

THE EFFECT OF THE USE OF FAIRY TALES AS CURRICULUM
CONTENT ON THE CREATIVITY LEVEL OF GIFTED
THIRD-GRADE STUDENTS

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CHAPTER I

INTRODUCTION

The rise of humanistic psychology, with its valuing of the individual and individual differences, has brought with it an interest in creativity (Gowan, 1979). Gowan has also implied that the relationship between creativity and giftedness has resulted in seeing the gifted as a pool for potential creativity, although surely not the only such resource. Gallagher (1979), in his discussion of research needs for the gifted in education, has pointed to the enhancement of creativity, the underachiever, and the development of valid curricular materials as areas requiring further research.

Statement of the Problem

The problem that was investigated in this quasi-experimental study could be phrased in this question: How might curriculum influence the stabilizing of the creative function in gifted elementary school age children, especially in terms of the documented drop in creativity at the fourth-grade level (Torrance, 1967)? The problem could also be thought of in terms of the question: What effect might the teaching of a curriculum unit specifically designed to ad-

dress the developmental stage problems of gifted children have upon the level of creative function of the children?

The study was developed using the nonequivalent control group design, with a pretest to establish equivalence. Pretest-treatment interaction was controlled by the fact that the pretest did not deal directly with the content of the treatment, which consisted of a curriculum design using fairy tales.

Statement of Purpose

The purpose of this study is to propose an answer to the question of curriculum influence by testing this hypothesis: Gifted third graders who are exposed to a systematic hearing of fairy tales and a study using interpretive discussions and learning activities based on the content of the tales will perform at a higher level on a test of creativity than those who are not. This hypothesis will be broken down into nine null hypotheses in Chapter Three,

Research Design , to coincide with the nine subtests of the dependent variable. The independent variable, or treatment, can be operationally defined as a fairy tale study. The dependent variable can be defined as the students' scores on the following subtests of the Structure of Intellect Learning Abilities Test (Meeker & Meeker, 1979): Divergent Production of Figural Units (DFU), Divergent Production of

Symbolic Relations (DSR), Divergent Production of Semantic Units (DMU), Cognition of Figural Transformations (CFT), Cognition of Symbolic Relations (CSR), Cognition of Semantic Relations (CMR), Convergent Production of Symbolic Transformations (NST), Cognition of Semantic Units (CMU), and Cognition of Semantic Systems (CMS). These sections also served as the pretest. The selection of these particular subtests was made in consultation with Dr. Meeker (Note 1). A further explanation of the subtests will be given in the Definitions section of this chapter.

Significance of the Study

There is an evident need for auxiliary curriculum material for the gifted primary age child. Fairy tales have long been noted for their effectiveness as literature in the increasing of vocabulary and in providing a base for the understanding of literary references. Creativity has been shown to be one of the most important ways that people can grow as persons and as societies (Arieti, 1976; Maslow, 1971). Futurists emphasize the necessity for increasingly more creativity in living and problem solving in a high-change world (Torrance, 1980). If a positive influence of the curriculum use of fairy tales upon creative function is indicated, purposeful inclusion of the study of fairy tales in the curriculum would be desirable. Also, this might

provide implications for the use of fairy tales at other grade levels, and for the use of other similar material as curriculum. In order to succeed and endure, educational reform must be supported by appropriate retooling in the form of instructional materials and procedures (Torrance, 1980).

Limitations

This experimental study was limited to 21 students enrolled in two talented and gifted classroom groups. They could not be randomly selected.

Definitions

Structure of the Intellect Learning Abilities Test. A theoretically based test of specific factors foundational to learning.

Divergent Production of Figural Units (DFU). A test of the student's ability to use ambiguous stimuli in creative ways. Students are instructed to draw something different in each of 16 squares.

Divergent Production of Symbolic Relations (DSR). A test of the student's ability to produce symbolic relations with virtually no limitation. Students are instructed to complete patterns in the squares of a matrix.

Divergent Production of Semantic Units (DMU). A test of verbal creativity, particularly fluency. Students are instructed to choose one of their drawings from DFU and

make up a story about it. The story may be written or dictated. In this study, students dictated their stories.

Cognition of Figural Transformations (CFT). A test of the student's ability to recognize a figure when it has been rotated into a new orientation. Students are instructed to choose from five alternatives, a figure that matches a given figure that has been turned.

Cognition of Symbolic Relations (CSR). A test of the student's ability to detect relationships between the letters within words. Students are instructed to select a word to complete a pair of words so that the relationship will match that of two given pairs of words.

Cognition of Semantic Relations (CMR). A test of the student's ability to find the relation between two givens. Students are instructed to choose a response that will come between two givens. One third of this test consists of pictures with three response choices each; words with four response choices each constitute the other two thirds.

Convergent Production of Symbolic Transformations (NST). A test of the student's ability to recognize symbols in the context of other symbols. The test contains four levels of difficulty: first, students must locate a given word in a run-on sentence; second, students are asked to separate words in a run-on sentence; third, students must find hidden words that are formed by combining partial

endings and beginnings of words as they appear in sentences; fourth, students must decipher words printed in various altered forms--upside down, mirrored, or inverted.

Cognition of Semantic Units (CMU). A brief test of mathematics concepts and general vocabulary. Students are instructed to choose from five alternatives, a response that means the same as a given.

Cognition of Semantic Systems (CMS). A test of "form-reasoning". Students must translate a verbal description into a set of shape relationships by means of a set of word-shape equivalences. On this, as on all subtests containing any verbal material, the material was read to the subjects. Reading skills were not being tested (with the exception of NST).

CHAPTER II

REVIEW OF LITERATURE

Context of the Problem

Preschool and early childhood age children frequently delight teachers and parents with the freshness and originality of their descriptions of life (Chukovsky, 1965; Kubie, 1969). Many also appear to thrive on learning at an early age. Soon, however, the pace seems to slow, the clever phrases come less often, and then not at all. The scores that held such promise for achievement level off, and may even drop (Colangelo & Zaffran, 1979; Torrance, 1967). This has also been reported by several other research studies and authorities concerned with the full development of thinking and creative potential (Arieti, 1976; Dean, 1977; Gowan, 1979; Kubie, 1969; Maslow, 1971; Nash, 1974; Williams, 1976). Most of these relate the problem to one, or a combination of, three factors: cultural conditioning, educational malpractice, and students' self-concept level. American society, busy with growth and mass production, has not valued individual creativity, nor provided for its enhancement in the schools, nor rewarded its expression in personal behavior (Arieti, 1976; Keating, 1980; Torrance, 1977). The problems of maintaining and further-

ing the human race appear to increasingly depend upon the cultivation and nurture of creativity in individuals.

Defining Creativity

In terms of his Structure of the Intellect model, which was the theoretical base for the measuring instrument used in this study, Guilford (1977) found the abilities most relevant to creative thinking belonging in the Divergent Production category of operations and the Transformations category of products. Meeker (1969) included the Implications category of products and stressed the need for the development of quality, relevance, and discipline in the Divergent Production category as well as fluency, flexibility, and individuality.

A full coverage of the definitions of creativity would be beyond the scope of this review. Comprehensive accounts have been made by Taylor (1975), by Arieti (1976), and by Rothenberg and Hausman (1976). By almost any account creativity can be said to deal with a process, which is closely akin to the problem solving process of the scientific method, and a product, which must display newness to the individual or to society as a whole.

In addition, in defining creativity in an educational setting in terms of this study, research establishing the "teachability" or enhancement of creative potential becomes quite meaningful. Torrance's (1977) reports of his studies

in this area are extensive. Titles from current authorities such as Integration of Abilities: Exercises For Creative Growth (Baker, 1977); and Divergent Production: Teaching Creative Problem Solving (Meeker & Maxwell, 1976) indicate confidence in the success of such an endeavor. Guilford (1980) states that it has been repeatedly demonstrated that SI abilities, which would include those relevant to creativity, can be developed.

A four group experimental study with 40 undergraduates reported by Gick and Holyoak (1980), substantiated the role that analogical thinking may play in creative problem solving, using storytelling as part of the procedure. McGinn, Viernstein, and Hogan (1980) reported on a program designed to foster the intellectual development of 51 verbally gifted adolescents. The instruments used in that study were the Concept Mastery Test, The Remote Associates Test, and the Guilford Consequences Test. The study concluded that performance on divergent thinking tests is remarkably resistant to change, although a productive-thinking program produced gains in verbal intelligence scores, and raised scores on measures of creativity.

A one-group pretest-posttest design study reported by Nash (1974) concluded that a school setting giving an emphasis to creative growth could avert a fourth-grade slump in the creative thinking abilities of gifted children. Sixty-

six subjects enrolled in the Vanguard Program in Houston, Texas, were pretested and posttested on alternate forms of the Torrance Tests of Creative thinking with significant increases in scores for fluency, flexibility, and originality.

A posttest only control group design field study on The New Directions in Creativity Program (Callahan & Renzulli, (1977) found higher mean scores on six of the seven subscores indicating an overall positive effect on creative thinking, modified by the teacher and classroom setting. In an eight week study with 23 fourth-grade students from a middle-income, suburban school district, Hicks (1980) found a significant ($p < .001$) difference between the mean scores of the pretest and posttest using the Torrance Test of Creative Thinking. The literature appears to verify that creativity and creative thinking may be influenced in an educational setting by attention to factors such as teacher influence, classroom atmosphere, and curriculum content.

Maslow (1971) has linked creativity to mental health in describing it as an outgrowth of self-actualization. Kubie (1969) challenged education to provide opportunities to undo some of the subtle restrictions of the human spirit which arise in all cultures and thereby aid in the acquiring of self knowledge which is an essential ingredient for

learning and creativity. Kubie states that schools could help the child understand himself by assuring that the basic human conflict battles such as response to parental authority and sibling rivalry be fought on the level of conscious direction and control, rather than at an unconscious level which perpetuates rigidity and blocks access to the preconscious function so instrumental in creativity.

The positive influence of a high self-concept on a child's achievement of potential has become a basic assumption in contemporary education. Dean (1977) in a correlational study added confirmation of this assumption for gifted students. Combining the main points in this review begins to show implications for the effectiveness of a curriculum designed to enhance childrens' innate potential for creativity by providing support at the developmental levels at which problems seem to arise.

Third-grade Age Tasks

One of the most promising tools for helping gifted children achieve their creative potential is the Erikson-Piaget-Gowan Periodic Developmental Stage Chart (Gowan, 1979), as shown in Figure 1. The theory includes the statement that the genesis of creativity is in the third stage during the working through of the oedipal fantasy, and that a good start at this stage is the best assurance of success in the even more crucial sixth stage. The step

ATTENTIONAL MODES →	DEVELOPMENTAL LEVELS ↓			LATENCY	IDENTITY	CREATIVITY
	↓	↓	↓			
INFANT	ERIKSON (Affective)			TRUST vs. MISTRUST ①	AUTONOMY vs. SHAME & DOUBT ②	INITIATIVE vs. GUILT ③
	PIAGET (Cognitive)			SENSORIMOTOR vs. CHAOS	PREOPERATIONAL vs. AUTISM	INTUITIVE vs. IMMOBILIZATION
YOUTH	ERIKSON (Affective)			INDUSTRY vs. INFERIORITY ④	IDENTITY vs. ROLE DIFFUSION ⑤	INTIMACY vs. ISOLATION ⑥
	PIAGET-GOWAN (Cognitive)			CONCRETE OPERATIONS vs. NONCONSERVATION	FORMAL OPERATIONS vs. DEMENTIA PRAECOX	CREATIVITY vs. AUTHORITARIANISM
ADULT	ERIKSON (Affective)			GENERATIVITY vs. STAGNATION ⑦	EGO-INTEGRITY vs. DESPAIR ⑧	
	GOWAN (Cognitive)			PSYCHEDELIA vs. CONVENTIONALISM	ILLUMINATION vs. SENILE DEPRESSION	

Figure 1. Erikson-Piaget-Gowan Periodic Developmental Stage Chart
(Gowan, 1979).

from preoperational to concrete operations (stages 2-4) is cited by Colangelo and Zaffran (1979) as the source of underachievement in the gifted. These factors would seem to place an important emphasis on the developmental levels covered by stages 2-4. Taking into consideration the probable overlapping between the stages, third-grade students are in the process of making these steps.

Gowan (1979) listed the following tasks to be accomplished by the child in the third stage: learning to cope or defend, learning the symbolic representation of experience, moving along the continuum from adapted to creative, and establishing the preconscious. The second stage task dealt with experiencing the consensual validation necessary for establishing creative fantasy rather than magic nightmare. The child involved in the fourth stage is busy with the reality principle implied in industry and concrete operations.

Many sources agree that gifted children particularly need support during these periods of discontinuous development. Direct guidance is not always practical, and the evidence in support of the influence of curriculum offers a possible avenue for providing this encouragement.

Fairy Tales

The debate over the appropriateness of telling fairy tales to young children has been waged not only between

different historical periods, but even within periods. Many modern sources from several disciplines attest to their value (Bettelheim, 1977; Chukovsky, 1965; Cook, 1976; Lewis, 1975; Ornstein, 1972; Tolkien, 1965), usually with a provision that care should be taken in selection. Bettelheim suggests that essential optimism is a valid criteria for determining a true fairy tale suitable for use with young children, and Tolkien's insistence that all complete fairy stories must have a happy ending concurs with this.

The world view presented in fairy tales contains the elements of the human experience presented in a universal language (Cook, 1976). They portray the ultimate goodness of life, while recognizing the threat of evil in the world and indicating weapons to conquer it (Johnson, Sickels, & Sayers, 1970). Generally, characters are clearly defined and not complex, the story moves along quickly, justice is served, and the setting is anonymous and timeless, lending itself to a variety of interpretations. The successes of common folk provide hope and the experiences of royalty stress the importance of events. Wishes are fulfilled only on conditions (Chesterton, 1908) and enchantments are broken by facing perils and tasks (Opie & Opie, 1974).

The archetypal nature of the characters, settings, and conflicts makes them readily recognizable at the unconscious and preconscious levels (Jung & Kerenyi, 1949).

Baker (1981) notes that when fairy tales are read by a parent at bedtime, a teacher in class, or a leader at a tribal gathering, a sense of communal security is established which provides the setting for relating the basic issues of life. Fairy tales are directly concerned with the problems of identity, parent-child relationships, sibling conflicts, problem solving, and task accomplishment. These are precisely the concerns involved in the developmental tasks of stages 2-4. Arieti (1976) has listed the remembrance and inner replaying of past conflicts as one of the conditions fostering creativity. An investigative study (Bradfer-Blomart & Lam, 1976) indicated that 6-9 year olds preferred fairy tales to other forms of stories, produced many variations of stories and that 8 year olds (third graders) produced optimum reproductions of stories. A descriptive study with a sample of 44 subjects over a wide age range (Lunz & Walker, 1976) recorded the number of times that archetypal images appeared in the drawings of the children after they had listened to fairy tales. Their findings implied that hearing fairy tales encouraged the child to experience the symbols in the tales.

There is evidence of a drop in children's creative functioning and also underachievement among gifted students after the third grade. Creativity, both in terms of process and product, appears to be linked to healthy self-concept,

and the resolution of unconscious conflicts resulting in an openness to preconscious function. Creative potential responds to encouragement and instruction. Developmental tasks of third-grade students are similar to the symbolic content of fairy tales. With care in selection and telling, fairy tales may be used to transmit cultural and psychological information. Children identify with fairy tales.

CHAPTER III

RESEARCH DESIGN

Subjects

Subjects for this study were third-grade students selected by the Dallas Independent School District (DISD) for a pilot program for talented and gifted (TAG) students in an urban elementary school, in a middle-income neighborhood. The students were selected on the basis of three criteria: a score at the 80th percentile or above on the Iowa Test of Basic Skills; a rating of 54 or above on the DISD Teacher Observation Scale and recommendation by a local screening committee composed of six teachers and the principal of the school. The sample consisted of the entire population of 21 students, 11 in the experimental group and 10 in the control group. The population was multicultural, being composed of 18 Black-American students and three Anglo-American students. Eight of the students were males (four in each group) and 13 were females.

These third-grade students, who were selected on an essentially equivalent (meeting the criteria) basis, were assigned to two TAG classroom groups determined on the basis of the school scheduling requirements. Both groups participated in the TAG curriculum for the same time period

(1½ hours) four days each week. Within these six hours of instruction each week, the experimental group (designated at random) participated in the fairy tale study, and the control group did not.

It was assumed that since both groups were drawn from similar home backgrounds, any chance exposure (not part of the study) to fairy tales would be similar. This assumption extended to exposure occurring in their regular classroom situation, and was reinforced by obtaining the cooperation of the classroom teachers in avoiding fairy tales until the conclusion of the study.

Instrument

The research instrument used in this study was the Structure of Intellect Learning Abilities Test (SOI-LA Test) developed in late 1975 at the SOI Institute in El Segundo, California, under the direction of Dr. Mary Meeker. Pretest scores considered were those made on the Form A subtests mentioned in the Statement of Purpose. Posttest scores considered were those made on the same subtests of Form B. The subtests are operationally defined in the Definitions section.

The SOI-LA Test incorporates 24 Structure of Intellect subtests; these subtests were selected (from Guilford's complete model of 120 identified abilities) for their established relationship to school learning, particularly

reading, arithmetic, writing, and creativity. The original development of the SOI-LA Test included a pilot norming based on a sample of Caucasians, Blacks, and Hispanics from innercity and suburban public schools, at grades one through six. Data from this norming was used for final item selection to insure that no item would be disproportionately penalizing for any one of the groups represented. Data on these items served as a basis for the "expected scores" that accompanied the original publication of the test. The test is increasingly being used for screening, diagnostic planning, and other studies, and updated material is periodically available from the institute in the form of technical data and abstracts (SOI-LA Basic Test, 1980).

The three divergent production subtests measure fluency, flexibility, and originality, commonly accepted as components of creativity. CFT and NST were included to fulfill Guilford's (1977) expectations of the Transformations category of products as relevant to creativity. The subtests CSR, CMR, CMU, and CMS were included on the assumption that subtleties and sensitivity to nuances show up in rapid cognition (Meeker, Note 1).

Procedure

This quasi-experimental study was developed according to the nonequivalent control group design:

$$\begin{array}{ccc} 0 & X & 0 \\ \hline 0 & & 0 \end{array}$$

0 signifies a pretest and posttest using the designated subtests of the SOI-LA Test. X signifies a treatment consisting of a course of study including the hearing of fairy tales, interpretive discussions of the tales, learning activities using the content of the tales (drama, illustrating, devising alternative plot incidents and endings). As part of the TAG curriculum, the control group took part in essentially identical activities which utilized content other than that of the fairy tales.

The study took place over approximately three months from September to December, with the treatment applied over two and one-half months from October to mid-December. This design was chosen because the selection and assignment of the population was controlled by school requirements and could not be random. Since the subject sample consisted of all students in the population and not on the basis of extreme scores, regression was hopefully not an appreciable threat to validity.

Selection of the subjects was essentially equivalent because of the program criteria, and the pretest scores indicate initial equivalence, with significant differences on only two subtests (see Table 1). Both groups were taught by the same teacher in the TAG classroom. Maturation might

have been a factor as the students were three months older at the time of the posttest, but this condition applied to both groups. Pretest/treatment interaction should not have been a threat because of the youth of the students, and the fact that the pretest did not deal directly with the content of the treatment. Also, the use of alternate forms for pre and posttesting decreased any interaction between the two.

Description of the Treatment

The following six stories were chosen for their particular appropriateness to the third-grade age tasks according to the explanations by Bettelheim (1977). Each story was read directly from its source, audio-taped as it was read and replayed at least once as the subjects were illustrating the story. Following the initial reading, an interpretive discussion was held and replayed. Examples of the discussion questions and other activities follow each story title:

1. "The Gallant Little Tailor" concerning an ingenious "little" man who manages to accomplish every task set before him and to become king.

A What might have happened if the tailor had sewn on his sash: "I swatted seven flies"?

B Devise a slogan about an event in your life that you are proud of and decorate a sash using the slogan.

2. "Hansel and Gretel" concerning two children who face that greatest of human anxieties, abandonment; successfully overcome oral gratification, oedipal conflict, and return home not only independent, but bringing treasures from the depths of the forest.

A How else might the family have solved their financial problems? (some responses were: sell wood, make toys from wood, rent a room, visit relatives)

B Execute a maze leading to a gingerbread house.

3. "The Queen Bee" concerning a supposed simpleton, who pursues a higher calling by befriending his animal nature, and therefore inherits the kingdom.

A What would you say were the main differences between Witling and his brothers?

B Sort these "jewels" (alphabet macaroni) into three piles for three princesses and tell how or why you divided them in that way.

4. "Snow White" concerning the resolution of the oedipal conflicts between mother and daughter.

A Why do you suppose that the queen was able to trick Snow White so many times?

B Make up a different place for Snow White to live when she must leave the castle.

5. "The Frog Prince" concerning the keeping of promises and the transforming power of love.

A Why would the king make his daughter feed the frog from her plate?

B Write a story in which a change takes place.

6. "Jack and the Beanstalk" concerning a boy who emerges from childhood ready to face reality demands.

A How do you feel about Jack's taking the things from the giant's house?

B Execute a mural depicting the story, putting in as many details as you can to make it interesting.

Stories 1 through 5 were taken from Household Stories (Grimm, 1966). Story 6 was taken from A Harvest of World Folk Tales (Rugoff, 1949).

Hypotheses

1. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest DFU.

2. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest DSR.

3. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest DMU.

4. There is no statistically significant difference between the mean scores of the experimental group and the

control group on subtest CFT.

5. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest CSR.

6. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest CMR.

7. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest NST.

8. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest CMU.

9. There is no statistically significant difference between the mean scores of the experimental group and the control group on subtest CMS.

Statistical Treatment

The data for this study were analyzed using the t-test for independent samples statistical program (NGROUP Comparison Program) of the Texas Woman's University computer system. This program was chosen as the simplest appropriate way of determining significant mean differences, if any, at the .05 probability level for a relatively small sample.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Pretest

Analysis of the pretest mean scores of the two groups, as shown in Table 1, appears to establish initial essential equivalency. Two subtests showed significant differences, one in favor of the control group and one in favor of the experimental group. Neither of these subtests showed a significant difference on the posttest. Both groups scored higher on subtest DMU than on any other subtest.

Posttest

Analysis of the posttest mean scores of the two groups, as shown in Table 2, reveals significantly higher scores ($p < .03$) on both sections of subtest DMU for the experimental group. There were no other significant differences. Null hypothesis number three is rejected, all others are accepted.

Table 1

Pretest Means On Nine Subtests Of The SOI-LA
Administered To Third Graders Identified As
Gifted And Talented In A Multicultural Urban
School

SUBTEST	GROUP MEAN AND STANDARD DEVIATION				t	p
	CONTROL		EXPERIMENTAL			
	N=10		N=11			
DFU, fluency	12.3	4.3	11.2	2.9	.70	.49
set change	8.5	4.1	9.2	1.6	- .51	.62
originality	1.6	2.8	7.6	4.2	-3.85	.001
DSR, fluency	16.0	4.1	14.2	4.9	.91	.37
set change	12.4	5.5	10.5	6.7	.73	.48
DMU, fluency	80.7	22.9	68.2	18.8	1.37	.19
originality	8.0	6.3	6.4	6.7	.57	.57
CFT	8.5	2.1	6.8	2.2	1.81	.09
CSR	3.0	1.6	1.7	1.1	2.11	.05
CMR	15.1	3.3	15.4	2.4	- .21	.84
AST	84.8	16.1	85.0	10.6	- .03	.97
CMU	11.4	1.7	12.3	2.6	- .90	.38
CMC	12.6	2.2	12.3	2.3	.33	.74

Table 2

Posttest Means On Nine Subtests Of The SOI-LA
Administered To Third Graders Identified As
Gifted And Talented In A Multicultural Urban
School

SUBTEST	GROUP MEAN AND STANDARD DEVIATION				t	p
	CONTROL		EXPERIMENTAL			
	N= 10			N= 11		
DFU, fluency	10.9	3.5	9.2	2.6	1.28	.21
set change	8.9	2.6	9.1	2.6	- .17	.87
originality	4.4	5.1	8.7	5.0	-1.95	.07
DSR, fluency	19.4	10.3	13.5	4.7	1.73	.10
set change	9.5	8.4	8.6	3.6	.31	.76
DMU, fluency	81.1	18.5	95.0	7.9	-2.28	.03
originality	5.0	5.3	13.6	10.3	-2.39	.03
CFT	11.7	4.7	11.1	3.6	.34	.74
CSR	2.7	1.3	2.5	.8	.32	.75
CMR	13.8	3.5	16.2	2.9	-1.71	.10
HST	90.7	19.7	79.1	22.6	1.25	.22
CMU	12.7	2.8	11.7	3.2	.74	.47
CMS	13.8	2.8	14.4	3.1	- .44	.67

CHAPTER V

SUMMARY AND CONCLUSIONS

This study provides some support for the research hypothesis that the gifted third-grade students in this sample exposed to a systematic study of fairy tales score higher on a test of creativity than those who were not so exposed. The experimental group scored significantly higher ($p < .05$) on both sections of subtest DMU than the control group, resulting in a rejection of the third null hypothesis. Rejection of the third null hypothesis seems to indicate that the use of fairy tales in the curriculum made a significant difference in the performance level of the experimental group on subtest DMU, which involves fluency and originality in storytelling. This is the area most similar to fairy tales. It is also the area in which both groups made the highest pretest scores. A gain in an already strong area in a relatively short time could denote the supportive nature of the treatment (Meeker, Note 2).

The fact that a significant difference was found in the area of storytelling may have some relationship to the study (using storytelling as part of the procedure) reported by Gick and Holyoak (1980), which substantiated the role

played by analogical thinking in creative problem solving. Finding a significant difference in the area of verbal creativity would also seem consistent with results reported by McGinn, Viernstein, and Hogan (1980) on a program designed to encourage the intellectual development of 51 verbally gifted adolescents. That study concluded that performance on divergent thinking tests is remarkably resistant to change, although a productive-thinking program produced gains in verbal intelligence scores, and raised scores on measures of creativity. This study adds support to the conclusion that creative thinking can be supported in an educational setting which was reached in the studies by Nash (1974), Callahan and Renzulli (1977), and Hicks (1980).

In addition to the data analysis in terms of the null hypotheses, looking at the data in other ways reveals some interesting results. Within group comparisons of the pre and posttest mean scores show no significant losses for either group. Although both groups show gains, only the experimental group gains reach the level of statistical significance for subtest DMU, fluency, and subtest CFT (Table 3). In comparing the mean change of the two groups, the score of the experimental group shows statistically significant gain on subtest CSR, which pretested significantly lower (Table 4).

Particularly in view of the scarcity of research in

Table 3

Experimental Group Mean Gain Scores

SUBTEST ^a	MEAN AND STANDARD DEVIATION				t	p
	PRETEST		POSTTEST			
	N= 11					
DMU, fluency	68.2	18.8	95.0	7.9	-4.37	.001
CFT	6.8	2.2	11.1	3.6	-3.39	.003

^aNo other subtest scores show statistical significance.

Table 4

Between Group Analysis of Gain Scores

SUBTEST ^a	GROUP MEAN GAIN AND STANDARD DEVIATION				t	p
	CONTROL		EXPERIMENTAL			
	N= 10		N= 11			
DMU, fluency	.40	28.4	26.82	19.2	-2.52	.02
originality	-3.00	6.7	7.27	12.7	-2.28	.03
CSR	- .30	1.3	.82	.9	-2.29	.03

^aNo other subtest scores show statistical significance.

the area of education for the primary age gifted child, it would seem worthwhile to pursue further research investigating the research hypothesis partially supported by this study. In considering replications, an adjustment to a longer time of application for the treatment might be beneficial, and other tests of creativity might be used. Studies involving larger samples and populations would provide a less limited basis for generalizing results. A follow-up study retesting the same groups of subjects who participated in this study to determine longer term effects might also be useful in increasing the body of knowledge in the field.

REFERENCE NOTES

1. Meeker, M. Personal communication, August, 1980.
2. Meeker, M. Personal communication, February, 1981.

REFERENCES

- Arieti, S. Creativity: The magic synthesis. New York: Basic Books, Inc., 1976.
- Baker, D. Functions of folk and fairy tales. Washington, D. C.: Association For Childhood Education International, 1981.
- Baker, P. Integration of abilities: Exercises for creative growth. New Orleans: Anchorage Press, 1977.
- Bettelheim, B. The uses of enchantment: The meaning and importance of fairy tales. New York: Alfred A. Knopf, 1977.
- Bradfer-Blomart, J., & Lam, H. Children and fairy-tales. Psychologica Belgica, 1976, 16(2), 153-170. (Abstract)
- Callahan, S. M., & Renzulli, J. S. The effectiveness of a creativity training program in the language arts. The Gifted Child Quarterly, 1977, 21(4), 538-545.
- Chesterton, G. K. Fairy tales. All things considered. London: Methuen & Co. Ltd., 1908.
- Chukovsky, K. From two to five. (M. Morton, Ed. and trans.) Berkeley and Los Angeles: University of California Press, 1965.
- Colangelo, N., & Zaffran, R. T. Counseling with gifted and talented students. In J. C. Gowan, J. Khatena, & E. P. Torrance (Eds.), Educating the ablest. Itasca, Illinois: F. E. Peacock Publishers, Inc., 1979.
- Cook, E. The ordinary and the fabulous: An introduction to myths, legends, and fairy tales (2nd ed.). Cambridge: Cambridge University Press, 1976.
- Dean, R. S. Effects of self-concept on learning with gifted children. Journal of Educational Research, 1977, 70(6), 315-318.
- Gallagher, J. J. Research needs for education of the gifted. In J. J. Gallagher, J. C. Gowan, A. H. Passow, & E.

- P. Torrance, Issues in gifted education. Ventura, California: Ventura County Superintendent of Schools Office, 1979.
- Gick, M. L. & Holyoak, K. J. Analogical problem solving. Cognitive Psychology, 1980, 12(3), 306-355.
- Gowan, J. C. The development of the creative individual. In J. C. Gowan, J. Khatena, & E. P. Torrance (Eds.), Educating the ablest. Itasca, Illinois: F. E. Peacock Publishers, Inc., 1979.
- Grimm, J. & W. Household stories. (W. Crane, trans.). N. Y.: McGraw-Hill Book Co., 1966.
- Guilford, J. P. An intellectual aftermath of the aviation psychology research program. Education, 1980, 101(1), 2-6.
- Guilford, J. P. Way beyond the iq. Buffalo, New York: Creative Education Foundation, Inc. In association with Creative Synergetic Associates, Ltd. Great Neck, New York, 1977.
- Hicks, C. G. The development of creative thinking and its relationship to iq and reading achievement. Reading World, 1980, 20(1), 44-50.
- Johnson, E., Sickels, E. R., & Sayers, F. C. Anthology of children's literature. Boston: Houghton Mifflin Co., 1970.
- Jung, C. G., & Kerenyi, C. Essays on a science of mythology. New York: Harper and Row Publishers, 1949.
- Keating, D. P. Four faces of creativity: The continuous plight of the intellectually underserved. The Gifted Child Quarterly, 1980, 24(2), 56-61.
- Kubie, L. S. Neurotic distortion of the creative process. The Noonday Press, A Division of Farrar, Straus and Giroux, 1969.
- Lewis, C. S. Of other worlds. New York: Harcourt Brace, Jovanovich, 1975.
- Lunz, M. E., & Walker, V. Symbols, fairy tales, and school-age children. The Elementary School Journal, 1976, Nov., pp. 94-100.

- Maslow, A. H. The farther reaches of human nature. New York: Viking Press, 1971.
- McGinn, P. V., Viernstein, M. C. & Hogan, R. Fostering the intellectual development of verbally gifted adolescents. Journal of Educational Psychology, 1980, 72(4), 494-498.
- Meeker, M. N. The structure of intellect: Its interpretation and uses. Columbus, Ohio: Charles E. Merrill Publishing Co., 1969.
- Meeker, M. & Maxwell, J. Divergent production: Teaching creative problem solving. El Segundo, California: SOI Institute, 1976.
- Meeker, M., & Meeker, R. SOI learning abilities test. El Segundo, California: SOI Institute, 1979.
- Nash, W. R. The effects of a school for the gifted in averting the fourth-grade slump in creativity. The Gifted Child Quarterly, 1974, 18(3), 168-170.
- Opie, I., & Opie, P. The classic fairy tales. London, New York, Toronto: Oxford University Press, 1974.
- Ornstein, R. E. The psychology of consciousness. New York: Viking Press, 1972.
- Rothenberg, A. & Hausman, C. R. (Eds.) The creativity question. Durham, N. C.: Duke University Press, 1976.
- Rugoff, M. (Ed.). A harvest of world folk tales. N. Y.: The Viking Press, 1949.
- SOI-LA basic test: technical data. El Segundo, CA: SOI Institute, 1980.
- Taylor, I. A. Definitions from psychoanalytic systems. In J. A. Getzels & I. A. Taylor (Eds.), Perspectives in creativity. Chicago: Aldine Publishing Company, 1975.
- Tolkien, J. R. R. Tree and leaf. Boston: Houghton Mifflin Company, 1965.
- Torrance, E. P. Creativity and futurism in education: retocling. Education, 1980, 100(4), 298-310.
- Torrance, E. P. Creativity in the classroom: What research says to the teacher. Washington, D. C.: National Education Association, 1977.

Torrance, E. P. Understanding the fourth-grade slump in creative thinking. U. S. Department of Health, Education and Welfare, Office of Education, Bureau of Research, 1967. (ERIC Document Reproduction Service No. ED 018273).

Williams, F. E. Rediscovering the fourth-grade slump in a study of children's self-concept. Journal of Creative Behavior, 1976, 10(1), 15-28.