can be blocked out—or the material cut apart—to reduce distraction and make learning possible.

☐ If a student has trouble remembering instructions, the teacher can prepare an index file of easy-to-follow directions on 3 × 5 cards.

☐ For the student who has difficulty going from the concrete to the abstract, objects like buttons, balls, and chips can be used as manipulative examples of circles and spheres.

☐ A child who can speak but not write can communicate feelings and ideas into a tape recorder, or dictate to a teacher's aide.

The project also provides instructional materials in the arts for elementary-age handicapped children, based on completed units from Cemrel's aesthetic education curriculum.

The research team will publish a handbook on the adaptability process and teachers' guides on aesthetic materials. Project director Jerrilynn Changar hopes to disseminate these products of the research as widely as possible to teachers across the country.

For more information, write to Jerrilynn Changar, Cemrel, Inc., 3120 59th St., St. Louis, MO 63139.

—Henrietta Wexler
Office of Public Affairs staff

DEVELOPMENTAL PLACEMENT OF THE GIFTED

Steven I. Christopherson presented a paper at the annual meeting of the American Psychological Association in which he describes "a policy of placement of gifted children within the regular school program according to each gifted child's intellectual, educational, and other development. The rationale for such a placement policy rests on a developmental conception of gifted children being like older children. The policy of developmental placement is contrasted with the policies of enrichment and separate programs. The relative advantages of developmental placement are seen to make it more feasible for schools to meet the needs of gifted children." (ED 162-362) ($1.82 + postage)

ADAPTING CURRICULUM MATERIALS

[illegible] Office of Public Affairs of the United States Department of Education has published an article, "Access to Learning for Handicapped Children" in the [illegible] issue of American Education.

[illegible] curriculum materials to the individual needs of students is something teachers have always done as they encounter the amazing variety of human interests, abilities, and learning styles. Now, with mainstreaming of handicapped children into regular classrooms, teachers are being further challenged to come up with new and original ways to adapt materials for blind, deaf, spastic, learning disabled, and other handicapped children.

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Some of the techniques are as simple as enlarging print or using an overhead projector for the visually handicapped; other strategies are more complex. A few examples:

- When a learning disabled or emotionally handicapped student is confused by too much print, illustrations, or drawings, parts of the material can be blocked out-or the material cut apart-to reduce distraction and make learning possible.

- If a student has trouble remembering instructions, the teacher can prepare an individual set of easy-to-follow directions on 3 x 5 cards.

- If the student also has difficulty going from the concrete to the abstract, objects [illegible], and chips can be used as manipulative examples of circles and [illegible].

- [illegible] who can't talk but not write can communicate feelings and ideas into a tape [illegible] dictate to a teacher's aide.

[illegible] also provides instructional materials in the arts for elementary-age handicapped [illegible], based on completed units from Cemrel's aesthetic education curriculum.

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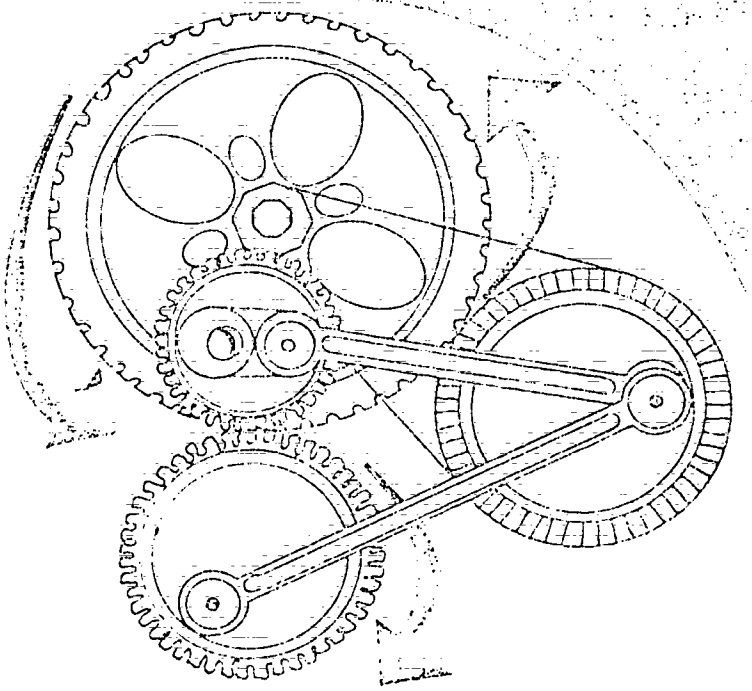


DIRECTORY OF LEARNING RESOURCES FOR LEARNING DISABILITIES

ADAPTING INSTRUCTIONAL MATERIALS AND TECHNIQUES TO LEARNING DISABLED STUDENTS

The following guidelines are designed to help teachers, curriculum specialists, administrators and others adapt curriculum to the special needs of learning disabled students. They are divided into three major sections: the style and presentation of the teacher, techniques for adapting instructional materials, and managing and reinforcing behavior. Each of the three sections is packed with valuable strategies and examples. The guidelines are excerpted and edited, with permission, from *The Adaptability Handbook* currently being developed by CEMREL, Inc., as part of the educational laboratory's "Access to Learning for Handicapped Children" project. Included in the handbook but eliminated here are suggestions for matching adaptation strategies to specific basic skills deficits. The handbook is still in the experimental stages and is currently undergoing extensive field testing before publication.

Strategies for Adaptation Guide

Teacher Presentation:

1. *Use a Variety of Teaching Modalities.* Present materials, information, or directions in various learning channels--visual, auditory, and kinesthetic. For example:
   - —Provide an index file of directions for task completion for learners who have difficulty following directions.
2. *Change the Modality of the Material to Accomodate the Needs of the Child.* Match material, information, or direction to learners strongest learning channels —visual, auditory, or kinesthetic. Examples:
   - —Provide visual clues such as coding, illustrations, pictures, and underlining for the learner.
   - —Allow tracing, cutting, drawing, or painting.
   - —Record materials for, or read to, the learner.
3. *Use Several Modalities Simultaneously.* Combine visual, auditory and kinesthetic learning channels to enhance student recognition, interpretation, and memory. Examples:
   - —Provide directions in several learning channels such as written on board or chart, written on worksheets, tape recorded, and oral presentation.
   - —Have learner draw self on chalkboard while feeling his/her own face.
   - —Instructor picks up colored paper, places it in a container of the same color and names the color. Learner then repeats the procedure.

—Student identifies numbers, counts objects, performs operation of addition using manipulatives, and performs operation of addition using number line. Student then memorizes number facts.

13. *Increase Concrete Demonstrations.* Accompany instruction with specific examples. For example:
    —Introduce concepts of fractions by cutting and separating shapes, breaking cookies into fractions.
    —Use an overhead projector when teaching handwriting skills.
14. *Teach Task Vocabulary.* Present and clarify terms related to instruction. Examples:
    —Write vocabulary words on index cards with written or illustrated meanings on backs of cards.
    —Present vocabulary words in sentences. Students then illustrate sentences.

Directions

1. *Provide Examples with Directions.* When giving directions, give examples of desired responses. Examples:
    —When asking students to summarize, give them a summary of a familiar fairy tale.
    —Show one or two completed problems on a page of math problems to be completed by students.
2. *Simplify Directions.* Eliminate complex vocabulary and provide directions that match the learner's skills. Examples:
    —Rewrite directions in the vocabulary of the learner.
    —Reduce the length of sentences used in directions.
    —Break more complicated instructions down into easy steps.

3. *Specify the Task.* State the assignment in explicit detail. Examples:
    —Give students assignment sheets filled in by the instructor or to be completed by learners.
    —Write assignments on board for ready reference.
4. *Have Students Repeat Directions.* Examples:
    —Give directions orally and have students repeat them.
    —Have students orally repeat directions after reading them.
5. *Have Students Rewrite Directions in Their Own Words.* This helps to ensure understanding. Examples:
    —Instructor orally gives directions, learner then rewrites directions.
    —Learner transcribes written directions into workbooks in his/her own words.
6. *Clarify Expectations.* State in explicit detail the learner's expected response. Examples:
    —Complete an example for the student, then have the student repeat the directions.

Student Response

1. *Provide a Variety of Response Modalities.* The learner can then choose a response mode to accomodate strengths in his/her learning style. Examples:
    —Learner chooses from one of three methods of response—tape recording, drawing, or writing.
    —Learner chooses role of director, player, scenery designer, or author in class production.

2. *Change the Mode of the Learner's Response.* Instructor chooses response mode to accomodate the learner. Example:
   —Have students take turns dictating to each other.
   —Have students respond orally.
   —Have students tape record answers.

Evaluation

1. *Use a Positive Grading System.* Stress the positive aspects of student responses. Examples:
   —Award points on the number of *correct* responses given.
   —Have student retake test until he/she achieves 100 percent accuracy.
2. *Progress Assessment.* Base evaluation on individual progress rather than grade level curriculum or group progress. Examples:
   —Use pretests and posttests to evaluate progress.
   —Grade student on percentage of individual gain rather than group progress.
3. *Alternative Evaluation Procedures.* Adjust the method of evaluation to accomodate the student's learning strengths. Examples:
   —Read tests to learner who has reading difficulties.
   —Use a skills checklist instead of giving grades.

Techniques for Adapting Materials:

1. *Enlarge Print.* This increases readability. Examples:
   —Retype materials on a primary (oversize letters) typewriter.
   —Provide students with individual magnifying glasses.
   —Project material on the wall with an opaque projector.

2. *Reduce the Distraction on the Page.* Reduce the number of items on a page and/or eliminate unnecessary pictures, directions, and diagrams. For example:
   —Put only a few problems or items on a page.
   —Frame specific items on the page.
   —Cover parts of the page to reduce the number of items.
3. *Use Pictures and Illustrations.* Pictures and illustrations that are directly related to the material presented provide an added stimulus for students who have difficulty reading, and also give a more concrete example. For example:
   —Provide pictures or illustrations as a stimulus for an experience story.
   —Substitute pictures for words for those who have difficulty reading.
   —Diagram or illustrate the desired learner response.
4. *Cut Materials Apart.* Provide materials in pieces where there is difficulty controlling scissors, or allow alternative procedures. Examples:
   —Have learner tear pieces instead of cutting.
   —Provide electric scissors or four-hole scissors.
5. *Enlarge Space in Which Student Responds.* Standard size spaces for written responses are not large enough for some students. Examples:
   —Provide a separate answer sheet with adequate space for response.
   —Have student use the chalkboard for written responses.
6. *Modify Vocabulary.* Adjust word usage to student's reading abilities. Examples:
   —Rewrite directions to reduce vocabulary load.
   —Provide a vocabulary list with synonyms or simplified definitions.

—Give information or directions in simplified terms.

7. *Underline Information in Books/Materials.* Accent information pertinent to the lesson. For example:
   —Highlight specific details in a reading text with a felt marker.
   —Make a stencil to place over the text that reveals specific words or phrases.
8. *Cut Papers in Half.* Present small sections of information or work. Examples:
   —Cut or fold worksheets into sections that present only a few problems at a time.
   —Cover parts of worksheets so that only a few problems are revealed.
9. *Provide Manipulatives.* Concrete objects aid in interpretation of abstract concepts. Examples:
   —Have student walk on a number line, then use a number line on a desk or worksheet.
   —Use buttons or chips as counters, then give the student worksheets that illustrate counters.
   —Give student pictures to arrange in sequential order.
   —Have student arrange puzzle pieces to form letters, words, or shapes.
10. *Tape Record Materials.* Recorded directions and reading materials provide an added stimuli for the student having difficulty in reading, following directions, or memory. Examples:
   —Record directions for student reference.
   —Record tests. Student responds orally or in writing.
   —Record a passage. Student follows in written text.

11. *Color Coding.* Color emphasizes important information and aids in task completion, following directions, memory, and recognition of information. Examples:
   —Color code the topic sentence in a passage in one color and supporting sentences in another color.
   —Color code directions, examples, and problems in different colors.
   —Color code math symbols (= + − × ÷) for easy recognition.
12. *Use Arrows to Indicate Directionality.* Arrows cue "left" and "right" and continuing movement in a particular direction. Examples:
   —Use arrows as cues for following an obstacle course.
   —Put arrows at the tops of worksheets or tape on desk as a reminder of left to right progression in reading or writing.
   —Use arrows to indicate the direction of math operations on a number line.
13. *Use Coding to Help Student Locate Information.* A system of coded symbols can highlight important information. Example:
   —Write the number of a question near the paragraph in the text where the answer to the question can be found.
14. *Trace Shapes and Lines.* Examples:
   —Put tracing paper over shapes of various sizes and positions for learner to trace.
   —Have learner trace with finger over shapes (geometric figures, lines, curves) cut from sandpaper.
15. *Trace Words.* Examples:
   —Have learner trace letter or word in sand, salt, or clay.
   —Put tracing paper over a handwriting text for learner to trace.

—Use the Fernald method for recognition of sight words.

16. *Create More Appealing Material Through Color.* Color can enhance student motivation and increase the attraction of materials. Examples:
—Provide worksheets on different colored papers.
—Choose materials that are appealing to the learner.

2. Behavioral Management/Reinforcement:

1. *Provide Reasons for Learning.* Explain the relevance of tasks. Examples:
—Relate classroom activities to career opportunities.
—Teach such "survival skills" as how to write a check, fill out a job application, and get a driver's license.
2. *Allow Student to Participate in the Development of Tasks.* Examples:
—Learner chooses project from a list of suggested projects provided by the instructor.
—A committee of learners recommends a list of projects for the group to the instructor.
3. *Student/Teacher Developed Games.* Example:
—Learners and teacher choose an already developed game and adapt it for classroom use.

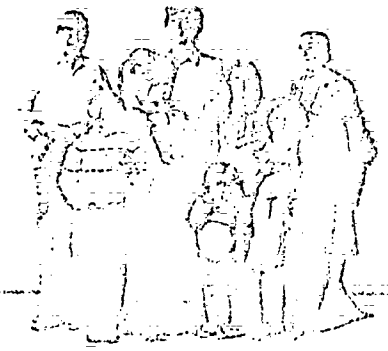
Reinforcement

1. *Reinforce Successive Approximation of Goals.* Reinforce responses that are prerequisites for the targeted goal. Examples:
—Reinforce items *completed* on assignment rather than the assignment itself.
—Reinforce a learner who is able to produce vowel and consonant sounds but is unable to sound blends.
2. *Reinforce Learning Accomplishments.* Examples:
—Verbally reinforce positive behaviors and ignore negative behaviors.
—Reinforce positive behavior or academic performance with parent reports.
3. *Peer Teaching.* Examples:
—After assessing academic or behavioral strengths, group students so they can assist each other in task completion.
—Have learners choose a project or report and present it to the group.
4. *Adult Help.* Parents and other adults aid the learner. Examples:
—Parents assist in academic work or games as a reinforcement for positive behavior or academic performance.
—Invite parents or adults to demonstrate their occupation or a talent.

Feedback

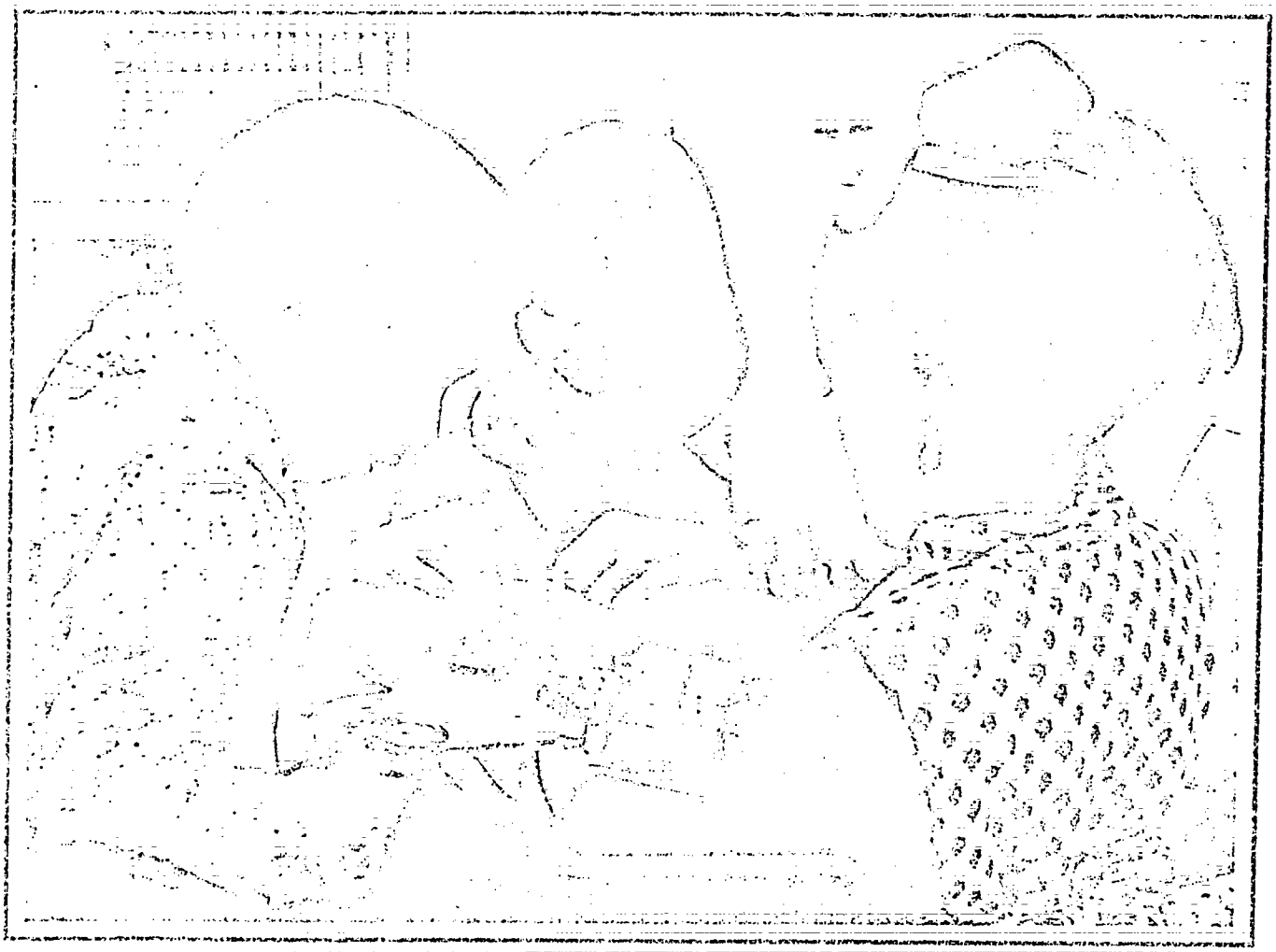
1. *Immediate Feedback and Reinforcement.* Learner is kept informed of his/her rate of success and rewarded as soon after task completion as possible. Examples:
   —Student puts completed assignments in folder which is returned to the instructor immediately after completion. The instructor then checks or corrects work at available times and returns the assignment to the learner for feedback.
   —Positive acknowledgement of goals or behavior is made immediately after performance.
2. *Feedback to Parents.* Parents are kept informed of rate of success at consistent intervals. Examples:
   —Parents and instructor agree on time span of learner's progress by way of a telephone call, newsletter, or parent conference.
   —At designated weekly or monthly intervals, parents come to classroom to view learner's progress.
3. *Students Self-Correct Work for Immediate Feedback.* Learner evaluates the accuracy of his/her own responses immediately after completing a task. Examples:
   —Learners are provided with self-correcting task or answer sheets so that they can evaluate their own responses.
   —Learners exchange work for correction.

(Experimental version — CEMREL, 1980. For more information contact Jamlynn Changar, Project Director, Targeted Programs Group.)

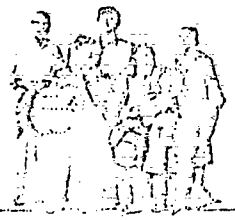


CEMREL Reports

An Update On Educational Research & Development / Vol. 15, No. 1, Winter 1981



Basic Skills Consortium

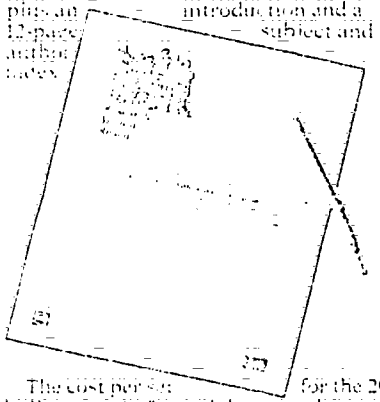


Math Bulletins Available

Research Within Reach: Elementary School Mathematics, by Mark J. Driscoll, [illegible] of bulletins on elementary school mathematics developed by CEMREL's Research and Development Interpretation Service for the nationwide Research and Development Exchange [illegible] now available from CEMREL Publications.

Each bulletin begins with a teacher's question about an actual classroom situation; and the question sets the stage for the discussion that follows. The discussion reflects research conclusions and offers recommendations from a carefully selected advisory panel.

The series contains 20 bulletins which range from four to eight pages plus an introduction and a 12-page [illegible] subject and author [illegible]



The cost per set for the 20 bulletins is $6.50, and there are discounts [illegible] available: 25–49 sets, 10% discount; 50–99 sets, 15% discount; 100 sets or more, 20% discount.

Order from CEMREL, Inc., Publications Department, 3120 59th St., St. Louis, Mo. 63139. Payment must accompany each order of $50 or less. Individuals should send check or money order; institutions may use their purchase order form.

Reading Publications Available

Research Within Reach: A Research-Guided Response to Concerns of Reading Educators, by Phyllis Weaver and Fredi Shonkoff, produced by CEMREL's Research and Development Interpretation Service, is available to the CEMREL region at $1.50 per copy in lots of 50 or more.

Order from CEMREL, Inc., Publications Department, 3120 59th St., St. Louis, Mo. 63139.

Access to Learning for Handicapped Children

By Henrietta Wexler. Reprinted by permission from American Education, December 1980.

Adapting curriculum materials to the individual student is something teachers have always done as they encounter the amazing variety of human interests, abilities and learning styles.

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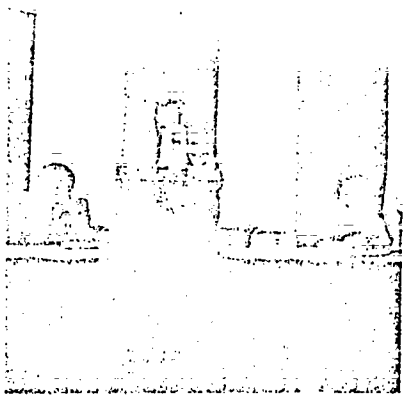
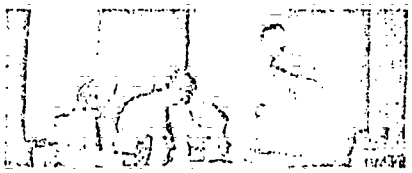
The research team will publish a handbook on the adaptability process and teachers' guides on aesthetic education materials. Project director Jerilynn Changar hopes to disseminate these products of the research as widely as possible to teachers across the country.

For more information, write to Jerilynn Changar, CEMREL, Inc., 3120 59th St., St. Louis, Mo. 63139.

Midwest Policy Seminar

The Midwest Policy Seminar sponsored by CEMREL's Urban Education Program in October 1980 focused on policy issues as they occur in federal, state and local settings. The issues discussed by school people and researchers were teacher personnel policies, competency testing and desegregation. James Jacobs, Superintendent of the Columbian Public Schools, talks about teacher personnel policies, and Von Valletta, associate commissioner, Minnesota Department of Education, listens as she wants to present views of her organization. Melvin Hines, University City, Mo., School District, was moderator.





Researchers addressed the issue of desegregation in the final session. Paul Peterson of Stanford University, at left, listens a remark to Charles Willie, left, Harvard University. The Midwest Policy seminar was funded by the National Institute of Education.

The day-long session on desegregation included presentations by large-city school superintendents. In the photo above, Arthur Jefferson, superintendent of the Detroit Public Schools, addresses the panel. Following Jefferson were Robert Wentz, superintendent of the St. Louis Public Schools, and David Bennett, deputy superintendent, Milwaukee Public Schools. James Walters, University of Missouri at St. Louis, moderated the session on desegregation.

APPENDIX B

Project Products

Access to Learning for Handicapped Students: A Handbook on the Instructional Adaptation Process

Forms for Purposes of Reproduction by School Personnel

Teacher's Guides

Supplementary Adaptation Guides for:

- Creating Characterization
- Creating Word Pictures

Teacher's Guides and Recommended Adaptations for:

- Tone Color
- Dramatic Plot
- Investigating the Elements: Shapes and Patterns
- Examining Point of View