CHOICES MADE BY GIFTED AND NONGIFTED SECOND GRADE STUDENTS WHEN OFFERED BLOOM'S LEVELED ACTIVITIES IN A LEARNING CENTER INSTRUCTIONAL FORMAT

by

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PREFACE

This study is concerned with the choices made by gifted and nongifted second grade students when offered Bloom's leveled activities in a learning center instructional format. The purpose of the study is to determine whether gifted students will choose higher level activities than their nongifted peers, and whether their choices are influenced by their level of self-concept, level of independence, or level of interest in the activities.

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CHAPTER I

INTRODUCTION

Organizing a program that will deliver educational services to gifted learners is one of the most complex, often researched, and least clarified areas of gifted education (Clark, 1983). Programs for the gifted in schools today are as varied as the students identified to participate in them. Regardless of the administrative organizational structure used to serve the gifted, the primary goal of the gifted program is to provide opportunities for gifted learners in the areas of content, process and product (Maker, 1982a). Programs for the gifted do not begin with different curricula or different structures for learning, but with the different needs of each gifted learner. The gifted program is different from the regular classroom program only because the gifted learner's needs are different (Clark, 1983).

There is relatively consistent agreement regarding the need for early identification and educational programming for the gifted child. The preschool and primary years represent a very critical time period both in cognitive and psychological development.

Environmental influences play a substantial role in determining the degree to which development of potential will be maximized. Despite this recognized importance of early identification, there are relatively few programs for the gifted in this age group (Hollinger & Kosek, 1985).

Childhood, considered to be ages five through eleven, overlaps Piaget's stages of preoperational and concrete operations (Piaget & Inhelder, 1969). The major emphasis for most children during this period in Western society, is the acquisition of academic skills. For the gifted child physiological changes tend to come somewhat earlier, but it is within the cognitive domain and the affective domain that they leap ahead even more noticeably. In a stimulating atmosphere, they are capable of very rapid development in these domains (Sellin & Birch, 1981). It is for this reason, that it is likely for the gifted child to reach Piaget's (Piaget & Inhelder, 1969) stage of formal operations within this childhood time span.

When considering the programming for the gifted primary child it is necessary to consider not only the characteristics of the gifted child, but also to consider the developmental characteristics of this age child. The curriculum for gifted young must play to the ages and stages of growth by always stretching just beyond the normative expectations (Clark, 1983).

Curriculum for gifted primary children should be rich in variety, high in interest, and stimulating in process, thus making allowances for varying attention spans and developmental characteristics. Experiences in the classroom should include activities allowing for self-direction, exposure to abstract concepts, and choice making. Decentralization is appropriate and can be achieved through the use of learning centers, or areas for academic and creative activities. Choice making can be developed and used by children as young as two and gives the child a sense of competency and achievement (Clark, 1983). Even very young children can learn to manage their own choices in learning centers. All of these experiences lead gifted young children toward becoming independent learners (Della-Dora & Blanchard, 1979). Planning for educational experiences with many choices satisfies the needs of the gifted child and also allows for developmental differences and capabilities.

In order to develop potential intellectual abilities within children, teachers must understand and nurture the cognitive, social-emotional, physical and intuitive attributes of their students. A limit to any one function limits all functioning (Maker, 1982a). Therefore, the provision of a psychologically secure environment for gifted primary children is paramount to the furtherance of self-concept, creativity and self direction, as well as, the teaching of higher levels of

thought. The child's perception of the "safety" in taking risks within the classroom and the perception of freedom to choose challenging activities regardless of the possibility of failure is an important variable when studying the success of a program for the gifted. Allowing gifted students the flexibility to choose topics to study, methods to use in the process, and the environments in which to pursue them is an important method for facilitating success with other systems as well as a way to build upon the learning and motivational characteristics of gifted children (Clark, 1983).

This emphasis in gifted education upon a psychologically secure environment is characteristic of the cognitive field philosophy of education. Within this philosophy, the instructional environment is child-centered and highly individualized, allowing for varied student interests and abilities. This is contrasted with the behavioristic philosophy which is teacher-centered and which provides an accelerated program of instruction. In further contrast is the humanism philosophy which provides basically a program of enrichment.

Process or methodology, is the way educators teach and present materials to children. Of all the curricular modifications suggested for programs for gifted students, process has received the most

emphasis. One of the most frequently discussed modifications is a change of emphasis from the so-called lower levels of thinking such as memory or recall to the so-called higher levels such as analysis, synthesis and evaluation (Maker, 1982b). This modification involves an increasing emphasis on use rather than acquisition of knowledge and on progressively more difficult mental activities. Many classification systems exist for analyzing levels of thought or learning. Some of these strategies are: Bruner's (1960) The Basic Structure of Discipline; Parnes' (1966) Creative Problem Solving Model; Guilford's (1967) Structure of Intellect; William's (1972) Teaching Strategies for Thinking and Feeling; and Hilda Taba's (1966) Teaching Strategies.

The most commonly used is the Taxonomy of Educational Objectives (Bloom, 1956) which describes six levels of thinking in a hierarchical taxonomy. This taxonomy classifies thought process into Knowledge or Recall, Comprehension, Application, Analysis, Synthesis, and Evaluation. Gifted children have a vast store of information that needs to be related to higher level ideas. They have rapid insights into causes and effects, can easily discern likenesses and differences and enjoy organizing and structuring. These characteristics, along with their ability to structure their own inquiry, contribute to the need for modifying curriculum for gifted to include strategies for the

development of higher level thinking skills.

Statement of the Problem

Gifted children, the leaders in Gifted Education say, are likely to seek high level, challenging learning activities if they are allowed to choose the kinds of activities with which they are to be involved. Little literature is available to support this belief, especially at the primary level. If this is, in fact true, then it has implications for what kinds of activities to offer to gifted primary children.

This study, therefore, will examine learning activities using the four stable hierarchical levels of Bloom's Taxonomy (Seddon, 1978): Comprehension, Application, Analysis, and Synthesis, and what choices children make. High level activities are defined as Application, Analysis, and Synthesis. Students, gifted and nongifted, at the second grade level, will be presented with ten learning centers organized around Bloom's levels. They will be allowed to choose activities to complete from the centers. One Bloom's center will be offered per week for ten weeks.

To eliminate the possibility that some students will fail to choose high level activities because of psychological variables, the children will complete a self-concept inventory to determine their level of self-concept, and a measure of independence to determine

their ability to make choices in their learning. Additionally, each child will complete an interest inventory before choosing an activity in the center. These variables will be used as covariates with both the gifted and nongifted groups. The student's mental age will be correlated to the number of high level activities chosen.

Statement of Hypotheses

HO_1: In a study where gifted and nongifted second grade students are given a choice of Bloom's Taxonomy leveled activities in a learning center setting, there will be no difference in the number of higher level choices between the two groups of students.

HO_2: The correlation between mental age and number of high level activities chosen will not be significantly different from 0.

HO_3: There will be no difference between the groups in terms of self-concept and independence.

HO_4: When interest in the Bloom's topics is covaried out there will be no difference in the number of high level choices between the two groups of students.

Definition of Terms

1. Learning Center: Selected space in the classroom where students may go to work independently on

Bloom's leveled activities.

2. Bloom's Leveled Activities: A group of four activities designed according to Bloom's Taxonomy levels: Comprehension, Application, Analysis, Synthesis, around a common topic or theme (Bloom, 1956).

3. Identified Gifted Children: Children who have scored at or above the 97%ile on the Otis-Lennon School Abilities Test or the WISC-R.

4. Self-concept Variable: Measure of self-concept on each of four subtests of the Self Observation Scales, Primary Level (Stenner & Katzenmeyer, 1974).

5. Independence Variable: Independence level as measured by the independence subtest of the Group Inventory for Finding Creative Talent (Rimm, 1980).

6. Interest Variable: Child reported interest level to be indicated on an interest inventory prior to participation in each of the ten learning center activities.

Limitations

1. The total number of subjects involved in the study is sixty-three.

2. The study involves three classroom settings with three different teachers. Verbal presentation of the centers may not be exactly the same.

Assumptions

1. All students involved were willing to make choices in all ten learning centers.

2. The method of verbal presentation for each center was the same for all three classes.

3. The self-concept inventory and the measure of independence measured these areas adequately.

4. Adequate time was alotted in all three classrooms for the completion of activities of choice.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The identification of superior human abilities, whether artistic, athletic or academic is a strong tradition in all world civilizations. The increasing complexity of life and the heightened awareness of human interdependency bring sharply into focus the imperative that the most valuable of all material resources, the potential of children and youth, must now command attention as never before (Sellin & Birch, 1981). For decades information has been amassed which depicted clearly the extent to which the gifted are retarded in light of their respective capacities. No condition is more clearly recognized by those conversant with the field of gifted (Newland, 1976). At no other time in history has there been such an effort to ensure that the most able young people have real opportunities to fulfill themselves and to contribute to society. Teachers who are responsible for instructing and counseling gifted and talented young people need an unusually thorough understanding of their cognitive

development, abilities, preferences for learning styles, interests, and psychological needs. Educators must be capable of designing settings for education that are flexible enough to meet the individual differences of their students (Glaser, 1977).

At the primary level in elementary school, education is usually more child centered and individualized than at the middle school and high school levels. This is primarily due to the wide range of physical and cognitive development in this age child. The teacher of the gifted primary child must be aware that these children progress more rapidly through their developmental stages (Sellin & Birch, 1981).

Programming for gifted primary children must provide curricular modifications which will satisfy their very different cognitive characteristics in an educational setting which is compatible with their instructional preferences (Clark, 1983). This programming must allow for self-direction, a wide range of interests and the promotion of a strong self-concept.

The present study is an investigation to determine whether or not gifted children when given a choice of learning center activities leveled according to the Bloom's Taxonomy (Bloom, 1956) hierarchy of thinking skills, will choose higher level activities than their nongifted peers. The study led to a review of the literature to determine the cognitive development of the

young child as it relates to the appropriate level of academic complexity, classification systems analyzing levels of thought, the importance of self-directed learning and choice making for gifted, instructional preferences, learning centers as an instructional tool and self-concept as it relates to academic success.

Cognitive Development of the Young As It Relates to Academic Complexity

There is general agreement among gifted educators about the importance of early identification and programming for the gifted child (Hollinger & Kosek, 1985). Failure to identify and properly serve the gifted young can have serious results. Gifted children, by nature, are highly inquisitive beings who normally should become "high achievers" as a result of their curiosity, experimentation, discoveries, use of information, perception of relationships, and memory. Gifted young children are made into underachievers as a result of external conditions; a dull, meager curriculum that destroys motivation to achieve in school; inappropriate teaching strategies that are incompatible with their learning styles; or the lack of adult assistance to the child in need of learning how to handle socioemotional conflict, to gain self-control, and to set realistic self-expectations (Whitmore, 1980). It is with this understanding that early

childhood educators urgently contend that young gifted children must be appropriately served early in their educational setting. The boredom that results from discrepancies between the child's knowledge and the school's offerings leads to underachievement and behavior disorders affecting self and others. Early identification enables schools to prevent rather than to attempt to cure underachievement (Whitmore, 1980).

In addition to the implications that early gifted education has on the deterence of underachievement, there is the equally important consideration that early gifted education has a positive affect on learning rates. The evidence that learning rates can be altered by appropriate educational and environmental conditions suggests that very favorable learning conditions provided in the early years can markedly influence learning rate (Clark, 1983).

In two important studies (Bloom, 1982; Pines, 1982), individuals who had attained "world class" status in a variety of fields were interviewed. They were questioned about the conditions and determinents of their successes. It was found that their innate gifts and talents could not have been actualized without extremely supporting teaching circumstances throughout their lives. Giftedness arises from an interactive process that involves challenges from the environment and innate capabilities. Gifted children either

progress or regress; stability is not possible. Just to retain giftedness, not to mention furthering the potential, gifted children must participate in programs appropriate to their level of development (Clark, 1983).

In an effort to determine what level of academic complexity is appropriate for the young child, an examination of the literature of the work of Jean Piaget and Jerome Bruner is helpful. The Swiss psychologist, Jean Piaget, was among the first to investigate intellectual development during the early years of human life. His central theme was that intelligence emerges through four successive stages: (1) sensory-motor, (2) pre-operational, (3) concrete, and (4) formal operations (Piaget & Inhelder, 1969). Each stage is characterized by different and higher level operations. In gifted and talented children these stages appear at earlier ages (Sellin & Birch, 1981). According to Piaget's principle of invariant sequence, these stages do not always appear at the same ages, but always in the same sequence. Thus, the importance of individualization is reinforced by the Piagetian insistance on matching instruction to the child' stage of development (Maker, 1982b). The readiness principle endorses the practice of timing the educational tasks to the individual rather than the group. Piaget also proposed the principle of imperfect understanding which respects the logic of children. This principle justifies the emphasis in gifted

education on the quality of response as well as the accuracy: a respect for how a child responds rather than on the response itself. Finally, the work of Piaget confirms the close association between affective and cognitive operations in his principle of integration.

The underlying theme of Jerome Bruner's The Basic Structure of Discipline (Bruner, 1960) is that the aim in education should be to teach the basic structure of academic disciplines in a way that the structure can be understood by children. Bruner (1960) states ". . . any subject can be taught effectively in some intellectually honest form to any child at any stage of development." Bruner is implying in this statement that he is in agreement with Piaget and other developmentalists that at certain stages of development children have a characteristic way of viewing and explaining the world (Maker, 1982b). While Bruner, like Piaget, has developed a theory of intellectual development in children in which he maintains that each child passes through stages that are age-related and biologically determined, he differs from Piaget in his attitude toward the child's readiness for learnig (Victor, 1980). Although Piaget recognizes the role of environment in the learning process, he does not encourage manipulation of the environment. He suggests the normal course of development be allowed to occur.

Bruner, however, suggests that children be "tempted" into the next stages of development by presenting them with challenging and useable opportunities to move ahead (Maker, 1982b).

The work of Piaget and Bruner form much of the foundation for the programming for early gifted education as well as the verification of its importance. It is appropriate for the curriculum of young gifted children to include activities rich in variety, stimulating in content and process, and high in interest to allow for the varying intellectual stages of development.

Classification Systems for Analyzing Levels of Thought

The special educational needs of gifted children result from characteristics which differentiate them from typical learners. Clark, (1983) outlines some differential cognitive characteristics of the gifted which include: advanced comprehension, accelerated level of thought processes, unusually varied interests and curiosity, extraordinary quantity of information and unusual capacity for processing information. Each of these characteristics relates to educational needs that must be addressed in terms of modifications in classroom organization and methodology. One of the most frequently discussed modifications is a change of

emphasis from lower levels of thinking such as memory or recall to higher levels such as analysis, synthesis and evaluation (Maker, 1982a). A review of the literature reveals many classification systems for analyzing levels of thought.

J. P. Guilford (1959, 1967) a psychologist and theorist, developed a theory of the structure of human intelligence. Using factor analytic statistical techniques, he attempted to identify basic abilities that are a part of human intelligence. His Structure of the Intellect Model (SI) (Guilford, 1959, 1967) describes human intelligence in three dimensions: an operation is performed on a particular kind of content resulting in a certain type of product (Maker, 1982b). He discusses four types of thought: figural, semantic, symbolic, and behavioral. Within the SI Model are five types of thinking processes or operations: cognition, memory, convergent production, divergent production, and evaluation (Davis, 1983). Guilford's model has had a great influence on gifted education in areas of philosophy, identification, testing, curriculum, and teaching strategies. Perhaps its most important influence has been in the expansion of the concept or definition of giftedness (Maker, 1982b). Guilford's model has had a great influence on other theorists. Parnes, Taylor and Williams were all stimulated by Guilford's theory (Maker, 1982b).

Williams (1972) developed a model for enhancing the cognitive and affective processes involved in creativity and productivity through three dimensions: the curriculum, student behaviors and teaching strategies. Within his model Williams (1972) sites the thinking processes of fluency, flexibility, originality, and elaboration along with the feeling processes of curiosity, risk taking, complexity, and imagination. There is no hierarchy within William's strategies. Rather his model depicts the components as interrelated parts of a whole. William's model does not provide a comprehensive program for curriculum development with gifted students, but rather provides a structure for curriculum planning, instruction and teacher training in any subject area to produce student behavior that is more creative (Maker, 1982b).

The Parnes Creative Problem Solving Model (Parnes, 1966) provides a structured method for approaching problems in an imaginative way. Its emphasis is on the generation of a variety of alternatives before selecting or implementing a solution. The model depicts movement through five sequential steps: fact finding, problem finding, idea finding, solution finding, and acceptance finding. There are two specific purposes for this model, (1) to provide a sequential process that will enable an individual to work from a problem to arrive at a creative, innovative or effective solution, and (2)

to enhance the person's overall creative behavior. Parnes (1966) believes that creativity is a behavior that can be learned and that practice will strengthen creativity. Practice in creative problem solving will then transfer to enhanced creativity in all facets of life. Parnes implies, though does not actually state, that individuals who are intellectually gifted have the potential to be more creative than those who are of average or below average intelligence. In addition, it would seem that it follows that educators should use methods such as Creative Problem Solving more frequently and earlier because of the greater potential of gifted students to benefit from its use (Maker, 1982b).

The Hilda Taba Teaching Strategies (Taba, 1964, 1966) are structured, generic methods in which the teacher leads students through a series of sequential intellectual tasks by asking them open-ended but focused questions. The Taba program contains four strategies: concept development, interpretation of data, application of generalizations and resolution of conflict. While these strategies are not designed to be hierarchical, they can be used sequentially since they build on each other. The questioning techniques within each strategy are, however, sequential. Taba Strategies rely heavily on Piaget's (Piaget & Inhelder, 1969) developmental theory; sequence of development, major stages, and importance of interaction with the environment. Her

major disagreement with his theory lies in her belief that thinking skills can be taught and that through the use of precise teaching strategies the environment can be arranged to ensure maximum cognitive growth (Maker, 1982b).

Although Bruner's The Basic Structure of Discipline (Bruner, 1960) as it relates to cognitive development has been previously discussed in this literature review, it is appropriate to include it in a discussion of classification systems for analyzing levels of thought or learning. Bruner's teaching learning model is not a framework but a way of approaching the development of a framework for teaching various disciplines. The underlying theme to Bruner's approach is that the aim of education is to teach the basic structures of academic disciplines to children. Bruner contends that there are three aspects of the learning episode: acquisition of knowledge, transformation of knowledge to make it fit new tasks and evaluation. In each learning episode all three aspects are present. Within Bruner's definition of teaching the basic structure of a discipline are recommended content modifications: abstractness, complexity, economy, organization, and teaching methods of inquiry. Bruner's ideas include three process modifications: higher levels of thinking, discovery, and open-endedness. Based on research, the basic structure approach, combined with teaching methods

emphasizing inquiry and discovery can be highly successful with gifted students (Maker, 1982b).

The most commonly used classification system for analyzing levels of thought and developing higher levels of thinking for gifted students is the Taxonomy of Educational Objectives (Bloom, 1956). The taxonomy classifies thought process into six hierarchical levels of thinking: Knowledge or Recall, Comprehension, Application, Analysis, Synthesis, and Evaluation. When Bloom composed his Cognivite Taxonomy (Bloom, 1956) his intent was to provide a set of criteria that could be used to classify educational objectives according to the level of thinking required. They are generic in that they can be used in any subject area and at any level of instruction from kindergarten through graduate school (Maker, 1982b). Bloom (1956) did not make statements directly related to the use of his taxonomy with gifted children. Most programs for the gifted, if not based entirely on his model, at least use it in some way (Maker, 1982b). Because gifted students possess the ability to work with abstract concepts, and diverse and integrative thought patterns, they need to be familiar with conceptual frameworks such as Bloom's (Clark, 1983). The basic assumption of the developer of the taxonomy is that the levels of thinking are hierarchical. Each higher level depends on the level preceding it. Educators must be certain that students

are able to perform behaviors at the low levels before expecting them to succeed at the higher levels.

There is some research which questions the basic assumption that, in fact, the taxonomy represents a cumulative hierarchy of thought. Kropp and Stoker (1966) carried out an experiment with students from grades 9-12 in ten Florida secondary schools to test the validity of the hierarchy. Using a simplex analysis applied to test scores from subtests corresponding to Bloom's different categories, they concluded that Knowledge, Comprehension, Application, and Analysis were consistently placed in hierarchical order but that Synthesis and Evaluation were consistently misplaced. Using a causal model approach to analyze the data of Kropp and Stoker (1966), Madaus, Woods, and Nuttall (1973) found a direct relationship between Analysis and Synthesis and they suggested that the taxonomy had a Y-shaped structure in which the stem of the Y was formed from Knowledge, Comprehension, and Application, and then subsequently divided into one branch of Analysis and another branch from Synthesis to Evaluation.

Seddon (1978) reviewed a number of investigations into the validity of the hierarchy and concluded that the strongest supportive evidence concerns the cumulative hierarchical relationship between the categories Knowledge, Comprehension, Application, and Analysis. However, he states that the evidence is by no

means conclusive.

Smith (1968) applied hierarchical syndrome analysis to the correlation matrices of Kropp and Stoker (1966) with results that placed the Knowledge category in a different position. The Guttman-Lingoes smallest space analysis (Guttman, 1968; Lingoes, 1965) concluded that Knowledge was misplaced in the hierarchy. Stedman (1973) also working with high school students found no significant difference between Knowledge and Comprehension or Application and Analysis. He did, however, find a significant difference between Comprehension and Application. Clark (1983) views the taxonomy as cyclic with the highest level, Evaluation, seen as producing new information that becomes Knowledge and then moves through the entire process. The concensus of most of the research is that the four stable areas of the hierarchy are Comprehension, Application, Analysis, and Synthesis.

The review of the literature revealed no research conducted at the primary level regarding the use of Bloom's Taxonomy (Bloom, 1956) as presented in this study. Maker (1982b) states that one of the most important considerations about the use of Bloom's Taxonomy is the lack of research on effectiveness with children, particularly the gifted, and the limited scope in providing a structure for curricular modifications for the gifted.

Self-Directed Learning

Much has been written about the importance of self-directed learning in the curriculum for the gifted. The development of self-directedness or independent learning skills in gifted students is important for enabling them to continue their learning without constant supervision or assistance from an adult. Self-directed learning refers to a way of organizing learning experiences so that students have an opportunity to learn how to choose what is learned, how it is to be learned, when it is to be learned and how to evaluate their own progress. Students should be active participants, discovering for themselves those things they are ready to discover at a particular phase of their own personal development (Knowles, 1970). Students need to learn all this in a setting which provides for the active assistance and cooperation of teachers and of their peers. Independent study or completely self-directed learning is highly successful with gifted students (Renzulli & Gable, 1976). The outcome of independent study should be a self-directed learner who can investigate real problems. Too often teachers expect gifted students to be self-directed from the start. Many times these students do possess the curiosity, interest and motivation to pursue a study of their own choosing; but too often they lack the skills necessary to search for

primary sources, use methods of inquiry, collect and organize data, analyze and evaluate data and form conclusions (Clark, 1983).

Gifted children are more independent than other children, but not all gifted children are independent learners (Maker, 1982a). Della-Dora and Blanchard (1979) believe that young people are capable of beginning to learn to participate in significant ways in educational decision making in the elementary school. They describe levels of choices in self-direction dividing this process into four areas: (1) deciding what is to be learned, (2) selecting the method and materials, (3) communicating with others about the subject, and (4) evaluating achievement of goals.

Treffinger (1975) has developed a model which provides the structure needed to develop gradually in students the skills necessary to become self-directed learners. His model was not designed to be used solely with gifted students. However, since self-direction is a goal of many gifted programs and since independence is a characteristic of many gifted students, it is appropriate for use in programs for the gifted. Treffinger's model includes four steps; (1) identification of goals and objectives; (2) assessment of entering behavior, (3) identification and implementation of instructional procedures, and (4) assessment of performance. Within each of these areas

four degrees of self-direction can be provided. A comparison of Treffinger's (1975) and Della-Dora and Blanchard's (1979) systems reveals that Treffinger's suggests a higher level of freedom. In the highest level of Della-Dora and Blanchard's (1979) system, the teacher continues to impose some restrictions on the students. In Treffinger's (1975) model at the highest level the students are encouraged to be completely responsible for their own learning. They may request help from a teacher but help is not offered unless solicited by the student.

Barton (1976) conducted a study to test the validity of Treffinger's (1975) Self-Directed Learning Model. Barton found that elementary students and their teachers in heterogeneous classrooms were able to move from a command style to one in which they had responsibility for most of their own learning. All students, not just the gifted, increased in self-direction and independence.

Doherty and Evans (1981) suggest a three part process for using independent study. Phase 1 utilizes learning centers and is teacher led. Phase 2 is independent study and is a nine step process which contains locating and using data, producing new ideas and developing a product that is examined by experts. Phase 3 is a culminating seminar.

Each of the aforementioned models is a system

designed to equip students with skills to make them self-directed learners within a framework of increasing freedoms. Even though gifted students do possess many of the attributes necessary for success in self-direction, they can not be given complete freedom without preparation.

Allowing gifted students the flexibility to choose topics to study, methods to use in the process, and the environments in which to pursue them is an important way to build upon their learning and motivational characteristics. Choice making can be developed and used by children as young as two and gives the child a sense of competency and achievement (Clark, 1983). Even very young children can learn to manage their own choices in learning centers. These experiences lead gifted young children toward becoming independent learners (Della-Dora & Blanchard, 1979). Studies have shown that when students are actively involved in the learning process and allowed to generate their own ideas and goals, academic gains follow (Penick & Yager, 1985).

In synthesizing the research on adaptive education, Warman, Wang, Anderson, and Walberg, (1985) concluded that effective education must be based on the assessed capabilities of students. The materials and procedure must be suited to the interests and abilities of each student. Students must be given choices and be allowed to share in the planning and pursuing of their

individual learning activities. Students should be allowed choices concerning educational goals, activities and outcomes.

Dunn and Dunn (1975) in their step-by-step approach to individualizing a classroom state in their first step that in order to give students opportunities to build the skills needed for participation in individualized learning that they must be allowed to make choices. In siting components of appropriately designed, differentiated curriculum, Clark & Kaplan (1981) state that the curriculum should allow for the expression of some aspect of the individual's interest, needs, abilities, and learning preferences. The curriculum, they state should be organized to allow for some individualization and self-selection.

During the past few years a number of researchers have found that it is not just the choice or control that is allowed children that makes the difference, but their perception of that choice (Clark, 1983). Giving children possibilities for choices within the program is not enough. They must perceive that they have a choice and that it is acceptable. Researchers, in projects throughout the country, have found that choice and the resulting perception of control are motivational variables that significantly affect children's academic achievement as well as their self-concept (Arlin & Whitley, 1978; Barnett & Kaiser, 1978; Calsyn, 1973;

Matheny & Edwards, 1974; Stipek & Weisz, 1981; Thomas, 1980; Wang & Stiles, 1976).

One of the attributes of gifted learners is their early development of an internal locus of control (Clark, 1983). When a child makes a choice based on the child's own interest, the locus of control is within the child. The child experiences great pleasure in this instance. However, if a reward is given for making a choice, the locus of control becomes external. Gifted children are found to have more inner locus of control at a younger age than average learners. When planning learning experiences for the gifted it is important to note this difference. Success in later life is in direct correlation to how much inner locus of control the individual has developed. The perception of responsibility for and control over one's life is the single most important condition for success, achievement, and a sense of well being (Allen, Giat & Cherney, 1974; Dweck & Goetz, 1978; Morrison & McIntyre, 1971; Phares, 1975).

Instructional Preferences of Gifted

Research on instructional preferences indicates that the gifted do prefer a greater degree of independence. Dunn and Price (1980) report that gifted students show a desire for less structure in their learning environment than do their nongifted peers.

Further, they indicate they are less teacher-motivated than the nongifted. Stewart (1980) finds that gifted students rank independent study higher than do their average peers, and research with the California Psychological Inventory (CPI) shows the gifted to prefer "achievement via independence" over "achievement via conformity" (Gough, 1957; Gallagher, 1966). Connolly (1976) reports that independent study is included in the top three instructional modes in gifted students' rankings of methods according to both their learning importance and their enjoyment. Stewart (1981) conducted a study which supports the use of independent study for gifted learners. His study reports that when compared to learning styles of more average students, there was a preference among the gifted students for instructional methods emphasizing independence, i.e. independent study and discussion. The general population within the study preferred more structured methods, i.e. lecture and projects. Gifted students need an environment that is flexible enough to allow high mobility: a great deal of movement in and out of the classroom; differing grouping arrangements within and outside the classroom; access to a variety of learning environments, materials, references, and equipment (Renzulli, 1977). Studies show gifted students tend to prefer complexity in their learning environments. They become bored with routine activities

and drill (Ward, 1962). In studies showing preferences of creative individuals, it was found that they also preferred complexity to simplicity. MacKinnon (1962) reviews a series of studies that showed a marked preference in creative individuals for complexity. Generally, MacKinnon (1962) found the more creative the individual the stronger the preference.

Learning Centers as an Instructional Tool

Learning centers are an ideal instructional tool to satisfy the preferences of the gifted for independent study as well as to accommodate individual differences and the varying interests of gifted learners. The choice of instructional materials used in the classroom strongly influences the education that takes place. Research shows that 75-99% of the instruction that occurs in a classroom revolves around instructional materials (Mercer & Mercer, 1985). The majority of school related problems are a result of the failure of the curriculum and educational structure to meet the individual needs of the students (Gickling & Thompson, 1985). By using the learning center format, teachers can overcome the problem of complex directions, boring content, confusing format and long, tedious assignments (Mercer & Mercer, 1985).

Learning centers can serve many purposes. They can be set up as learning stations, as assessment centers,

game areas, media centers or as interest centers. They can be teacher created, student created or joint venture. They allow for high-mobility which is so important for the gifted child (Renzulli, 1977). Learning centers may have a specific purpose or may be simply for exploration or discovery (Clark, 1983). Schultz and Turnbull (1984) found in most cases learning centers emphasize materials designed to help students acquire new skills, retain previous learning or to transfer what has already been learned to a new and different situation.

Learning centers can be located anywhere in the classroom by using tables, desks, walls, doors, drawers, the floor or whatever is available. The material within the centers can be presented in a variety of methods which include boxes, folders and bulletin boards (Morsink, 1984). Whatever the method used to present material, the centers should be neat and attractive. The more pleasant, comfortable and appealing the centers are the more students become involved in their work (Mercer & Mercer, 1985). Learning centers are generally arranged in such a manner that allows the students to work on an instructional topic without direct instruction from the teacher.

Pflum and Waterman (1974) conclude that each learning center, regardless of its purpose must have the following components: directions, simple and clearly

stated; purpose, clearly stated purpose and clearly stated expectations; content, purpose of the center in terms of its content; activities, a variety of ways children let the teacher know what they have learned. Some centers do not require any evaluation other than the child's reaction to having been there.

Voight (1971) suggests a criteria for teachers to follow when establishing learning centers. The achievement of the students involved in their use should be enhanced by incorporating basic skills, facts and concepts while at the same time encouraging the student to pursue larger ideas. Secondly, a center should deal with a singular area of study. The materials should be open-ended and interesting and should include opportunities for the student to develop problem-solving, creative and critical thinking skills. Third, the activities included in the center should relate to the student's past learning experiences. Fourth, the teacher needs to set practical time limits so the student can complete the task. Fifth, the directions should include a brief overview and be written in such a manner that the student understands where to begin and knows when the task is completed successfully. Finally, the design of the center depends on the students involved. Piechowiak and Cook (1976) found that the majority of centers fall into four basic categories: Basic Skills, Listening, Discovery, and Exploration, and

Creative.

Bloom's Taxonomy (Bloom, 1956) has been incorporated into learning centers because it is reasonably simple to use and applicable to all content areas and all levels of students (Maker, 1982a). Self-contained units which are written using behavioral objectives based on the various levels of Bloom's Taxonomy (1956) are usually self-instructional in nature and generally include some type of pre and post assessment (Bennett, 1986; Musgrave, 1975). The taxonomy serves three basic functions: it serves as a direction for teaching and material development, provides guidance for the evaluation process and facilitates learning on the part of the student (Jenkins & Neisworth, 1973). Bloom's Taxonomy (Bloom, 1956) is recognized as one of the most frequently used models for the development of higher level thinking skills in gifted learners (Maker, 1982b). The research also indicates that by using Bloom's Taxonomy (Bloom, 1956) in material development, the general structure of the content is improved, there is better organization of time and learning experiences and, finally, the taxonomy based materials provide immediate feedback and task reinforcement (Jenkins & Neisworth, 1973).

Learning centers have been found to be a valuable instructional tool for gifted students. They enable students to work independently, to make choices, and to

work at their own rate without the pressures associated with daily regimented schedules. Learning centers are as diverse as the curriculum and as simple or elaborate as appropriate to the needs of the individual teachers and students (Anderson & Miller, 1983; Mercer & Mercer, 1985; Wood, 1984).

Self-Concept

The literature review reveals important research regarding the implications that the level of self-concept within the child has upon academic success. Self-concept can be defined as one's opinion about one's own ability and one's worth as an individual. Researchers have found that the view of self determines achievement and enhances or limits the development of a person's potential (Sellin & Birch, 1981).

Psychologist Abraham Maslow was one of the first to look at the healthy emotional development of human beings. Maslow (1971) believed that "well" individuals could become even healthier and labeled the pursuit toward developing one's potential; self-actualization. He outlined identifying characteristics that could indicate a high level of development in the social-emotional domain. Many of these characteristics can be identified in gifted children.

Research has shown that self-concept is susceptible to the environment. Individualized attention creates

the self-confidence needed to pursue complex tasks and to produce unique, personalized results (Sellin & Birch,1981). Milgrim and Norman (1976) studied elementary school gifted and talented children and compared the correlation of measures of self-concept, creativity, and intelligence. They found no significance between self-concept and measured intelligence, but they reported a significant relationship between high measured creativity and high positive self-concept.

Sisk (1972) conducted an investigation with mentally advanced learners who were identified by teachers as noncreative. These learners exhibited low self-concept characteristics. They were withdrawn, shy, unmotivated, and preferred external direction. After ten weeks of instruction in an environment which was highly individualized and designed to promote freedom, 75% of the students showed significant improvement in school performance. Purkey (1970) stated that for generations wise teachers have sensed the significant and positive relationship between a student's concept of himself and his performance in school.

The highly sensitive gifted child is able to assess more adequately than his average peers threats to his "self" in situations or persons within his classroom (Feldhusen & Klausmeier, 1962). The reward-punishment-competition model used by so many educators to elicit

student motivation toward school-related tasks, forces children to spend a great deal of energy ensuring their own psychological safety (Clark, 1983). Self-concept is enhanced by providing a psychologically secure classroom environment in which each child is valued, encouraged to pursue individual interests, allowed the freedom to pursue those interests, and encouraged to choose challenging activities with no fear of making mistakes.

The literature review reveals researchers who contend that self-concept is a multidimensional construct. Rogers (1951) defines self-concept as composed of such elements as the perceptions of one's characteristics and abilities, the perceptions of the self in relation to others and to the environment, the value qualities perceived as associated with experiences and objects, and goals and ideals which are perceived as having positive or negative implications. Stenner and Katzenmeyer (1979) argue that self-concept is a multidimensional construct and that failure to accept this viewpoint has been a leading obstacle to self-concept measurement. Further, Wylie (1974) states that the measurement of self-concept as a unidimensional construct is ineffective in light of its multidimensional nature.

CHAPTER III

METHODOLOGY AND DESIGN

Introduction

The purpose of this chapter is to describe the research methodology employed in the present study. Description of the subjects, instruments used for the collection of data, the research design and variables, the procedures followed, and the statistical analysis of the data are presented.

Subjects

The subjects for this study were second grade students enrolled at one of three elementary school campuses which are a part of a large, suburban school district south of the city of Tulsa, Oklahoma. The population of the district is predominantly Caucasian, with 7% minorities. The majority of the population is middle to upper middle income, with most families working in the greater Tulsa area.

Enrollment in this school district in February, 1988 was 7100 students. Enrollment at the research location campus was 843 students. The total number of

gifted students served district-wide was 773. Sixty-three students participated in the investigation. Thirty-eight students were identified gifted. All second grade gifted students participated. Identification criteria was a score at or above the 97%ile on the Otis-Lennon School Abilities test or the Wechsler Intelligence Scale for Children, Revised. The sixty-three children in the study were assigned to three self-contained second grade classrooms; twenty-five nonidentified children in a nongifted classroom, and nineteen identified gifted children in each of the two remaining classes.

Instrumentation

Group Inventory For Finding Creative Talent

The students' level of independence was measured using the Group Inventory for Finding Creative Talent (GIFT) written by Sylvia Rimm (1980). The GIFT was written for grades K-6. It is presented in a "yes", "no" format.

Criterion related validity was established by correlating inventory scores with outside measures of creativity. The main validity criterion was a composite score consisting of teacher ratings of creativeness and experimentor ratings of short stories and pictures. The three criteria each used a 1 to 5 rating scale so that

scores could be combined and equally weighted before calculating validity correlations with the inventory. On a 1 to 5 scale, "5" was described as "highly creative".

Criterion related validity studies were conducted among a number of socio-economic, ethnic and special learning groups in the United States. Statistically significant correlations were found for rural, urban, and suburban groups: $r=.25$, 143, $p<.01$; for White, Black and Hispanic populations; $r=.28$, .43, $p<.01$; and for gifted and learning disability classes $r=.41$, .54, $p<.05$. Correlations tended to be somewhat higher for older children than for first and second graders.

Test-retest reliability for 30 items common to the pilot and the first edition of GIFT, over a six-month interval, was based on 126 students with attitudes and values usually associated with creativity. These attitudes include independence, curiosity, perseverance, flexibility and breadth of interest. Only the Independence subscale was used for this study. High scorers enjoy aloneness, prefer challenge and are not afraid to be different than their peers. Low scorers prefer being with others to being alone, give up on tasks easily and are not likely to try new activities (Rimm, 1980).

Self Observation Scales, Primary Level, Form A

The students' level of self-concept was measured by the Self Observation Scales (SOS), Primary Form A. The SOS is a direct, self-report, group-administered instrument with empirically determined scales that measure the way children perceive themselves and their relationships to peers, teachers, and school. The respondents answer "yes" or "no" to fifty items and are instructed to respond as they truly feel, not as someone might want them to feel. The Primary Level of the SOS is designed for use at grades K-3. It measures four dimensions of self-concept: Scale I, Self-Acceptance; Scale II, Social Maturity; Scale III, School Affiliation; Scale IV, Self-Security.

The SOS instrument, which is comprised of a Primary and Intermediate Scale, was standardized using 30,000 students in grades K-6. Test-retest reliability coefficients range from .65 to .85 across each subscale with a median value of .78.

Construct validity was established for the SOS by the formulation of two groups of national random samples: one of 6,300 cases and the other of 2,800 cases. Each was administered all four subsections of the SOS: Self-Acceptance Scale, Self-Security Scale, Social Maturity Scale, and School Affiliation Scale. Additionally, four national samples of white males,

black males, white females, black females were administered all four subsections. Similar random samples of Chinese, Spanish bilinquals responding to English and Latinos responding to Spanish version were tested.

Construct validity across all samples in the Self-Acceptance Scale ranged from .79 to .96 with the exception of a coefficient of .45 on the Spanish version of the Self-Acceptance Scale which seemed to be due partly to translation difficulties and partly to a confounding of Self-Acceptance and School Affiliation in the Latin culture. The Social Maturity Scale coefficients ranged from .78 to .98 across the samples with a .50 coefficient in the Chinese sample, which was due to cultural confounding. The Self-Security coefficients ranged from .91 to .97 across all samples. The School Affiliation coefficients ranged from .93 to .99 with the Chinese sample coefficient being the outlier at .75.

Each of the coefficients can be interpreted as a correlation, the square of which represents the percent of structural variance in common between the criterion group (e.g. black males) and the national norm group. Mathematically, these coefficients represent the correlation between factor scores generated from the criterion group factor estimation matrix and national norm factor estimation matrix.

All four subscale scores were used in this study. The items on the subscale Self-Acceptance deal with the child's view of self-importance and general competence. The subscale Social Maturity investigates the child's view of his relationship and interactions with other people (especially peers). Subscale School Affiliation reports the child's level of enjoyment of school and its associated activities. The Self-Security subscale reports the level of anxiety and emotional stability within the child (Stenner & Katzenmeyer, 1974).

Research Design and Variables

Two research designs were chosen for this study. The descriptive research design was chosen because the study relies, to a great degree, on self-reported data. In addition, a correlational research design was chosen in an effort to determine whether, or to what degree, a relationship exists between the variables in this study.

The independent variables in the study were giftedness or nongiftedness, mental age, level of independence, which was measured by the GIFT (Rimm, 1980), and the self-reported level of interest in the learning center activities.

The dependent variables in this study were the choices made by the students in the Bloom's leveled learning centers (Bloom, 1956) and the levels of self-concept on each of the four subscales of the SOS

(Stenner & Katzenmeyer, 1974).

Procedures

Summarized below is the sequence of activities carried out by the investigator to determine the number of high level choices from Bloom's leveled learning centers that would be made by the gifted and nongifted second grade students.

1. Presented the plan for the study and obtained approval and support from the principal and assistant principal and the two teachers whose classes would be participating;

2. Developed the activities for the Bloom's leveled learning centers and had them checked and approved by a professor and several teachers of gifted. Copy in Appendix C;

3. Administered the Self Observation Scales, Primary Level, Form A to all children participating in the study. Copy in Appendix A;

4. Administered the Group Inventory for Finding Creative Talent to all children participating in the study. Copy in Appendix B;

5. Set up Bloom's leveled learning centers in the two second grade gifted classrooms and the nongifted second grade classroom each week for ten weeks. Copy in Appendix C;

6. The three classroom teachers in this study, one

of whom was the researcher, worked very closely together to ensure that all conditions of the study were the same for all three groups. All resources necessary to successfully complete all of the activities were provided by the researcher to the teachers and made available to the children. Care was taken to ensure that each child in the three classrooms visited the Bloom's learning center some time during each week and chose one of the four activities representing each of the four stable levels of Bloom's Taxonomy: Comprehension, Application, Analysis, and Synthesis. Ample time was given to the children to allow them to complete the activities of their choice. The physical layout of the centers was the same in each of the three classrooms;

7. Before beginning work on the chosen activity, each child completed a contract with the teacher which stated the choice made. Copy in Appendix C;

8. Each child completed an interest inventory which conveyed the child's interest level in the topic of the learning center. The interest inventory was not piloted. Copy in Appendix C;

9. Each teacher involved in this study used a system of five learning centers which were changed each week. A schedule was used in which each child visited only one center per day and rotated through all five centers by the end of the week. The Bloom's center was

one of the five centers offered to the children and was fitted into the rotation schedule. Thus, by the end of each week, each child had rotated through the Bloom's center. Other centers in each of the three classrooms were not a part of this study and were unrelated to the Bloom's centers. Only the Bloom's leveled centers were held constant.

10. Instructions for center activities were displayed in the centers using a vocabulary level which would accommodate the lower end of children's reading abilities. Detailed explanations of the center activities were verbally presented by the teachers. No mention was made to the children of the names of the levels of the activities: Comprehension, Application, Analysis, or Synthesis. They were designated: Activity 1, Activity 2, Activity 3, Activity 4;

11. A weekly meeting was held by the three classroom teachers involved in the study, to discuss verbal presentation of the Bloom's center of the week. A written presentation plan was presented to the teachers by the researcher to be used as a guide. Copy in Appendix D.

Data Analysis

Based on the statistical hypotheses, the following methods of data analysis were selected to be used for the study:

HO_1: In a study where gifted and nongifted second grade students are given a choice of Bloom's Taxonomy leveled activities in a learning center setting, there will be no difference in the number of higher level choices between the two groups of students.

The one-way analysis of variance was chosen to analyze the relationship between the gifted and the nongifted groups and the number of high level activities chosen. High level activities are defined as Application, Analysis, and Synthesis. This statistical technique was chosen because the dependent variable, choices made, is quantitative in nature and is interval level, in that a value was assigned to each choice: Comprehension, 1; Application, 2; Analysis, 3; and Synthesis, 4. In addition, the independent variable, giftedness and nongiftedness, is between subjects.

HO_2: The correlation between mental age and number of high level activities chosen will not be significantly different from 0.

The correlation between the mental age and the number of high level activities chosen was determined using the Spearman Rank Order Correlation because these variables provide ordinal data. A significant r indicates that a correlation does exist between two sets of scores that is not just due to chance.

HO_3: There will be no difference between the groups in terms of self-concept and independence.

This hypothesis was analyzed by means of five one-way analyses of variance. Each analysis examined one of the variables (Self-Acceptance, Social Maturity, Self-Security, School Affiliation, and level of independence) and determined if there were any differences due to group membership. This statistical technique was chosen because the four subscales for self-concept, and level of independence are independent of each other.

HO_4: When interest in the Bloom's topics is covaried out there will be no difference in the number of high level choices between the two groups of students.

The analysis of covariance was selected to be used with the gifted and nongifted group choices because it allows the investigator to determine if there is a significant difference between the two groups that is due to student interest in the learning center topics. The scores on the self-report interest ratings serve as the covariate. In order to obtain a score for interest, values were assigned to interest inventory responses as follows: A Lot!, 5; Pretty Much, 4; I Can't Decide, 3; A Little, 2; Not At All, 1.

CHAPTER IV

RESULTS OF THE STUDY

The purpose of this study was to investigate the number of high level learning activities chosen by gifted and nongifted second grade students and to what extent these choices were affected by: (1) the student's levels of self-concept, (2) the student's levels of independence, (3) their mental ages, and (4) their interest in the topics of the learning activities.

Testing the Hypotheses

The data obtained from this investigation were used for the primary purpose of testing the null hypotheses presented in Chapter One.

The presentation and analysis of data for this research were reported as they relate to each of the individual hypotheses. Whatever statistical tests were employed to test the hypotheses, it was assumed that differences were not statistically significant unless they were equal to or greater than the .05 level of confidence.

HO_1: In a study where gifted and nongifted second

grade students are given a choice of Bloom's Taxonomy leveled activities in a learning center setting, there will be no difference in the number of higher level choices between the two groups of students.

The one-way analysis of variance was utilized to statistically equate the difference between the mean number of choices of high level activities made by gifted and nongifted second grade students. The mean score reflecting choices for the gifted group was $X=2.57$, while the mean score for the nongifted group was $X=2.30$. The results of the analysis of variance shown in Table I indicated that the F was statistically significant ($F=7.310$, $df=1/61$, $p<.05$). Thus, there was a significant difference between the number of high level choices made by the gifted students and the number made by the nongifted group, with the gifted students choosing a greater number of high level activities. Therefore, null hypothesis one was rejected.

HO_2: The correlation between mental age and number of high level activities chosen will not be significantly different from 0.

A Spearman Rank Order Correlation was performed on the ranked scores of students' mental ages and choices of high level activities. It was concluded from an analysis of the data that there was a significant relationship between mental age and number of high level activities chosen ($r=.2758$, $N=63$, $p<.05$). Therefore,

TABLE I

ANALYSIS OF VARIANCE SUMMARY TABLE FOR
GIFTED GROUP, NONGIFTED GROUP
HIGH LEVEL CHOICES

Source of Variation	Sum of Squares	df	Mean Square	F	Significance of F
Explained	1.163	1	220.462	7.310	0.009
Residual	9.703	61	30.159		
Total	10.866	62			

null hypothesis two was rejected.

HO_3: There will be no difference between the groups in terms of self-concept and independence.

This hypothesis was analyzed by means of five, one-way analyses of variance. Each analysis examined one of the variables: Self-Acceptance, Social Maturity, School Affiliation, Self-Security, and independence, and determined if there were any differences due to group membership. An examination of the data for Self-Acceptance, Social Maturity, and Self-Security showed no significant difference between the two groups: gifted and nongifted. Tables II, III, and IV present the data for these variables as follows: Table II, Self-Acceptance ($F=3.040$, $df=1/60$, $p>.05$); Table III, Self-Security ($F=0.125$, $df=1/60$, $p>.05$); Table IV, Social Maturity ($F=1.381$, $df=1/60$, $p>.05$). The reported means for these three variables were as follows: Self-Acceptance, gifted group $X=53.11$, nongifted $X=48.84$; Self-Security, gifted group $X=55.35$, nongifted group $X=56.16$; Social Maturity, gifted group $X=53.16$, nongifted group $X=51.20$. It was determined from this analysis that there was no difference between the two groups in terms of their views of self-importance and general competence, their levels of anxiety and emotional stability, or their perception of their relationship with others. Therefore, null hypothesis three was not rejected as it applied to Self-Acceptance,

TABLE II

ANALYSIS OF VARIANCE SUMMARY TABLE FOR
SELF-CONCEPT SUBTEST SELF-ACCEPTANCE

Source of Variation	Sum of Squares	df	Mean Square	F	Significance of F
Explained	271.782	1	271.782	3.040	0.086
Residual	5364.928	60	89.415		
Total	5636.710	61			

TABLE III

ANALYSIS OF VARIANCE SUMMARY TABLE FOR
SELF-CONCEPT SUBTEST SELF-SECURITY

Source of Variation	Sum of Squares	df	Mean Square	F	Significance of F
Explained	9.756	1	9.756	0.125	0.724
Residual	4665.792	60	77.763		
Total	4675.548	61			

TABLE IV

ANALYSIS OF VARIANCE SUMMARY TABLE FOR
SELF-CONCEPT SUBTEST SOCIAL MATURITY

Source of Variation	Sum of Squares	df	Mean Square	F	Significance of F
Explained	57.441	1	57.441	1.381	0.245
Residual	2495.027	60	41.584		
Total	2552.468	61			

Self-Security, and Social Maturity.

The data for the remaining two variables, School Affiliation and level of independence were then analyzed to determine any differences due to group membership. Mean scores for School Affiliation for the gifted group were X=48.05 while the nongifted group mean was X=39.00. The analysis of variance data for School Affiliation are presented in Table V ($F=12.901$, $df=1/60$, $p<.05$). This analysis showed that members of the gifted group had a significantly higher level of enjoyment of school and its related activities than the nongifted group.

The analysis of data for the independence level variable showed a mean score for the gifted group X=7.00 and a mean score for the nongifted group X=5.68. Table VI shows the results of the analysis of variance to determine level of independence of the two groups. The data revealed a significantly higher level of independence in the gifted group than in the nongifted group ($F=6.425$, $df=1/61$, $p<.05$). Therefore, null hypothesis three as it applies to School Affiliation and independence level was rejected.

HO_4: When interest in the Bloom's topics is covaried out there will be no difference in the number of high level choices between the two groups of students.

The analysis of covariance was utilized to examine

TABLE V

ANALYSIS OF VARIANCE, SUMMARY TABLE FOR
SELF-CONCEPT SUBTEST
SCHOOL AFFILIATION

Source of Variation	Sum of Squares	df	Mean Square	F	Significance of F
Explained	1223.027	1	1223.027	12.901	0.001
Residual	5687.892	60	94.798		
Total	6910.919	62			

TABLE VI

ANALYSIS OF VARIANCE SUMMARY TABLE FOR
LEVEL OF INDEPENDENCE

Source of Variation	Sum of Squares	df	Mean Square	F	Significance of F
Explained	26.274	1	26.254	6.425	0.014
Residual	249.440	61	4.086		
Total	275.714	62			

the number of high level choices made by the two groups when the covariate, interest level in the activities, was taken into account. The analysis revealed that there was no difference between the groups in terms of level of interest. However, it was determined that there was a significant difference between the number of high level choices chosen by the gifted and nongifted groups. Removing the covariate, interest level, did not change the results. Table VII presents results of the analysis of variance after removal of covariate, interest ($F=3.823$, $df=2/60$, $p<.05$). The data showed that the gifted students did choose more high level activities than the nongifted group after removing the variation due to interest. Therefore, null hypothesis four is rejected.

Summary

This chapter has presented the statistical results yielded through the analysis of the data. Eight separate statistical procedures were utilized to test four hypotheses regarding the choices of high level learning center activities by gifted and nongifted groups. Of the four hypotheses, three were found to be significant: hypotheses one, two, and four. The statistical analysis for hypothesis one showed that gifted students did choose higher level learning activities than their nongifted peers. The analysis of

TABLE VII

ANALYSIS OF VARIANCE SUMMARY TABLE FOR CHOICES AFTER REMOVAL OF COVARIATE-INTEREST

Source of Variation	Sum of Squares	df	Mean Square	F	Significance of F
Explained	1.228	2	0.614	3.823	0.027
Residual	9.638	60	0.161		
Total	10.866	62			

the data for hypothesis two showed that there was a significant relationship between mental age and high level activities chosen. It was determined from the data for hypothesis four that the gifted students chose higher level learning activities than the nongifted students after the removal of the interest variable.

Further, data from hypothesis three revealed that there was no difference between the gifted and nongifted groups in terms of their views of self-importance and general competence, their perception of their relationships with others or in their levels of anxiety and emotional stability. However, the data generated from hypothesis three did determine that the gifted group of students possessed a significantly higher level of independence than the nongifted students. Additionally, it was revealed that the gifted students showed a higher level of enjoyment of school and its related activities than the nongifted group.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was designed primarily to determine if gifted second grade students, when given a choice, would choose higher level learning activities than nongifted second grade students. In addition, the study was designed to determine if the students' levels of self-concept, levels of independence, mental age, and interest in the learning activities had any affect on their choices.

Over a ten week period, gifted and nongifted students visited ten learning centers which contained activities leveled according to the four stable levels of Bloom's Taxonomy: Comprehension, Application, Analysis and Synthesis. All participants contracted for the activities of their choice and recorded their interest in each activity on an interest inventory. In order to measure the students' level of independence, a group test was administered which determined this variable. Student levels of self-concept were also

measured by a group test. The data were then subjected to a variety of statistical procedures.

Discussion

This study was based on the premise that gifted students prefer, and, therefore, should be offered, high level learning activities. No previous research in this area could be found at the primary level of elementary school. The present study was conducted to determine if second grade gifted students would choose higher level learning activities than their nongifted peers. For purposes of discussion, the findings will be presented individually as they relate to the hypotheses stated in Chapter One.

Student Choices

The data collected revealed that gifted students did choose higher level activities than the nongifted students. There was a significant difference found when mean choice scores were compared using the analysis of variance. Of the choices made by the gifted group Synthesis was most often chosen, followed by Analysis, then Application and finally Comprehension. The nongifted group chose Comprehension most frequently followed by nearly equal choices of Application and Analysis, and very few choices of Synthesis. These results substantiate the premise that gifted students

prefer more challenging, complex learning activities and validates the offering of higher level learning activities for the young gifted child.

Mental Age and Choices Made

The results of this study show that there was a significant relationship between the students' mental ages and the number of high level learning activities they chose. The gifted group's mental ages ranged from 9.4 to 11.7 with the majority of the mental ages in the upper limits of this range. The nongifted mental ages ranged from 7.1 to 10.6 with the majority of the mental ages in the middle of this range, the 10.6 score being the outlier. Mental age is computed using chronological age and an intelligence quotient. The participants in this study were all second grade students and, therefore, approximately the same chronological age. The gifted students had higher intelligence scores and, therefore, higher mental ages. This correlation is a further demonstration that gifted students, as noted by their mental ages, prefer complex and challenging tasks.

Self-Concept and Independence Variables

Analysis of the data regarding the Social Maturity, Self-Acceptance and Self-Security subtests of the self-concept scales revealed no difference between the gifted and nongifted groups in terms of their perceptions of

their relationships to others, especially their peers, in their level of anxiety and emotional stability or in their feelings of self-importance. The lack of difference in this area could be attributed to the fact that all three second grade classrooms selected for this study were chosen because the classroom atmosphere provided by the teachers was psychologically secure. This atmosphere would account for equality in scores of scales measuring students' views of self-importance, emotional stability and positive relationships with others.

The data collected in the study regarding the multidimensional self-concept variable revealed a significant difference in the School Affiliation subtest between the gifted and nongifted groups. This significance shows that the gifted students exhibit a higher enjoyment of school and school activities. This finding substantiates the research which reports a high correlation between self-concept and academic success (Clark, 1983; Sellin & Birch, 1981; Sisk, 1972).

The segment of this study which examined levels of independence substantiated the research which reports that gifted students possess a higher level of independence than nongifted students (Maker, 1982a). The data collected with this study showed the gifted students to be more comfortable with the decision making segment of the learning centers as well as more willing

to risk choosing complex, challenging activities. The gifted children seemed to enjoy working alone and were unconcerned with the choices made by their peers. The lower scoring nongifted students tended to seek positive reinforcement from their teacher and chose tasks that could be completed easily.

Student Choices and Interest

In this study it was evident that there was no significant difference in the students' reported interest in the learning center activities between the gifted and nongifted groups. Both groups participated in the weekly learning center activities with great enthusiasm and anticipation. Both groups were sufficiently interested in the activities to complete their products for each week. However, many of the students in the gifted group requested an extension of time to work on their products, some of which were quite elaborate. The data collected in this area did reveal a significant difference in high level choices made by the two groups with the gifted students choosing more high level activities. The removal of the interest variable did not change the results.

Conclusions

The composite conclusion that can be drawn from this study is that gifted primary children prefer to

work, and are capable of working at higher levels of thinking. The implications of the findings of this study are that gifted young children should be offered an educational setting which allows them opportunities for choice making, exposure to a wide variety of topics and the opportunity to explore independently those topics of particular interest.

It may be further concluded that activities designed around Bloom's Taxonomy (Bloom, 1956) are appropriate for this age child and that because of the high level of independence in the gifted child, the learning center instructional format is an appropriate method of delivery for these activities.

Finally, the significant results in this study in the areas of gifted students' higher level learning activity choices, and their high level of independence, demonstrates the need for a psychologically secure environment which allows gifted children the freedom to make decisions and take risks in choosing challenges in their learning.

Recommendations

Future studies are needed in the use of Bloom's leveled activities with primary age children in the elementary school. The researcher makes the following recommendations for future studies:

1. Research has indicated that gifted second grade

students, when given a choice will choose higher level learning activities than nongifted second grade students. Therefore, future studies for a longer time period and with a greater number of subjects are needed to verify this finding.

2. Research to determine choices of high level learning activities within gifted subpopulations.

3. Design and pilot an interest inventory for primary age children in the elementary school.

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APPENDIX A

SELF OBSERVATION SCALES

PRIMARY FORM, A

SELF OBSERVATION SCALES (SOS)

A. Jackson Stenner and W. G. Katzenmeyer

PRIMARY LEVEL

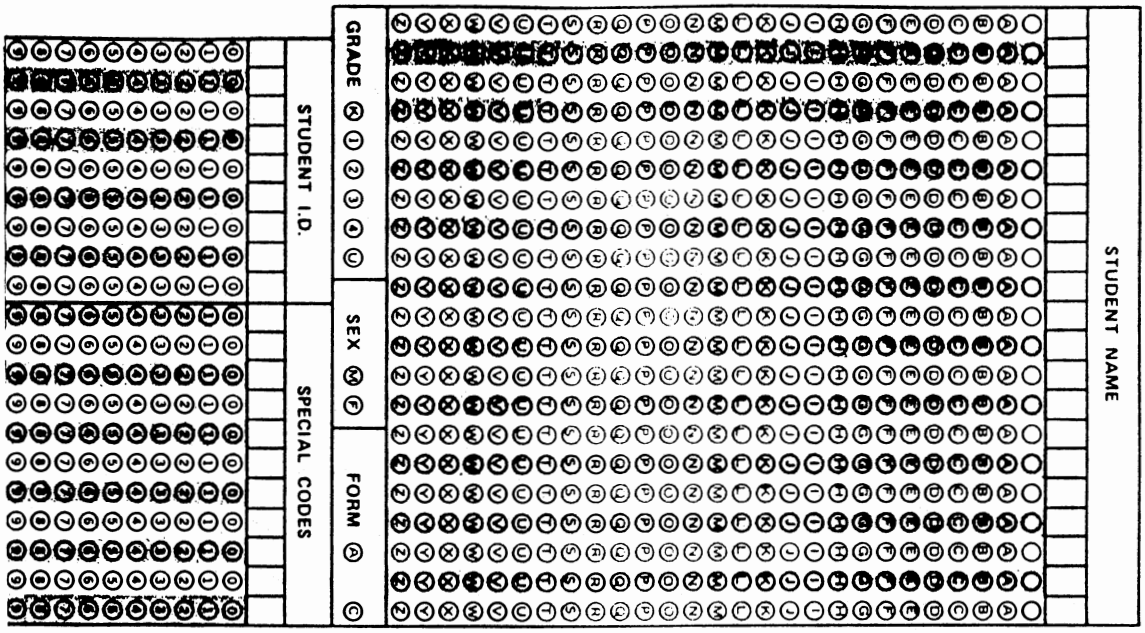
RESPONSE SHEET FOR FORMS A, AND C

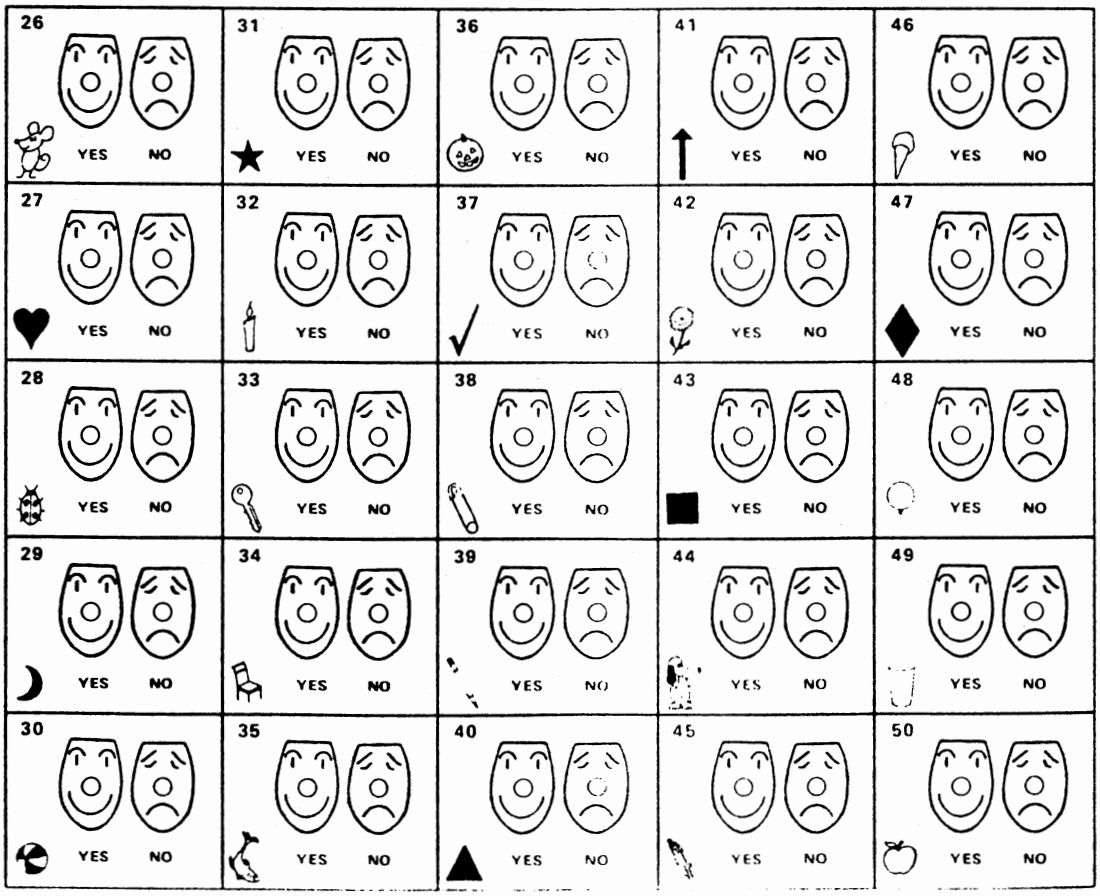
EXAMPLES

DO NOT MARK ABOVE THIS LINE

1 YES NO	6 YES NO	11 YES NO	16 YES NO	21 YES NO
2 YES NO	7 YES NO	12 YES NO	17 YES NO	22 YES NO
3 YES NO	8 YES NO	13 YES NO	18 YES NO	23 YES NO
4 YES NO	9 YES NO	14 YES NO	19 YES NO	24 YES NO
5 YES NO	10 YES NO	15 YES NO	20 YES NO	25 YES NO

NTS EZEX P 101-79-SD NCS Trans-Optic E15-22935:321


STUDENT I.D.
SPECIAL CODES
GRADE
SEX
FORM
STUDENT NAME


26 YES NO
31 YES NO
36 YES NO
41 YES NO
46 YES NO
27 YES NO
32 YES NO
37 YES NO
42 YES NO
47 YES NO
28 YES NO
33 YES NO
38 YES NO
43 YES NO
48 YES NO
29 YES NO
34 YES NO
39 YES NO
44 YES NO
49 YES NO
30 YES NO
35 YES NO
40 YES NO
45 YES NO
50 YES NO

SELF OBSERVATION SCALES
PRIMARY LEVEL
FORM A

1.	(pencil)	Do you play games well?
2.	(ball)	Do you like to write stories in school?
3.	(moon)	Do you get upset if you cannot answer a question?
4.	(icecream cone)	Do you give up easily in school work?
5.	(jack-o-lantern)	Does being with other children bother you?
6.	(diamond)	Are you a good reader?
7.	(safety pin)	Is school a happy place?
8.	(glass)	Do you like to play only when you are the leader?
9.	(heart)	Do you get nervous at school?
10.	(arrow)	Do you behave badly at home?
11.	(balloon)	Do most of the children in your class like you?
12.	(triangle)	Do you like arithmetic problems at school?
13.	(apple)	Do you find it hard to talk in front of your class?
14.	(chair)	Do you like to stay home from school?
15.	(candle)	Are the other children in your class friendly toward you?
16.	(fish)	Do you like to come to school every day?
17	(key)	Are you always in a hurry?
18.	(mouse)	Is your teacher interested in the things you do at school?
19	(feather)	Do you always want to be first in line?
20	(square)	Are you a good person?
21.	(flower)	Do you usually have better ideas than your friends?
22.	(lady bug)	When other people make mistakes do you laugh?
23.	(star)	Do the other children in the class think you are a good worker?
24.	(check mark)	Does you teacher give you enough time to finish your work?
25	(dog)	Do you like to read in school?

This completes the items on the front of the response form.

26.	(mouse)	Do you often feel bad in school?
27	(heart)	Are most children able to finish their school work more quickly than you?
28.	(lady bug)	When you are learning something new do you feel nervous?
29.	(moon)	Are you nervous a lot?
30.	(ball)	Do you look forward to coming to school each morning?
31.	(star)	Do you like school?
32.	(candle)	Does your mother let you do almost anything you want to do?
33.	(key)	Do others at school really care about you?
34.	(chair)	Do you make mistakes most of the time when you try to do things?
35.	(fish)	Do you like school better than your friends do?
36.	(jack-o-lantern)	Do you get upset easily at home?
37.	(check mark)	Do you wish you were younger?
38.	(safety pin)	Do you feel lonely very often?
39.	(pencil)	Do you always do what you want to do?
40.	(triangle)	Do you worry quite a bit over possible troubles?
41.	(arrow)	Can you only do your work if someone helps you?
42.	(flower)	Do you feel good about yourself most of the time?
43.	(square)	Are you good in your school work?
44.	(dog)	Do you like to learn about science?
45.	(feather)	Do you like to follow the rules?
46.	(ice cream cone)	Do other children do things better than you?
47.	(diamond)	Do your parents do things with you?
48.	(balloon)	Are you good looking?
49.	(glass)	Do you worry about a lot of things?
50.	(apple)	Does your family always trust you?

APPENDIX B

GROUP INVENTORY FOR FINDING CREATIVE TALENT

GIFT©

PRIMARY LEVEL - GRADES K-2

Group
Inventory for
Finding *Creative*
Talent°

DATE _____ GRADE _____

NAME _____

SCHOOL _____

Read each sentence below. Fill in the circle in the YES column next to each sentence if you agree with it and in the NO column if you don't agree. If you're not sure if you agree or not or think you sometimes agree, fill in the answer which is closest to the way you feel. There are no right or wrong answers. We only want to know how you think and how you feel about things, and what you like to do.

	Yes	No
1. I like to make up my own songs.	O	O
2. I like to take walks alone.	O	O
3. My mom or dad likes to play with me.	O	O
4. I ask a lot of questions.	O	O
5. Making up stories is a waste of time.	O	O
6. I like to have only one or two friends.	O	O
7. I like to hear stories about life in other countries.	O	O
8. It's all right to sometimes change the rules of a game.	O	O
9. I have some really good ideas.	O	O

	Yes	No
10. I like to paint pictures.	O	O
11. I like things that are hard to do.	O	O
12. A picture of the sun should always be colored yellow.	O	O
13. I like to take things apart to see how they work.	O	O
14. I'd rather color or paint in a coloring book than make my own pictures.	O	O
15. Easy puzzles are the most fun.	O	O
16. Sometimes my mom or dad and I make things together.	O	O
17. I like to learn about animals.	O	O
18. I wish other children wouldn't ask so many questions.	O	O
19. It's hard to find things to do when I'm alone.	O	O
20. I like stories of long ago.	O	O
21. I would rather play old games than new ones.	O	O

over

22.	When something I want to do gets hard I give up and try something else.	Yes O No O
23.	I always like to play with friends but never alone.	Yes O No O
24.	I like to collect a lot of things.	Yes O No O
25.	Make believe games are the most fun.	Yes O No O
26.	My mom or dad says things that are funny.	Yes O No O
27.	Even if my friends are playing a game I don't like, I always play with them anyway.	Yes O No O
28.	I like to play outside on a rainy day.	Yes O No O
29.	I like to try new things even if I'm a little afraid.	Yes O No O
30.	I like to build things.	Yes O No O
31.	I like to make up jokes.	Yes O No O
32.	Real life stories are better than make believe ones.	Yes O No O

APPENDIX C

BLOOM'S LEVELED ACTIVITIES

INTEREST INVENTORIES

CONTRACTS

LEARNING CENTER - WEEK ONE

Topic: Spiders

Comprehension: Draw a diagram of a spider you are interested in. Label the parts: legs, abdomen, cephalo thorax, jaws, pedipalps, and spinnerets.

Application: Demonstrate what a spider looks like when it makes a dragline. Using construction paper and string, construct a spider and a dragline. Show all the main parts of your spider, not just the spinnerets.

Analysis: Point out the differences between spiders and insects. Report the differences on writing paper or draw a picture to show the differences.

Synthesis: Pretend you are a spider. Using your spinnerets, create a web that is uniquely yours. Put yourself in the web. Make sure you include all your features: legs, abdomen, thorax, etc. Tell your teacher what materials you need.

Materials provided for student use: drawing paper, string, construction paper, crayons, reference books about spiders and insects, scissors, glue, pencils. Display poster of spiders.

SPIDERS INTEREST RATING

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

ARE YOU INTERESTED IN THIS TOPIC?

CIRCLE THE ONE THAT TELLS HOW MUCH YOU ARE INTERESTED.

I AM INTERESTED:

A LOT!

PRETTY MUCH

I CAN'T DECIDE

A LITTLE

NOT AT ALL

SPIDERS

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK TWO

Topic: Hieroglyphics

Comprehension: A system of writing with pictures is called hieroglyphics. Give five examples of pictures that are used to send messages today. Example: No Smoking.

Application: This is a hieroglyphic figure of an A in this hieroglyphic alphabet. You make three hieroglyphic figures of your own. Tell what letters they stand for.

Analysis: Look at this hieroglyphic word.

Use the chart and then write what you think it says. You will be translating.

Synthesis: Write a secret message using these Egyptian hieroglyphic figures on the chart. On the back of your paper write the message in English. Give it to a friend and see if your friend can read your secret message.

Materials provided for student use: Chart showing an alphabet in hieroglyphics, paper, pencil, crayons.

HIEROGLYPHICS INTEREST RATING

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

ARE YOU INTERESTED IN THIS TOPIC?

CIRCLE THE ONE THAT TELLS HOW MUCH YOU ARE INTERESTED.

I AM INTERESTED:

A LOT!

PRETTY MUCH

I CAN'T DECIDE

A LITTLE

NOT AT ALL

HIEROGLYPHICS

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

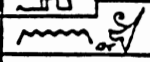
RAMESSES
THE GREAT
MEMPHIS

YOUR NAME IN HIEROGLYPHS

YOUR NAME: Sharon McCoy

PHONETICALLY: SHARON MAKOI

28

EQUIVALENT LETTER	SIGN	OBJECT DEPICTED
A		Egyptian Vulture
I		Flowering Reed
Y	 or \\	Two Flowering Reeds or Strokes
W - O - U	 or	Quail, Chick or Coil
B		Foot
P		Stool
V-F		Horned Viper
M		Owl or Ribs of Oryx
N	 or	Water or Crown of Lower Egypt
R		Mouth
H		Reed Shelter
Z		Bolt
S		Folded Cloth
CH-SH		Pool
K		Basket
Q		Hill Slope
G		Stand for Jar
T	 or	Loaf or Pestle
TH		Tethering Rope
D		Hand
DJ-G		Snake
L		Lion

EQUIVALENT	SELECTED BILITERALS	OBJECT DEPICTED
TA		Potter's Kiln
PA		Duck Flying
KA		Extended Arm (Symbol of Soul)
MA		Sickle
CHA SHA		Lotus Garden
WA		Lasso
in		Fish
ir		Eye
is		Reeds Bundle
mi		Milk Jug
SU - CU SD - CD		Feather
SU - SO		Plant

USEFUL SIGNS

 Woman (Feminin Determinative)

 Man (Masculin Determinative)

 Life, Prosperity & Health

LEARNING CENTER - WEEK THREE

Topic: Seashells

Comprehension: Match the shells with the picture of that type of shell. (Display pictures of shells and actual shells).

Application: Draw a picture showing the habitat of these animals while they lived in these shells. (Display an aquatic snail shell and a clam shell.)

Analysis: Look at these two shells. How are these two animals different? How are they alike? Draw a picture of how they are alike or different and label it or write your answer on a piece of paper. (Display a snail and a clam shell.)

Synthesis: Pretend that the snail and the clam have changed shells for one day. Write a one day diary page that tells about all the things the snail or the clam can or cannot do, now that they have changed places.

Materials provided for student use: Snail and clam shells, drawing paper, crayons, pencils, pictures of various bivalves and univalves, books on bivalves and univalves.

SEASHELLS INTEREST RATING

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

ARE YOU INTERESTED IN THIS TOPIC?

CIRCLE THE ONE THAT TELLS HOW MUCH YOU ARE INTERESTED.

I AM INTERESTED:

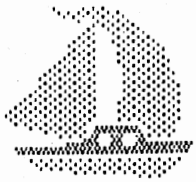
A LOT!

PRETTY MUCH

I CAN'T DECIDE

A LITTLE

NOT AT ALL



SEASHELLS

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK FOUR

Topic: Clowns

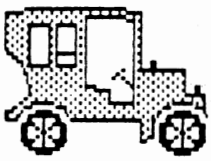
Comprehension: Give examples of things that clowns use to be clowns. Example: Big nose.

Application: Draw a picture of a clown you would choose to be. What kinds of "clown things" did you put in your picture?

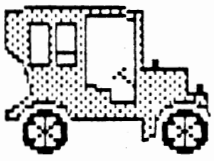
Analysis: Categorize these clown stickers into as many groups as you can. Name your groups. Example: girl clowns, clowns with orange hair, etc.

Synthesis: Design a new kind of funny nose for a clown. What is it made of? Draw a picture of it or make it and show the class. Be sure that it does not block your air passage.

Materials provided for student use: drawing paper, crayons, pencils, clown stickers, and any other materials requested by the students choosing the Synthesis activity.



CLOWNS INTEREST RATING



STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

ARE YOU INTERESTED IN THIS TOPIC?

CIRCLE THE ONE THAT TELLS HOW MUCH YOU ARE INTERESTED.

I AM INTERESTED:

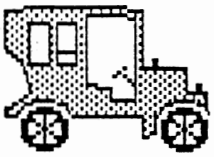
A LOT!

PRETTY MUCH

I CAN'T DECIDE

A LITTLE

NOT AT ALL



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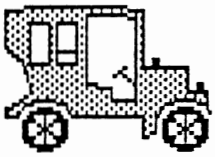

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK FIVE

Topic: Dinosaurs

Comprehension: Match the dinosaur picture card with its name card.

Application: Make a clay sculpture of a dinosaur of your choice.

Analysis: Look at these dinosaur skeletons. Tell what their lives were like. Tell what they ate. Tell what their environments were like. How can you tell by looking at the skeletons? Write your answers on paper or record your thoughts on the tape recorder.

Synthesis: Create a new dinosaur. Draw a picture of it. Then tell its height, weight, and about its habitat. Please give it a name.

Materials provided for student use: cards containing pictures of dinosaurs and cards containing names, clay, balsa wood dinosaur skeletons, (one carnivore and one herbivore), drawing paper, crayons, reference books about dinosaurs, tape recorder.

DINOSAUR INTEREST RATING

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

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DINOSAUR

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK SIX

Topic: Apples

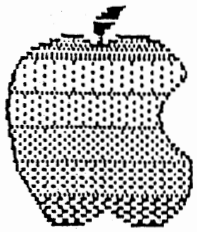
Comprehension: Compare the taste of these three types of apples: Yellow, Red, Green. Write describing words to tell about each one's taste.

Application: Sketch a picture showing the three kinds of apples cut in half. Show the differences in shape and color of the meat and of the seeds.

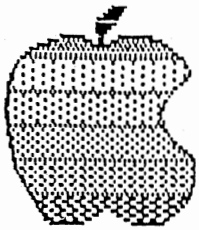
Analysis: Survey your classmates about their favorite kind of apples: Yellow, Red, or Green. Which do they like best? Use a bar graph to show the results of your survey.

Synthesis: Think up a recipe for a dessert using one of the three kinds of apples. When thinking of ingredients, remember if you are choosing a sweet, tart, or sour apple. Write your recipe down. Try it at home if Mom will let you. Share it with the class if it is good.

Materials provided for student use: slices of Red, Yellow, and Green apples, drawing paper, crayons, magic markers, graph paper, pencils, one of each color of apples cut in half.



APPLES INTEREST RATING



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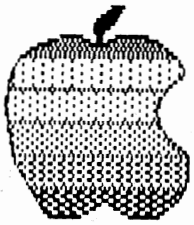
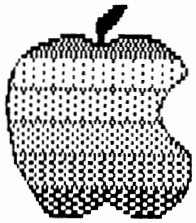


APPLE



CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK SEVEN

Topic: Whales

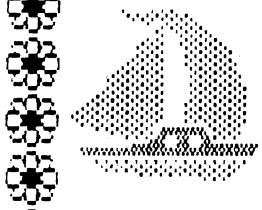
Comprehension: Draw a picture of a baleen whale and explain the use of its baleen.

Application: Draw a picture of a food chain that has a killer whale at the top.

Analysis: Compare the great blue whale with the giant dinosaurs. Draw a picture to show the comparison.

Synthesis: Write and illustrate a story told by a whale.

Materials provided for student use: reference books on whales and dinosaurs, drawing paper, crayons, pencils, writing paper, posters showing various kinds of whales for display.



WHALES

INTEREST

RATING

STUDENT'S NAME_____

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TEACHER'S NAME_____

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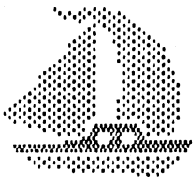

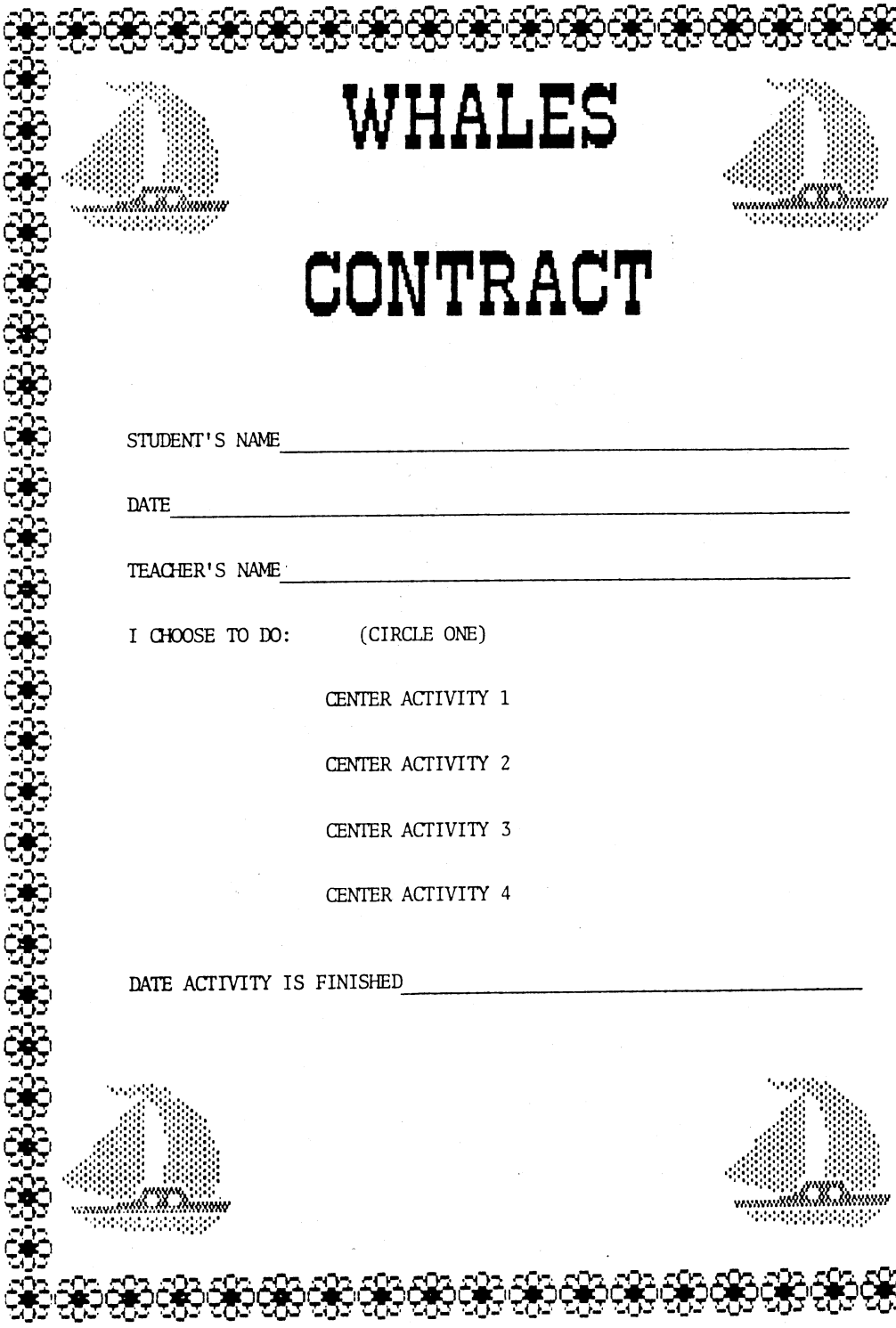

WHALES

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK EIGHT

Topic: Nutrition

Comprehension: Give two examples of foods from each of the four food groups.

Application: Plan a dinner menu that contains something from each of the food groups. Either color a picture of it or cut out pictures and paste them into a picture of a dinner meal. (Dinner means the main meal of the day.)

Analysis: Look at this group of three meals: Breakfast, Lunch, and Dinner. Each meal contains foods that are not good choices. Either draw a picture of the changes you would make or write the changes on paper.

Synthesis: Design three meals for an astronaut. Be sure you use all four food groups for each meal. One meal should be a bar. The other two must be in squeeze tubes. (Remember, no gravity.) All three meals should taste good.

Materials provided for student use: Food magazines, drawing paper, crayons, scissors, glue, food groups charts, writing paper.

NUTRITION INTEREST RATING

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

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NUTRITION

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK NINE

Topic: Butterflies

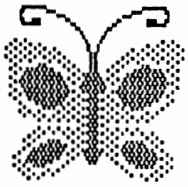
Comprehension: Label the parts of the butterfly on this diagram.

Application: Draw a picture of your favorite butterfly. You will have to look up butterflies to find out exactly how they look. Write your butterfly's name. Be sure to draw all of its parts. Label the parts.

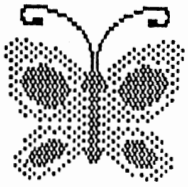
Analysis: Compare a moth and a butterfly. Tell how they are alike or different in terms of their body parts, and life activities.

Synthesis: Invent your own butterfly trivia game. Decorate your own game board. Make your own fact cards. Make up the rules. (Don't forget to include fact cards about each of the body parts of the butterfly plus any other facts you would like to use.)

Materials provided for student use: reference books on butterflies and moths, drawing paper, crayons, a diagram of a butterfly, a blank game board, 3x5 cards, pencils, crayons.



BUTTERFLIES



INTEREST

RATING

NAME_____

DATE_____

TEACHER'S NAME_____

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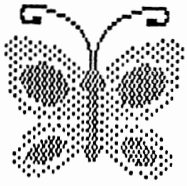
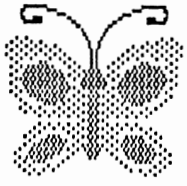
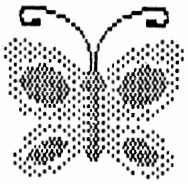
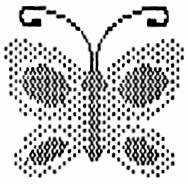






BUTTERFLY CONTRACT



STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

LEARNING CENTER - WEEK TEN

Topic: Space

Comprehension: Label a diagram that you have made showing the nine planets of our solar system.

Application: Choose any planet in our solar system. Draw a picture of the planet as it looks through a telescope now. You will have to use the reference books to find out.

Analysis: Categorize the nine planets in our solar system into as many categories as you can. Name your categories. Example: inner and outer planets; those with moons, those without; those with rings, those without, etc.

Synthesis: You have discovered a previously undiscovered planet in our solar system. Judging from its location speculate as to what conditions are like on this planet. Draw a picture of it, name it, and tell about your speculations.

Materials provided for student use: reference books on space and our solar system, drawing paper, crayons, writing paper, and pencils.

SPACE INTEREST RATING

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

ARE YOU INTERESTED IN THIS TOPIC?

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I AM INTERESTED:

A LOT!

PRETTY MUCH

I CAN'T DECIDE

A LITTLE

NOT AT ALL

SPACE

CONTRACT

STUDENT'S NAME_____

DATE_____

TEACHER'S NAME_____

I CHOOSE TO DO: (CIRCLE ONE)

CENTER ACTIVITY 1

CENTER ACTIVITY 2

CENTER ACTIVITY 3

CENTER ACTIVITY 4

DATE ACTIVITY IS FINISHED_____

APPENDIX D

VERBAL PRESENTATION PLAN

FOR BLOOM'S ACTIVITIES

VERBAL PRESENTATION PLAN

FOR BLOOM'S ACTIVITIES

1. Prepare center table with instructions, materials, contracts and interest inventories.

2. Gather children around the table making sure that all children can see the display and can hear instructions.

3. Begin presentation with a brief discussion of the topic of the center. Encourage children to share their knowledge of the topic. Define the terms that may need to be defined. Make sure that all children have a Knowledge level understanding of the topic.

4. Starting with Activity 1, orally read to the children the displayed written directions. Show the materials needed to complete the activity. Ask for questions from children who need further explanation. Restate to further clarify.

5. Proceed in this manner through the presentation of all four activities.

6. Remind children to fill out an interest inventory and a contract.

7. Encourage the children to make their own choices of activities and not to be influenced by other children. Encourage the children to indicate how they really feel about the topic on the interest inventory.

8. Show the children where to put the finished product.

9. Tell them to take whatever time they need to finish. If the product becomes very involved and a considerable amount of time is needed by the student, negotiate for times that can spent working on the product throughout the week.

10. Encourage the children to come to the teacher for help if they need materials or further resources that are not available to them at the center.

VITA 2

Sharon Louise McCoy

Candidate for the Degree of

Master of Science

Thesis: CHOICES MADE BY GIFTED AND NONGIFTED SECOND GRADE STUDENTS WHEN OFFERED BLOOM' LEVELED ACTIVITIES IN A LEARNING CENTER INSTRUCTIONAL FORMAT

Major Field: Applied Behavioral Studies

Biographical:

Personal Data: Born in Kansas City, Missouri, December 23, 1941, the daughter of Elmer E. and Lydia Rolf.

Education: Graduated from Raytown High School, Raytown, Missouri in May, 1959; received a Bachelor of Arts Degree in Elementary Education from William Jewell College, May, 1963; completed requirements for Master of Science Degree at Oklahoma State University in December, 1988.

Professional Experience: Classroom teacher from August, 1963 to May, 1986, Center School District and Park Hill School District both of Kansas City, Missouri, Jenks Public Schools, Jenks, Oklahoma; teacher of gifted and Gifted Coordinator, Jenks Public Schools, Jenks, Oklahoma, May, 1986 to May, 1988; teacher of gifted, Park Hill School District, Kansas City, Missouri, May, 1988 to present; member Gifted Association of Missouri, Oklahoma Association of Gifted and Talented, the National Association of Gifted Children.