

FOCUS ON EXCEPTIONAL CHILDREN

PROCEDURES FOR DEVELOPING CREATIVITY IN EMOTIONALLY DISTURBED CHILDREN

Patricia A. Gallagher, Ed.D.¹

CREATIVITY AND THE EMOTIONALLY DISTURBED CHILD

Creativity is a highly valued human characteristic believed to be a natural phenomenon in all children (Anderson, 1959) and one which could be encouraged by special educators. For emotionally disturbed children, however, the development of creativity has often been neglected in the school environment. Educators appear to devote a major portion of their instructional hours to procedures designed to remediate the disturbed children's behavior deficits. These modification procedures and the inappropriate behaviors which disturbed children exhibit may function to disguise the presence of creative abilities. Torrance (1962) suggests that an individual's creativity is a potential resource in coping with life's problems and contributes to the acquisition of various skills. If special educators should attempt to mitigate the disabling effects of emotional disturbance by seeking procedures which strengthen creativity, personal adjustment in these children may improve.

One process associated with creativity is divergent thinking which implies inventiveness, innovation and the discovery of the unknown. Divergent production is believed to contain some of the most directly relevant intellectual abilities for creative thinking and creative production (Guilford, 1966). Our culture, however, generally associates divergency with delinquency and mental illness. These negative feelings can be conveyed to children who diverge from society's standards for conformity in behavior. When the disapproval placed on divergency is transmitted to a group of children whose handicaps are manifested by deviant behavior, the positive aspects of creativity may remain undetected. If the values of creative abilities in such children can be recognized, then the responsibility to guide, encourage and structure these abilities could be actively assumed by educators.

It is reasonable to assume and believe that creativity exists in emotionally disturbed children and that this ability is as uniquely differentiated in its personal meaning to them as it is to all children. In 1951, Berkowitz and Rothman reported an experimental art

1. Patricia A. Gallagher is an Associate Professor of Education, University of Kansas Medical Center, Kansas City, Kansas.

program conducted with children in Bellvue Hospital. The authors believed that disturbed children could be gradually directed in a therapeutic approach to creativity and originality. At first, exploring art media was threatening to the disturbed children; therefore, restrictive types of art activities were initially introduced and later replaced with free expressive art activities. Through specific activities, the children became less threatened and successful. In a recent

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publication, Rothman (1971) emphasized her belief that disturbed adolescent girls were truly creative. This is reflected in their divergent behavioral and verbal responses.

It has and continues to be this writer's belief that emotionally disturbed children are highly creative individuals frequently manifesting their talents with manipulative, inappropriate responses and in ways adults do not understand. If the talents are redirected, the children could have other appropriate and satisfying avenues for self-expression. Although procedures designed to foster creativity in disturbed children have been limited, several studies (Gallagher, 1966; Norris, 1969; & Auxier, 1971) explored the relevance of art, drama and writing activities designed to stimulate creative thinking in elementary age disturbed children. These procedures were introduced in four special classrooms where the Structured Approach, a psychobehavioral approach to the education of emotionally disturbed children, prevailed.

The purposes of the aforementioned three studies were (1) to provide planned activities as an educational procedure for the development of creativity in emotionally disturbed children, (2) to encourage and support the children's divergent thinking in their expression of creativity, and (3) to investigate the effects of the procedures on the children's scores in tests of creative thinking.

STUDY ONE

The subjects were ten emotionally disturbed children selected on the basis of their enrollment in the special classes of the Children's Rehabilitation Unit, University of Kansas Medical Center (Gallagher, 1966). Five of the subjects (Group I) were assigned to the class for primary grade children. The remaining five (Group II) were students in the intermediate grade class.

Evaluation Instrument

An independent criterion delineating specific creative abilities was selected to measure the effects of the art media procedure to creativity. The Picture Construction Task, a nonverbal test, was chosen from the Minnesota Test of Creative Thinking. The scoring scheme for this test was based on a rationale presented in Yamamoto's (1964) experimental manual. Three abilities—originality, elaboration and activity (dynamic orientation)—were included in the test. This test is now a part of Torrance's Tests of Creative Thinking and available for use by teachers.

Procedure

The Picture Construction Task was individually administered to the subjects. This first testing session will be

referred to hereafter as the Pretest. Following the Pretest session, Treatment I was initiated with the subjects for two weeks, one half hour daily. The treatment involved social interaction between the subjects and the writer. When the two weeks had elapsed, the Picture Construction Task was individually administered to the ten subjects. This test administration will be referred to as Posttest 1.

Art media, Treatment II, was then introduced to Group I and Group II, during half hour sessions for a four week period. Following the four weeks of art activities, the Picture Construction Task was individually administered to the subjects. This test will be referred to as Posttest 2.

Teaching Sessions—Treatment II

Since a universal approach to creativity has not been formulated, art media which are amenable to manipulations and are versatile in appeal to children were selected. Materials used for the art activities were those which normally would be found in an elementary school. Two lessons were selected from the *Instructor* magazine (Perrin, 1965; Wolpert, 1965), and the remaining eighteen lessons were selected from the writer's reserve of teaching materials. The teachers of the special classes selected an art period when the experimenter could present the lessons.

For each lesson, the subjects assembled as a group to receive the art media and to discuss the possible uses of the material. Then they took the art media to their desks where they were to execute their original ideas. Each subject was encouraged in his own techniques and self-expression of divergent thinking while he was manipulating the art materials. Freedom to follow through the original ideas was prevalent; however, structure and guidance were given to the subjects whose ideas appeared restricted. One subject perseverated on one particular monster creature during the first seven lessons. He was able to produce a monster regardless of the art media; therefore, he was strongly cajoled into producing other themes. With extra support and encouragement, the subject was able to break through his own barrier and began to freely express divergent thoughts.

The finished products were the results of the individual subject's endeavors and originality rather than reproductions of an adult's master copy. Too often great emphasis is placed on the finished product rather than the process of producing it. In this study, the creative process was of primary concern; therefore, productions were not evaluated.

Results

The Sign Test, a nonparametric statistical measure, was selected to analyze the data. The test requires that relevant independent variables be matched within each pair of related samples. This requirement was achieved by using each child as his own control.

Pretest and Posttest scores were used as matched pairs of observation. The Pretest scores served as initial measures while the Posttest scores served to indicate change. Negative and positive differences between the scores were determined by subtracting the Pretest score from each of the Posttest scores. The findings and levels of significance (Siegel, 1956) are summarized in Table 1.

Table 1

Summary of Direction of Differences in Picture Construction Test Scores Following the Termination of Treatment I, Treatment II, and Treatments I and II with Emotionally Disturbed Children

Groups	Test Session	Sign Test p
Total Group	Pretest-Posttest 1	.50
Total Group	Posttest 1-Posttest 2	.05
Total Group	Pretest-Posttest 2	.01
Group I	Pretest-Posttest 1	NS
Group I	Posttest 1-Posttest 2	.18
Group I	Pretest-Posttest 2	.03
Group II	Pretest-Posttest 1	NS
Group II	Posttest 1-Posttest 2	NS
Group II	Pretest-Posttest 2	.18

Following the termination of Treatment I, an increase in total group scores between Pretest and Posttest 1 was observed ($p = .50$). A significant level ($p = .05$) was reached when Posttest 2 was compared to Posttest 1. A greater increase in total group scores ($p = .01$) was observed when a comparison of Posttest 2 was made to the Pretest. This subsequent increase in Posttest 2 performance scores can be related to the effectiveness of the art media procedure. Although the writer was involved in the interaction activities with the subjects during the two treatment sessions, greater total group gain scores were obtained following the art media treatment.

Gain differences in the test scores for Group I were analyzed. There was no significant difference in the scores for Group I following the termination of the social interaction. Gains were observed between Posttest 1 and Posttest 2 ($p = .18$) and between Pretest and Posttest 2 ($p = .03$).

Factors contributing to the significance in gained scores were considered. The Pretest scores for Group I fell within the lower half of the test limits; therefore, the subjects' scores were more amenable to growth. Group I was composed of younger children (seven to ten years of age) who appeared to be more responsive than the older children to adult instruction. The younger children's enthusiasm and eagerness increased as they proceeded into their daily art activities.

Torrance's (1962) investigation relevant to a developmental curve of creative thinking abilities indicates a steady increase for children in the first through third grades. The subjects in Group 1 were in this grade range with the exception of one subject whose age exceeded the primary age. This subject was the only child in the younger group to obtain a lower Posttest score, which was a change in score in the negative direction.

Group II's differences in the Pretest and Posttest 2 scores ($p = .18$) did not approximate the significant results obtained for Group I's Pretest and Posttest 2 scores ($p = .03$). A factor contributing to the results found in Group II may have been the high Pretest scores achieved by four of the five subjects. These four scores fell within the upper half of the test limits. Consequently, the range for expansion for the four subjects was restricted. However, the greatest increase in their scores followed the art media treatment, thus adding evidence concerning the effectiveness of this treatment.

SAMPLE ART LESSONS

Wet Chalk Design

Materials

Newsprint, 12" x 18"
 Construction paper, 12" x 18" in assorted colors
 Drawing paper, 12" x 18"
 Colored chalk, general assortment, broken pieces preferred
 Black crayons
 Paint brushes as found in water color paint boxes
 Individual paint cups
 Scissors
 Paste
 Fixatif in aerosol can

Procedure

Using a sheet of newsprint and a black crayon, have the children experiment with a free form design by circulating

the crayon on the newsprint in a series of motions without lifting the crayon from the newsprint's surface. The final motion returns the crayon to the point of origin. After experimenting with several designs, the children should execute a free form design on a sheet of drawing paper and choose four pieces of chalk. The enclosed areas of the design should be painted with water, then immediately filled with chalk. The completed design is sprayed with the Fixatif. The dried, sprayed design should be cut and pasted into any position on a sheet of colored construction paper.

Geometric Shapes

Materials

Black construction paper, 9" x 12"
 Assorted geometric shapes and sizes of colored construction paper
 Paste
 Scissors

Procedure

Prior to the art activity class, the colored construction paper is cut into assorted sizes and shapes. During the class activity, the children receive a 9" x 12" sheet of black construction paper and a portion of the assorted geometric shapes and sizes of colored paper. Although each child receives identical assortments, freedom to alter the shapes by cutting should be encouraged. The children construct a picture by pasting the geometric designs on the construction paper, using their own ideas as to composition.

Paper Strips

Materials

Construction paper in assorted colors, 9" x 12"
 Gummed-backed paper strips in seven colors, approximately 3/8" x 4"

Procedure

Have the children count out six gummed-backed strips of seven colors, totaling forty-two strips. Bend, twist, pleat, or curl the strips to give a three dimensional effect. By attaching the strips to the sheet of construction paper, the children develop designs or pictures using as many of the strips as they wish.

Geometric Shapes

Materials

Drawing paper cut into geometric shapes
Crayons
Large grocery bag

Procedure

Cut the drawing paper into varying shapes, including ovals, circles, triangles and rectangles. During the art activity, have the children reach into a large paper bag and take one of the shapes. Encourage the children to imagine pictures which fit the paper shapes. For example, rectangular shapes might suggest a tree or giraffe; circle shapes might suggest a person's face or the earth's surface. An original picture should be completed with crayons.

Styrofoam Creations

Materials

Styrofoam balls, 1/2 inch and 2 inch diameters
Pipe cleaners in assorted colors, 6" lengths
Straight pins
Small gold beads
Scissors

Procedure

Each child receives three of the 1/2 inch styrofoam balls, one of the two inch balls, seven pipe cleaners, twelve gold beads and as many straight pins as needed. Encourage the children to create any figure or model from these materials.

STUDY TWO

The subject was a ten-year-old emotionally disturbed boy residing in a private mental health setting (Norris, 1969). A complete diagnostic evaluation revealed the child's inadequate emotional growth and deviant behavior. On the Wechsler Intelligence Scale for Children, the subject achieved a verbal score of 143, a performance score of 127, and a full scale score of 138. The student worked on the fourth grade level which was commensurate with his chronological age; however, the IQ test scores indicated potential for a higher achievement level.

Evaluation Instrument

To study the effects of a creative writing approach to creativity, the Imaginative Stories Test was chosen from the Minnesota Tests of Creative Thinking. The scoring

system for the test was based on Yamamoto's (1964) rationale as presented in the experimental manual. The scoring scheme was divided into six main categories including organization, sensitivity, originality, imagination, psychological insight and richness. Five subcategories were assigned to each main category. This classification provided 30 terms which frequently define creativity.

Procedure

The Imaginative Stories Test consisted of Form A and Form B. Form A was used as the Pretest and Form B was used as the Posttest. Following the Pretest session, a series of creative writing lessons were introduced. Twenty to thirty minute lessons were presented daily to the subject for the first two weeks, thereafter once a week. At the end of the twenty-two lessons, the Posttest was given.

Teaching Sessions—Treatment

The creative writing lessons were selected from the *Experimental Scoring Manual for Minnesota Tests of Creative Thinking and Writing* (Yamamoto, 1964), *Invitation to Speaking and Writing Creatively* (Myers & Torrance, 1965), and the experimenter's file of materials. The directions for each lesson were given orally and in written form. The subject was given two specific topics from which he could choose the lesson. The student was also informed that the creative writing session was substituted for one of his regular daily academic assignments. The student needed reassurance that he was not expected to do extra work but he was to fulfill the lesson requirements. His creative writing productions were not graded. The boy's general fear of not being able to perform successfully was so intense that teacher comments were as supportive and reinforcing as possible. As the student became more comfortable with his creative writing endeavors, he volunteered evaluative comments and would discuss more easily some of the problems he encountered in the lessons. This type of evaluation was encouraged as it appeared to build objectivity and confidence in the boy relevant to his writing work.

Results

The Pretest score revealed the initial level of creativity while the Posttest score revealed the subsequent level of creative ability. The amount of change was determined by subtracting the Pretest subcategorical scores from the Posttest subcategorical scores. The Sign Test was selected to analyze the data.

The boy's scores revealed change in eleven pairs and no change in nineteen pairs of the 30 subcategories. There

were 10 positive scores and one negative score ($p = .006$). The findings and level of significance (Siegel, 1956) are summarized in Table 2.

Table 2

Category	Summary of Signs		
	Negative	No Difference	Positive
Organization	0	5	0
Sensitivity	0	4	1
Originality	0	3	2
Imagination	0	2	3
Psychological Insight	1	3	1
Richness	0	2	3
	1	19	10

$p = .006$

During the Posttest session the subject was under extreme stress in anticipation of a parental visit; however, he was able to function productively. The boy had been consistently structured and encouraged throughout the creativity sessions, especially when he showed anxiety and frustration. Perhaps this support was a variable contributing to the subject's productive Posttest behavior.

SAMPLE WRITING LESSONS

Write a story entitled "One Day on the Moon." Use your own imagination about what you think you would really find or what you would like to find. Your story can be about anything that happens to you "One Day on the Moon."

Read the beginning of the following story and then finish the story any way you choose. Make your story interesting and try to use as many words as you can. Try to make your story as vivid to me as it is to you.

In our science class at school we have been studying various kinds of animals. As a special treat, the teacher said each of us could bring a pet or animal to school to show the class. Most of us brought dogs, cats, birds,

turtles, and a variety of spiders, and bugs. But everyone was very surprised when Linda brought a baby elephant. It really turned into the funniest day I can remember when

Pretend you are the top scientist for a large airplane plant. You have just finished designing a new airplane, and now you are sending your design with a letter to the Secretary of Defense at the Pentagon. In your letter explain your design, why it's special, what kind of crew will be needed, and why it is important for this plane to be added to our defense system.

Complete the following story in the most interesting way you can.

One day as I was walking to class I saw a strange oval object overhead. It was silver in color and the bottom appeared to be glass. As I observed this funny round vehicle, a sliding door opened and

Make up a tall tale, like the Paul Bunyan stories, which can be as funny or exaggerated as you like.

Draw a cartoon strip. The main character's name is Dandy. Dandy can be a person, an animal, an imaginary character, etc. You can use yourself in the cartoon and do whatever you wish.

STUDY THREE

The subjects for this study were six boys age 10 and one boy age 13 enrolled in a public school special education class in a small Kansas community (Auxier, 1971). They had been placed in the class for learning and behavior disorders based on teacher referrals, psychological

examinations, and administrative decisions. All of these children were of average intelligence and had no serious physical handicaps.

Evaluation Instrument

To study the effects of the training procedures on creative thinking abilities, the Torrance Tests of Creative Thinking, Verbal Battery, Forms A and B (Torrance, 1966) were chosen. Seven activities comprise the verbal battery with comparable test items on the two alternate forms. The test was administered individually and orally under standardized conditions as specified in the test manual.

Procedure

The Verbal Form A of the Torrance Tests of Creative Thinking was administered as a Pretest. For the next 28 consecutive school days, training sessions were conducted for approximately 20 minutes each day. Following treatment procedures, the Posttest, Verbal Form B of the Torrance Test of Creative Thinking, was administered. The effects of the treatment procedure were assessed by comparing fluency, flexibility, originality and total test scores on Pre- and Posttest measures.

Teaching Sessions: Treatment

The 28 planned lessons were conducted for 20 minutes each school day at approximately the same hour. Some of the lessons were directly taken or adapted from Myers and Torrance (1964, 1965a, 1965b, 1966) teachers' guides; Cunningham and Torrance (1965) *Imagi/Craft Materials*; Dunn and Smith (1965, 1966, 1967) *Peabody Language Development Kits*; McCaslin (1968); and Wolff (1966a, 1966b). Other activities were developed by the investigator. All of the activities were designed to stimulate creative behavior. Students were encouraged to produce a large quantity of ideas, to use a variety of approaches to problems or situations, to think of ideas that were unusual, interesting and clever, and to work through their ideas in detail. The children were invited to view situations from different vantage points or to see things in many different ways. Many of the activities encouraged body movement or informal dramatization as a means of creative expression.

Results

All test results were scored by Personnel Press Scoring Service. This agency used professionally trained scorers.

Tests were scored once and then independently checked, thus providing an interscorer reliability check.

The Wilcoxon Matched-Pairs Signed-Ranks Test, a non-parametric statistical test, was selected to analyze the data. The test requires that relevant independent variables be matched within each pair of related samples. This was accomplished in the present study by using each subject as his own control.

Each of the six subtests was scored for fluency, flexibility, originality, and total scores. Significant differences at the .02 level (Siegel, 1956) were found between pre- and postmeasures in the areas of fluency, flexibility, originality and total scores. These findings are summarized in Table 3.

Table 3

Summary of Wilcoxon Match-Pairs Signed-Ranks Test with Pre- and Posttest Scores on Torrance Tests of Creative Thinking, Verbal Forms A and B for Seven Emotionally Disturbed Boys	
Pretest-Posttest Category	P value
Fluency	.02
Flexibility	.02
Originality	.02
Total + scores	.02

The subjects engaged enthusiastically in the creativity sessions, frequently asking to continue the activities. They explored the presented media in a variety of ways and generated new ideas. The quality of their responses visibly increased as the lessons progressed. However, it was not possible to determine which of the lessons—art, drama or writing—was most influential in the significant results.

SAMPLE DRAMA LESSONS

Round Robin Story From Pictures

Have each child contribute a sentence to the story taking turns around the group. Use stimulus pictures, such as motorcycle pictures, men-in-a-barn scene, etc.

Picnic Pantomime

Pass around a pretend picnic basket. Each child "chooses" the food he wants from the basket. He must show the other children what he has chosen by the way he

handles it and pretends to eat it. The other students guess what food has been selected.

Story Suggested by an Object

Place an object in the center of the group. Have the children look at it for three or four minutes without speaking. Then give the following directions:

Try to think of a short story about this object. Where might it have come from? How did it get here? What did its owners do with it? What does it make you think of?

Use the following objects: a lantern, a mallet, a wooden box, a set of bells. Other objects may be substituted. Allow sufficient time for a short story from each child.

DISCUSSION

The emotionally disturbed children's responses to the creativity session were encouraging. By incorporating art, writing and/or drama lessons wherein creative thinking was stimulated and guided, many of the emotionally disturbed children were able to increase their scores on tests of creative thinking.

A salient feature of the three teaching procedures was the teacher's recognition and reinforcement of the children's original ideas. In Torrance's study (1965) the effects of the teacher's influence in rewarding student creative behavior was investigated. An assessment of teachers' evaluation behavior revealed that children tend to develop in areas where they are rewarded by teachers, even in the area of originality.

Permissiveness in the environment is often suggested for the development of creativity; however, Study II's subject revealed creative growth when the lessons were highly structured. As the subject understood the guidelines, his anxiety dissipated and his creativeness was expressed.

The Structured Approach to the education of emotionally disturbed children was amenable to the development of creativity in the children. One of the integral procedures for the implementation of the Structured Approach is programming for individual student needs. During the creativity session, each student explored, imagined, experimented and developed ideas in as interesting and meaningful a way as he desired. Thus, the same media presented to the subjects took on new meaning as each child became involved in or worked out productions at his level of creativity. Furthermore, the

student was always successful because the process, not the product, was reinforced.

The results of the three studies suggest growth in creativity. Would the students continue to grow in their creativity abilities if creative activities were integrated into their academic programs? Would the teacher's value judgment placed upon the emotionally disturbed children's achievements in originality affect their perception of self and reality? If the self-image were altered, how would this change manifest itself in future creative ability? It is reasonable to assume that growth in one area of the self is contributory to the development of the whole personality. Future research concerning these possible implications is recommended.

SUMMARY

The underlying causes affecting the omission of creative experiences in classes for emotionally disturbed children are debatable; therefore, the three studies circumvented this issue by implementing teaching procedures designed to enhance creative abilities in disturbed children. Encouragement of divergency, a feature of creativity, may have been considered risky intervention; however, the children's responses to the experimental conditions were reassuring. Creative growth, as measured in the studies, was visible. It was demonstrated that the positive aspects of divergency were expressed when activities designed to promote creativity were planned and included in the academic program for emotionally disturbed children.

All sample lessons were taken from the author's teaching files.

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MODEL FOR THE ESTABLISHMENT OF A LEARNING DISABILITIES PROGRAM

Ima C. Dunn and Eileen Nogare¹

A southern Colorado school district had made some effort in the past to develop a program for the learning disabled students at the secondary level, but the program was short-lived and involved only one special teacher who taught the pupils in an isolated situation. The staff members who developed this plan felt these students were all too often given a back seat in the regular classroom and, through the attitudes of their teachers and peers, were denied the opportunity to participate in the educational process provided. Thus, the usual experience of these students was a background of failure with a continuing policy of promotion with D grades until they elected to drop out of school.

It was felt that the above described situation was not uncommon in Colorado. Seventy-five of the one hundred eighty-one school districts in Colorado had an educable mentally handicapped and/or a learning disability program, and only forty-three of the seventy-five districts had a junior high and/or high school program. In order to break this traditional pattern, it was felt that a new philosophy needed to be evolved which involved the regular teaching staff and that a full-day educational program had to be instituted which emphasized an individualized approach through the use of a prescriptive-contract type of program.

Related Research

In investigating research and related literature in such publications as *Exceptional Children*, *Reading Research Quarterly*, and *Today's Education*, there appeared to be a similarity of study results. Most studies demonstrated success ranging from moderate to high degree through the use of "contract systems, prescriptive or learning package" approaches. The above names were all used to designate a similar teaching technique which emphasized the individualized approach. The student's weaknesses were diagnosed; he was given work in these areas at his functional level; and he progressed at his own rate. After he had

1. Dr. Dunn is a Specialist in Field Experiences, University of Northern Colorado, Greeley. Mrs. Nogare is an English instructor at Southern Colorado State College, Pueblo.

completed his work (or fulfilled his contract), he progressed to or entered into a different type of activity. Competition was minimized in this approach which stressed personal involvement.

Implementation

This program was begun in one of the five junior high schools. Other than employing one team leader for the program and an instructional aide, the program was implemented with the existing personnel and physical facilities. This involved a preservice training period to develop the new educational philosophy, to reschedule periods and teacher-use, and to develop the contract program with a continuum of skill levels and materials.

Each student received an individualized prescriptive-contract program under the direction of the team leader for a three to four period time span. This program included a functional curriculum in reading, language arts, math, and social skills. The remainder of the schedule was integrated in the regular classroom program with a selection from music, art, industrial arts, home economics and physical education. Approximately one period each day was spent in a school work program assisting in custodial, clerical, lunchroom and library activities.

Several of the forty-three school districts in Colorado which had such programs on the secondary level employed individualized programs rather than group teaching. A large district in northern Colorado had developed an excellent program. We felt our program would serve as an example of how an individualized program could be instituted in a small school district with a minimum addition of staff.

Objectives and Evaluation

In general, the objectives and evaluation for the district were written for a three-year period and were as follows:

- (1) to improve the academic level as measured by the Wide Range Achievement Test of the specified students to coincide with their mental age. A pretest and a posttest score comparison was made each year in an effort to determine if the student was narrowing the gap between his academic level and his mental age level.
- (2) to decrease the number of disciplinary visits made by these students to the principal and/or to the

counselor. Comparison of pre-program and post-program number of visits for each student was made.

- (3) to make curriculum meaningful as indicated by the number of student absences. The number of absences before the program was compared with those during the program.
- (4) to increase parental involvement as measured by the number of parental visits to the school other than when summoned for disciplinary purposes.

External evaluation of the program was also included. For example, observation of classroom procedures and/or video tapes were made by administrators and/or resource persons, such as professors from Southern Colorado State College, professionals from the Colorado State Hospital and personnel from the State Department of Education. Another external evaluation involved critiques of classroom procedures and/or video tapes by other educational institutions.

The team leader kept a diary of the weekly educational program. This served as a basis for noting progress, mistakes and success of the program as it continued. Plans were made to disseminate program findings. A handbook is being compiled for each of the areas taught with a prescriptive-contract philosophy. Video tapes were made at periodic intervals throughout the program to note program progress. These tapes were used in workshop demonstration programs conducted by the district. The program was open to observation by visitors from other districts or college classes.

Results

The first objective was found to be too idealistic; however, the educational gap narrowed. Pretest-posttest gain averaged one year four months for one academic school year. Student absences and disciplinary visits were decreased by more than fifty percent. Parental involvement is gradually increasing with the recent establishment of a Parental Advisory Board. Although the program is still in progress and although it is too soon for final evaluation of such a program, success appears highly predictive. Program changes, such as the addition of behavior modification, also enhance the long-term evaluation difficulties.

CLASSROOM FORUM

Edited by Austin J. Connolly, University of Missouri

PROBLEM 21

Should special education teachers be concerned with fostering creative thinking in their pupils? If so, how can it be done effectively?

Obviously, creative thinking is a key to progress in business and industry and to the resolution of pressing social problems. But, what about the exceptional child? Where does he stand on this dimension?

Recently, a study was conducted on the propositional thought exhibited by the mentally retarded. The investigator, Oliver Kolstoe, asked his subjects to suggest alternative solutions or plans of action for situational problems. Kolstoe observed a tendency on the part of the retarded to advance a single solution as opposed to alternatives. This tendency to support a single course of action until its efficacy is known might be labeled trial and error learning. It is in marked contrast to higher levels of performance in which the individual poses several alternatives, weighs their relative strengths and weaknesses, and selects a course of action to pursue as long as it continues to approach a given objective.

Two considerations surface from the above discussion: first, creative thinking is an advantageous trait for all individuals; and second, the mentally retarded exhibit little of this trait. The latter point is not meant to imply that the retarded cannot be taught to use divergent thought processes, since the limited research in this area suggests that it is possible. Thus, the remainder of this discussion will focus on what the teacher can do to foster creative thinking in her pupils.

The teacher who attempts to elicit creative thinking by a frontal assault—"Children, from now on I expect you to exhibit creative thinking"—is doomed to fail. It is

recommended that the teacher take a more subtle, patient, and circuitous route. Initially, she should establish a classroom climate which accepts and reinforces children's attempts to be creative and take risks in posing answers. The teacher should next work to provide her students with skills which eventually will enable them to be creative thinkers. Among the most important of these skills is the ability to make careful observations. To assist the children in developing observation skills, the teacher might:

Have children make a careful and detailed description of a rock, class pet, picture, etc.

Have children identify the similarities and/or differences between two objects, two persons, etc., with the difficulty of the task determined by the degree of contrast within the comparison.

Have children observe a large picture, overhead transparency, controlled situation, etc., for a few seconds. When the stimulus is removed or the children turn their backs to it, they must describe it.

Closely related to observation skills is the ability to apply accurate and descriptive labels to objects, events, etc. The teacher should assist the youngsters in developing a vocabulary which permits them to be relatively precise in their thinking. In this area, the teacher might:

Direct particular attention to refining the children's use of adverbs and adjectives, i.e., "Who can tell (describe) how Tommy is walking?"

A third skill area relates to the determination of sequences and conclusions. To build skill in this area, the teacher might:

Take cartoons from the Sunday paper, cut them up, and then have children sequence them.

Develop conclusions for incomplete stories presented by audio cassette.

Have children suggest what might have caused incidents and accidents depicted in the newspaper.

The fourth skill area deals with posing alternatives in problematic and decision-related situations. To build this skill, the teacher might:

Employ role modeling by thinking out loud with her pupils as she considers options at decision points in the class day.

Force divergent thinking in the completion of assignments, i.e., name five ways a person might travel to visit a relative in California.

The above examples illustrate the types of activities that can foster growth in skills which will provide youngsters the confidence and ability to begin to think creatively. Instruction of this type, designed to teach youngsters to think, should occupy a prominent place in every classroom curriculum.

PROBLEM 23

The special school I teach in will be phased out. Instead, my special class will be placed in an open school—one without walls. Will this work?

All readers are invited to send their solutions to Problem 23. The January 1973 issue will summarize contributions by readers. Complimentary subscriptions will be awarded each month for the best solutions. Send your response to the Editorial Offices, *FOCUS ON EXCEPTIONAL CHILDREN*, 6635 East Villanova Place, Denver, Colorado 80222.

ALERT

There will be a Special Conference on Career Education for Exceptional Children and Youth, February 11-14, 1973, the Jung Hotel, New Orleans, Louisiana.

The Association for Children with Learning Disabilities will hold their international conference at Cobo Hall in Detroit, Michigan, March 14-17, 1973.

The Annual International Convention of the Council for Exceptional Children will meet in Dallas, Texas, April 22-27, 1973.

The American Personnel and Guidance Association will have three meetings this year. The national convention will be in San Diego, February 9-12, 1973. Regional meetings will be held in St. Louis, April 15-19, 1973 and in Atlanta, May 23-27, 1973.