THE EFFECT OF THE ACTIVITY-BASED, SPIRAL CURRICULUM ON FIVE YEAR- OLD CHILDREN'S CREATIVITY AND BEHAVIOR AS PERCEIVED BY THEIR PARENTS AND TEACHERS

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ABSTRACT

THE EFFECT OF AN ACTIVITY-BASED, SPIRAL CURRICULUM ON FIVE YEAR- OLD CHILDREN'S CREATIVITY AND BEHAVIOR AS PERCEIVED BY THEIR PARENTS AND TEACHERS

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This dissertation investigated the effect of an activity-based, spiral curriculum on creativity and behaviors as perceived by the parents and teachers of the five year-old children in METU Kindergarten. During the study, intact groups- experimental study was conducted, including one experimental group and two control groups. The activity-based, spiral curriculum was developed and implemented in the experimental group for 18 weeks.

In the present study, TTCT - Form A was delivered to subjects in all groups to measure creativity in pre- and post-test forms. The teachers of the three groups were administered Teacher Observation Scale (TOS) three times; at the beginning, in the middle and at the end of the study. Parents of children in all three groups were administered Parent Observation Scale (POS) three times, at the beginning, in the middle and at the end of the study. Repeated measures analysis of variance showed a significant increase in the post-test creativity scores of subjects in the experimental group , whereas there were decreases in post-test creativity of the control groups. For POS and TOS, there was a significant increase in the mean scores of subjects in the experimental group and control group1, but no such increase in control group 2. Explanations for the results and future comments for the improvement of pre-school curriculum are included.

Key Words: Pre-school, Creativity, Creativity in pre-school, Curriculum development

ÖZ

ETKİNLİK TEMELLİ SPİRAL ÖĞRETİM PROGRAMININ BEŞ YAŞ ÇOCUKLARININ YARATICILIKLARI İLE AİLE VE ÖĞRETMEN GÖZÜYLE DAVRANIŞLARINA ETKİSİ

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Bu tez, etkinlik temelli spiral öğretim programının ODTÜ Yuvasındaki beş yaş çocuklarının yaratıcılıkları ile aile ve öğretmen gözüyle davranışları üzerindeki etkisini görmek için yapılmıştır. Araştırmada bir deney ve iki kontrol grubu olmak üzere toplam 51 denek kullanılmıştır. Etkinlik temelli spiral öğretim programı geliştirilmiş ve 18 hafta süreyle deney grubuna uygulanmıştır.

Verilerin toplanmasında, üç grupta bulunan deneklere araştırmanın başında ve sonunda olmak üzere iki kez Torrance Yaratıcı Düşünme Testi uygulanmıştır. Ayrıca her üç gruptaki deneklerin aile ve öğretmenlerine başta, ortada ve sonda olmak üzere üç kez Aile Gözlem Ölçeği ve Öğretmen Gözlem Ölçeği uygulanmıştır.

Verilerin analizinde tekrarlanmış ölçüm tekniği kullanılmıştır. Sonuç olarak, deney grubunun yaratıcılığın alt boyutları olan akıcılık, esneklik, orijinallik ve detaylara inebilmede anlamlı bir gelişme gösterdiği bulunmuştur. Veri toplanmasında kullanılan öğretmen ve aile gözlem ölçeklerinde de, deney grubunda anlamlı bir gelişme gözlenmiştir. Ancak, birinci kontrol grubunda öğretmen gözlem ölçeğinde daha yüksek puanlar bulunmuştur.

Sonuçların eğitim programları ve öğretim çerçevesi içinde yorumlanması ve yaratıcılığın geliştirilmesine dair öneriler çalışmada yer almaktadır.

Anahtar Kelimeler: Okul öncesi, Yaratıcılık, Okul öncesinde yaratıcılık, Program Geliştirme

To The Five Year-Olds ...

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CHAPTER ONE

INTRODUCTION

Importance of Creativity For Education

Today's world has many problems and solving these problems is one of them. Problem solving includes generally two types of strategies. One of these is to apply some guaranteed solutions or formulas to problems and to achieve conclusions (Kahney, 1993). This way of problem solving may produce solutions, but these solutions are not original and don't offer new ideas. Rather, they are correct, and most of the time they do not allow for failure. But such problem solving strategies may fail when the problem is novel and does not fit usual frames. Therefore, classical type of problem solving is only successful for usual, routine problems which are also well-defined. Another type of solving problems includes creativity. Creativity simply refers to finding out alternatives and producing solutions that other people are not aware of. The second type of problem solving does not always guarantee that the solution will work out, but it includes originality and novelty of the ideas generated. Most of the time this type of problem solving is open to change and improvement. When confronted with an unusual problem which does not fit the frames or outlines; in other words when the problem is ill-defined, original responses are needed in order to adapt the changing structure of the problem, and cope with the new conditions. In order to produce original solutions or come up with new ideas, creativity is a vital factor. Creativity is not an inborn ability, rather it is a skill which can be developed through education.

Before starting to discuss the effects of a particular curriculum on creativity and development, it is very important to state clearly that creativity is the natural component of development. Development is composed of several domains such as the cognitive, affective and psychomotor domains. Recent research (Amabile, 1988; Osborn, 1991; Parnes, 1992; Torrance, 1994) in the areas of psychology, creativity and education reveals that creativity turns out to be a new domain , which can not be excluded from general developmental stages, and from the interaction of these domains. When development and education are examined without considering creativity, then it becomes a misconception, simply because creativity is a part of human potential- maybe the most important and necessary one, which can be developed both at home and at school. Therefore, when discussing education, creativity and creative development must be thought as a basic concept for human life, and therefore must be given special attention as the other domains of life. According to Sid Parnes (1992), there are two primary purposes for emphasising creativity and problem solving in the educational process:

1. Self-Actualising: One underlying rationale for creative programs is the need for self- actualising individuals. To provide for an individual the means to attain the greatest satisfaction in his/her work-a-day life is the greatest reason of nurturing creative talent. As creativity is developed on

the individual basis, it can be gradually developed on the societal basis as well.

2. Creative Decisions: Creativity can be supported by specially designed programs which include effective decision-making skills and idea production. According to Sid Parnes (1992), individuals are able to examine and judge the possibilities and outcomes, in solving problems in regular ways. However, when people make creative decisions, the most important thing is approaching the problem from a different perspective. In the creative problem solving process, all the different alternatives are recognised and judged according to their functions and the best alternative is selected and developed in full awareness. When it's considered that today many societies suffer from the lack of quantity and quality of solutions to problems confronted, then creativity seems to be an important part of human life, which should be developed and enhanced during the educational process. Education is effective if it starts at early years. Especially for creativity development in which skills like awareness, flexibility in thinking, objectivity in perception and using imagination are necessary, it seems that pre-school has a special importance as it is the basis of the whole educational process. The skills mentioned above cannot be gained through the formal educational process which is mainly focused on rule learning. In Turkish educational system, rule learning seems to be of great importance in different disciplines. Gagné (1985) claims that learning is composed of a hierarchical order, starting with

building associations and making discriminations, learning concepts, learning rules, and solving problems. Here, problem solving is the most complex thinking process, as it includes all the sub-levels of the thinking process, as well as skills such as imagination, originality and creativity. Rule learning is necessary for problem solving but when the Turkish educational system is considered, it is easy to observe that rule learning is given more emphasis than problem solving. For problem solving skills and creative thinking to develop, there should be a curriculum which is specially focused on these skills. According to Bruner, learning in young ages takes place through activities. For creativity to develop, discovery is necessary and this also develops through activities. Based on Bruner's ideas about the necessity of activity- based learning, the present study is focused on development of creativity through a specially designed pre-school curriculum. It was the purpose of this study to investigate the effects of an activity-based, spiral curriculum on creativity and behaviors as perceived by the parents and teachers of the 5-year olds in METU Kindergarten. In this study, creativity was the basic area of interest, because of the reasons stated above, and also it was the major problem to see if the treatment used in this study had any significant effects on any of the dimensions of creativity, as measured by the TTCT-Form A. It was also a matter of curiosity whether the treatment had any effect on children's behaviors as perceived by their parents and teachers. These perceptions were taken through the Parent Observation Scale (POS) and Teacher Observation Scale (TOS).

CHAPTER TWO

REVIEW OF LITERATURE

2.1. Social And Cognitive Processes In Development Of Creativity

Children in all cultures pass through a series of age-related phases during development (Higgins, Parsons, 1990). Each phase has its own social concerns, activities, social situations and settings, expectations and rules for behavior. Moreover, the behavior of adults toward children varies in different phases. For example, the responses of adults to children who violate their personal space in a queue varies dramatically as a function of the child's age, ranging from smiles for 5-year-olds to frowns for 10-year-olds (Fry and Willis, 1971). In any culture, each phase can be conceptualized (e.g., infants, preschoolers, juveniles, preadolescents, adolescents) as a subculture within the more general, adult-dominated culture.

The general influence of subcultural factors on social judgments and behavior has been explained by several approaches such as the social-learning approach (Bandura & Walters, 1963) and the new look approach (Kohlberg & Piaget, 1965). When considering these approaches, demographic variation within a particular age phase of development, such as social class or ethnic differences in norms, values, and beliefs should also be taken into account. Speeding up or slowing down mental growth within a particular phase of development depends on providing opportunities for cognitive development.

It has been recognized for a long time that the social life of children changes at different phases in their development. In addition, the importance of considering children's social world has been emphasized in the literature (Bandura & Walters, 1963; Barker, 1968; Vygotsky, 1962). Vygotsky (1962) discusses how socializing agents provide children with structure and regulatory systems. Bandura and Walters (1963) point out the critical role of social models on children's social behaviors and social development. When pre-school years are considered, the importance of pre-school curriculum can be clearly understood in terms of providing adult models for developing social roles, and for inducing problem solving strategies. There have also been suggestions that particular age-related changes in social behavior may be due, in part, to some age-related change in social input (Piaget, 1965). Cognitive development which is composed of schematic stuctures and applying schemes to social interactions is closely related to the presentation of the tasks and problems in a hierarhical order. Through schematic formations, mental skills about any task, including social relations, or moral problems can be developed. Therefore it becomes the purpose of psychology and education to consider the social environmental variables that may differentiate the social life of children at different age phases.

Depending on the utilization of environmental factors, the nature of stimuli offered to children- and even adults seem to play important roles for enhancement of creativity and problem solving. The literature reveals that different stimuli, methods, strategies and techniques indeed foster creativity and problem solving interpersonal communication (Amabile, 1994). It has been shown that different methods such as computer programs (Proctor, 1991) , brainstorming, drama, or simply increasing the frequency and quality of interpersonal communication (Torrance, 1986; Amabile, 1994) have positive effects on the enhancement of vision, focus on the problems, and exploring variables in problems, which are the essential steps of creative problem solving. For example, Bolen and Torrance (1978) showed that dyads were more flexible and original than individuals, in creativity tests. In the study of Nelson and Lalemi (1991) it was found that six 15-minute sessions of imagery training had significantly higher post-test scores on TTCT, on primary school children. It was also claimed that such training may increase children's problem-solving ability. Although it is important to think about creativity and problem solving as idea production and problem posing in the context of education, it should be kept in mind that these skills are also used in the context of a specific profession. In relation to those findings, Matson (1991) claimed that for professionals as well, creative thinking can be taught and reinforced by appropriate training. The role of trial and error in learning and creativity is explored along with the importance of enhancement of creativity. It is quite interesting to see that treatment for creativity and problem solving have positive effects on a wide age range. Of course, in very young and very old age groups some of the techniques may fail, due to the lack of cognitive capacity and distortions in the cognitive system (Engelman, 1981) , however, it is suggested that creativity and problem solving can be taught to anybody who's cognitive and affective structure are open to development. It is also claimed that creative potential can be used better if creativity training is given when children start to acquire basic knowledge, such as in pre-school years (Engelman, 1981).

Higgins and Parsons (1985) make distinctions among these age phases, separating them as pre-school to juvenile (from 3-5 to 6-9 years of age; juvenile to preadolescents (from 6-9 to 10-12 years of age); and from preadolescent to early adolescent (from 10-12 to 13-16 years of age). For example, at the phase of pre-school to juvenile, development occurs as socialization, specification of social position, and roles social contact and relationships. With entry to school, the children come under the influence of two new sets of socialization agents: specifically, the classroom teacher and related school personnel, and peers. Classes are generally organized with a single teacher, typically female, in charge of 20 to 30 same-aged students. The role of the teacher necessitates less personal attention and nurturance than was received by the child from parents and more peer socialization than was true at home. There is also an increase in the requirements to master tasks imposed on one by an authority figure in a specified time period. Children are also faced with abstracting and learning the new social- behavioral code associated with the "student" role. Research (Blumenfeld et.al., 1979) suggests that the "curriculum" in the first years of school is more concerned with a child's acquisition of the ""student" role than academic skills. Children start to acquire the role of a student in the formal organization of school, whereas previously they had one major role of son or daughter in the informal organization of their home. Because status in both these social structures is determined in part by social skills and achievement rather than primarily by ascribed status which is acquired at home, entry into school introduces children to achieved roles. The role of student is a task-oriented role in which performance is systematically evaluated with regard to pre-set performance standards of excellence, normative progress, and acceptable style. As such, children will vary in their status within that role depending on their performance. Further, segregating the children into grades based primarily on age, as is done in many countries, focuses the attention of both the teacher and the students on these status variations, making competition and social comparison probable events.

2.2. Importance of Developmental Stages Through the Creative Process

There are "critical" periods in creative development. Albert (1992) believes that there is convincing evidence for at least two sensitive periods that are especially instrumental in transforming "raw" giftedness into creative potential and creative potential to creative behavior. There is an important developmental consequence in sensitive periods. Readiness is an important component which plays an important role in creative development (Siegler, 1991).

The first sensitive period is influential for the acquisition of basic survival skills and the learning and incorporation of important, recurring personal and interpersonal events. In other words, the primary role of the first sensitive period is giving a child inner representational models of his or her world.

The ethnological, psychological and cognitive bases of development have been spelled out by Bolwby, Ainsworth and Piaget. Learning and creative development occurs through the cognitive cycle of assimilation, accommodation and homeostasis.

The first sensitive period gives form and energy (readiness) to the biological and cultural mandates of the second sensitive period. The second sensitive period, like the first sensitive peiod is dependent upon growth, but in this case more complex mental operations which trigger additional personality changes and intellectual readiness for the child are considered. Clearly only some of the results of early development and experience continue in the future. However, in order to mould creative potential and use it in real life through idea generation and problem solving, the early sensitive periods should be given importance and should be supported through special pre-school programs. Such programs should be focused on special activities which help children develop flexibility- or at least protect their already-existing flexibility and increase originality .

2.3. Stage Theories In Creativity

Carl Rogers (1954) claims that creativity can occur when three internal psychological conditions are present; openness to experience, an internal locus of evaluation, and the ability to play with elements and concepts. According to Rogers, these three internal conditions are fostered by two external conditions as being psychological safety and psychological freedom. Psychological safety is created when an individual's social world accepts the individual as having unconditional worth, provides a climate in which external evaluation is absent, and understands the individual emphatically. The other external condition, psychological freedom, is created by granting an individual permission to engage in unrestrained symbolic expression. Rogerian theory suggests that children raised by parents who provide conditions of psychological safety and freedom will develop their creative potential more fully than will children whose parents do not provide such conditions (Rogers, 1954). The importance of pre-school child rearing practices cannot be denied in the develoment of creativity. However, when it's considered that children who attend kindergartens spend most of their times with adults other than their parents, teacher characteristics and the educational program that teachers follow, are the critical components for pscyhological safety and freedom. Besides, pre-school child rearing practices are quite influential on early adolescent creativity. These ideas are consistent with Roger`s theory of creative environments both at home and at school. Recent research supports these views in a parent-school context. For example, Cropley (1993) suggests that a high IQ alone does not provide a satisfactory explanation of gifted achievement. "True" giftedness requires originality, persistence, and the ability to communicate results to other people, among other factors. This means that not only the psychological factors related to intelligence are necessary for gifted achievement, but also personal factors, motivation, and social factors must interact with each other.Fostering creativity and thus promoting giftedness requires a comprehensive approach in all these areas not just, for instance, training in divergent thinking. This involves incorporating parents into programs, as well as necessitating special training for teachers.

The emphasis Rogers placed on these issues was stated by Otto Rank`s discussion of the development of will in the young child, the powerful roles played by parents in that process, and the relevance of that process to subsequent creativity (MacKinnon, 1965; Rank, 1936).

Eric Erikson (1963) has also addressed the themes of psychological safety and freedom by emphasizing the importance of establishing a child's very early sense of basic trust and by discussing autonomy as a critical developmental issue for creativity.

2.4. Importance of Structure and Discovery in Creativity : Jerome Bruner

Jerome Bruner, who is a present-day cognitive theorist is a vital person for his ideas about learning and creativity. One of the major points that Bruner emphasizes in his book "The Process of Education" (1960) is that teaching should assist students in grasping the structure of a field of study. Understanding the structure of a subject means understanding its basic or fundamental ideas and how they relate to each other. Ideas that are truly fundamental share a number of characteristics; they can be simply represented as a diagram, picture, verbal statement, or formula; they can be represented in more than one sensory modality; and they are applicable to a wide range of new problems. Bruner suggests that when students are helped to grasp the structure of a field of study, they are more likely to remember what they learn, comprehend principles that can be applied in a variety of situations, and be prepared for mastering more complex knowledge. It must be stated that understanding structure is critical to effective problem solving and transfer of learning.

2.4.1 Activity- Based, Spiral Curriculum:

Closely related to the issue of understanding structure is the question of when children are old enough to grasp the meaning of fundamental ideas. Bruner's response is that if you take into account the nature of children's thought, then " any subject can be taught to any child in some honest form."(1971, p.52). To understand Bruner's ideas better, it should be mentioned that like Piaget, Bruner believed that children of different ages represent the world to themselves in fundamentally different ways. Toddlers and preschoolers think of the world primarily in terms of the actions that can be performed on it. Bruner calls this the enactive mode of representation. During much of childhood, ideas are represented primarily in terms of pictures or images. This form of representation is called iconic. Finally, in the late childhood and early adolescence, ideas tend to be represented in terms of verbal propositions, mathematical formulas, logical symbols, and the like. Bruner argues that even young children can grasp the essence of basic ideas in a simplified, intuitive fashion, if the presentation is suitable for the child's predominant mode of representation. In later years, as thinking becomes more mature, these same ideas can be reintroduced with more complexity. Bruner refers to this practice of introducing something early in simple form and then again later in more complex form as the spiral curriculum.

Based on the ideas of Bruner, there are recent researchers who had great contributions to the field of curriculum that leads to idea generation and solution finding. One of these researchers is Teresa Amabile. She demonstrated through a series of experiments that everybody has a creative potential to some extent. The important question is how one can help children become aware of their creative potential and help them use their creativity in daily life. According to Amabile (1989), eventhough the educational system includes a restrictive curriculum, and teachers are obliged to follow the rules of that curriculum, strategies like testing and streching the limits of the system will certainly help teachers stimulate children's creativity. In other words, when the curriculum includes opportunities for children's skills in the domain like creative thinking skills, and opportunities to bring out children's intrinsic motivation, creativity could gradually develop at school. Such a curriculum should be based on activities, experiences, and children's own initiatives on these activities.

2.4.2. Discovery Learning:

Another important issue of curriculum is the implementation. The written curriculum may be open for individual learning and self development, but how it is implemented in the classroom setting is a critical question. For creativity to be enhanced, factors like teacher-student relations, instructional strategies, individual pace of the students are the major determinants. If the written curriculum can be implemented in a special way, which is formed according to these factors stated above, only then gained effects can be seen on the creative potentials of the students. This is relevant to what Bruner calls "Discovery Learning ". He claims that too much school learning takes the form of step-by-step study of verbal or numerical statements or formulas that the students can reproduce on cue but is unable to see outside the classroom. When students are presented with programmed materials, Bruner argues, they become too dependent on others. Amabile (1994) also agrees saying that the formal education is designed to keep children under control, more to develop social adaptation, rather than stimulating personal skills and developing individual abilities. Furthermore, they are likely to think of learning as something done only to earn a reward.

Instead of using techniques that feature preselected and prearranged materials, Bruner (1983) believes, teachers should confront children with problems and help them seek solutions either independently or by engaging in group discussions. Bruner says that true learning involves figuring out how to use what you already know in order to go beyond what you already think. Like Piaget, Bruner argues that conceptions that children arrive at on their own are usually more meaningful than those proposed by others, and that students do not need to be rewarded when they seek to make sense of things that puzzle them. Bruner maintains, in addition, that when children are given a substantial amount of practice in finding their own solutions to problems, they not only develop problem-solving skills but also acquire confidence in their own learning abilities as well as a propensity to function later in life as problem solvers. They learn how to learn as they learn, through personal discovery.

To sum up, Bruner argues that certain types of outcomes- understanding the ways in which ideas connect with one another, the possibility of solving problems on our own, and how what we already know is relevant to what we are trying to learn.- are the essence of education and can best be achieved through personal discovery. Also, through personal investigation, skills like questining, inquiry, critical thinking and creativity can reach to the optimum levels, when compared to the classical curriculum models.

A curriculum which is based on individual needs and activities which enhance creativity and inquiry skills is not a common model in Turkish pre-school education. Thus, in the present study, an activity-based, spiral curriculum, which was thought to help pre-school children develop skills of creativity and problem solving. was developed by the researcher.

2.5. The Early Years Curriculum

According to Bruce (1987), the pre-school curriculum should be based on the nature and needs of the child, while knowledge and the environment should be the sources for development. The skills, knowledge, concepts and attitudes to be acquired are embedded in the activities provided in the kindergarten. Curtis (1986) points out that pre-school education has variations according to the nature of children, or nature of the activities. Therefore setting goals must be a flexible process. Some researchers (Peters,1966; Hirst 1969) argued that worthwhile activities are those that are infinitely extendible, as the process here is more important than the product, and some activities are inadequate for concept development. The important thing is not to make children produce things. Rather, it is to help children create their own ways of learning and producing.

Curtis (1986) argues that pre-school curriculum lacks cognitive content in social or emotional episodes, because it over-emphasizes social and emotional development. Another criticism is about the lack of neat and conveniently controlled programs of instruction (Blenkin & Kelly, 1987).

The developmental curriculum helps individual potentials in terms of gaining self-control during the developmental process. In other words, the primary purpose of the developmental curriculum is to follow an educational path according to the needs of the child, rather than the subject matter. What is also emphasized is that subjects are not the aims, but the means through which children learn. The developmental curriculum is based on activities which guide children to mould children as fflexible, self-regulated, and productive thinkers, and problem solvers.

Bryans (1987) claims that the individuality of each child is central to early years provision. This would mean that a child should be assisted in constructing his own curriculum. The crucial element here is sensitivity to the child's interests and appropriate provision of resources.

Briefly, it can be stated that for pre-school curriculum, the young child, the nature of his or her development, and the context in which he or she is developing must be considered for developing learning skills and creativity. Play is a good source of individual development, as it provides opportunities for self-expression and learning (Alexander, 1988, 1989). However, play alone is not adequate. How it is implemented within the classroom setting as a part of the curriculum is important. Again, among the factors which play roles in increasing creativity, the role of self- initiated play becomes significant. Smith (1986) claims that for some young children play helps them learn and develop , but it is not freely chosen many times. In a study, Wasserman (1992) found out that play allows children to make creative discoveries. This is a result of the fact that creation comes from tinkering and absence of fear of failure, rather than minds trained to follow what is already known.

In the study of Bhasanavich (1993), three child rearing practices which were democratic, autocratic and overprotective were examined in 14 kindergartens and then the curriculum approaches were compared to each other. The curriculum approaches were: activities-oriented curriculum and academic- oriented curriculum. The results of the study showed that students in the readiness group obtained higher scores on TTCT than the academic oriented group. Bhasanavich (1993) suggests the use of brainstorming, webbing, and pretending as techniques to help students produce new ideas and form relationships between concepts to encourage their imagination and to involve students with minimal amounts of direction, exposition and instruction. It is revealed in many other studies as well , that creativity and problem solving are dependent on the type of education and training given. In another study, Severide and Sugawara (1985) searched for the effectiveness of creative experiences in enhancing creative development by collecting pre- and post- data in imaginative writing, puppetry classes, and creative problem-solving classes using the divergent thinking scales of the structures of the intellect. The creative problem solving class was found to be more effective in enhancing creative scores. Six months follow-up data gathered on the creative problem- solving group revealed that all gains were maintained.

In addition to these findings, Kawenski (1991) showed that training for creativity is quite effective for the enhancement of creativity, not only during childhood, but even after. In his research, design students were given a 6-week course called "Needs Awareness and Design", which stresses the development of creative thinking skills and problem solving through activities like brainstorming and similar others. It is interesting that the age level seems to be a critical point here, and the research results favor younger age groups starting from 5-6 years and including middle age. In early childhood and infant years and in late adulthood years, people seem to have lower gained effects from training. Studies done on creativity training with adults have shown that training always have positive effects on creativity development. Kawenski's findings also support the necessity of a specially designed curriculum for developing creativity in pre-school years.

Depending on the research carried on pre-school education, The National Children's Bureau (1990) declared the following principles of pre-school education in Britain:

"- that young children are important in their own right, and as a resource for the future;

- that young children are valued and their full development is possible only if they live in an environment which reflects and respects their individual identity, culture and heritage;

that parents are primarily responsible for nurturing and supporting the development of their children and that this important role should be more highly valued by society;

- that central and local government have a duty, working in partnership with parents, to ensure that services and support are available for families; services that encourage children's cognitive, social, emotional and physical development; and meet parents' needs for support for themselves and day care for their children."

(National Children's Bureau, 1990, p.1)

Bruce (1987) identified three elements required in the construction of an early childhood curriculum- the child and processes and structures within the child; knowledge the child already has; and knowledge the child will acquire competently but with imagination. Children try to "make sense" of their experiences. For the children themselves, the effective curriculum is what each child takes away. Schools and their teachers need ways of finding out what each child's experience is and how well they are learning what the school intends (Schools Council, 1981). If the society, intend that its young children have access to an appropriate early years curriculum for three to five year olds, as a current entitlement and as a foundation for later learning, it needs to be explored what is meant by the term "curriculum" for this age group, why it is so decided, and how such a curriculum may be available whatever type of setting a child may attend. The early childhood curriculum is also important in more cognitive aspects such as development of thinking skills, creative problem solving and aesthetic preferences. For example, Diem (1991) suggests that early childhood experiences are very important for human development. The development of rational thinking, attention span, and ability to memorize in the first years of life are very much dependent on motor experiences gained through exploring and comprehending. Early learning experiences should not be forced on the child, but should develop through self-discovery, play with others, and personal challenges. Uninhibited movement experiences are necessary to promote creativity and curiosity. Similarly, McWhinnie (1969) in his study found that there are significant effects of a specific type of perceptual training upon selected variables of creative thinking on primary school.

2.6.Several Preschool Curriculum Models:

Depending on the knowledge about the significant effects of training on cognitive and creative skills, some curriculum models are developed. For example, Robin Alexander (1988) identified several different types of primary and pre-school curriculum. Depending on the societal and individual factors, one of these could be used. These curriculum models can be based on perspectives emphasizing humanistic view, behavioral approach, practical skills in a field, society-oriented, progressive and individualism, and psychological and physiological development and learning.

Drummond et al. (1989) claims that in order to develop a pre-school curriculum, different models must be critically examined. Research also seems to be focused on the development of cognitive skills such as promoting engagement in pre-school children with special needs, including rotating toys to maximize novelty, specifying engagement goals, and using individualized materials Mc Gee (1991). For promoting engagement, consideration of methods about engagement goals and ways to manage the logistics of the individualized program are important. Similarly, Gehlback (1991) formulated guidelines that emphasize on environment for the design of children's creativity during play. He claims that play environments, if properly designed, produce behavioral adaptation and developmentally meaningful creative play behavior.

Pugh (1992) claims that there should not be any pre-determined curriculum for young children. Rather, it must be developed and modified according to what the people in a society believe. Here the critical matters are whether a topic is appropriate for children to learn, the position of children in that society, and the kind of people that society wants children to be and to become. Dowling and Dauncey (1984) suggested that rather than specifying strict objectives in pre-school curriculum, these objectives must be determined by the society by the assessment of social needs and. Continuity of the pre-school curriculum is another important issue that needs consideration. The House of Commons Education, Science and Arts Select Committee (1989) reported that pre-school education is not a separate part of education. Rather, it is the first step of the educational procedure. Preschool education is a period in which individuals gain skills and personality characteristics which will influence them all through their lives. Therefore, the most important goal of pre-school education is to support children with skills which will be used to adapt the ever-changing world.

There are some important effects of the cultural variables on pre-school curriculum. Lubeck (1986) in her research in the United States showed that children from different socio-economic and racial backgrounds learn different ways of interacting with each other and with adults, and learn different ways of being self-oriented or socialized. Lubeck points out that depending on circumstances, operating in each of these ways may be necessary. Limiting children through the curricular context, or through failing to encourage the learning process would be harmful for social adaptation and developmental skills. Ward and Warren (1971) found that socio-economic status was significantly associated with creativity. Also, Aldous (1970) showed that family background variables are related to third graders' performance on nonverbal tests of creativity.

Research about creativity and curriculum have findings and suggestions that creativity training has positive effects on children from middle and high socioeconomic statuses more than it does on children from low socioeconomic status. This finding seems to be a good evidence of the importance of a good environmental and educational background or basement which is necessary for creativity to develop further. In a supporting study, Fu (1977) found that high SES children are more creative than low SES children. In some studies, gender factor was examined and no significant gender differences were found in analyses of popular or original responses to the creativity measures (Freeland and Moran, 1987) in pre-school years. It should be added that regardless of sex and SES, special training through different methods like the use of computers (Houghland, 1992; Henderson et al, 1991), or inquiry training (Scott et al., 1965) does always improve creativity and problem solving skills in pre-school years.

Related to the importance of the environmental and educational factors in creative development, The Early Years Curriculum Group suggested that the learning context for young children should provide a broad and stimulating environment which reflects the cultural backgrounds and interests of the children:

"Each child starts school with a unique set of experiences gained at home and in his or her community. A learning environment should respond to each child's need for something familiar, something new and challenging, and something which enables him or her to pursue a current interest. An environment and daily program which offer maximum choice to individual children in terms of access to equipment and space , use of time , and opportunities for collaboration with others is most appropriate."

(EYCG, 1989, p.2)

The early years curriculum, must offer all young children high-quality experiences which make sense to them. And since children learn in individual ways and at individual rates, it is essential that the principles relating to early childhood provision continued into the infant school and older ages. These principles include; attention to the whole child; integrated (not compartmentalized) learning; starting from children's own concerns, abilities and interests; first-hand experience and play; the ensuring of time, i.e. self-regulated activity bouts; and access to adults and children with whom they can interact, and who show respect for all children as valued human beings with a right to equality of opportunity. The curriculum each child takes away should have been relevant, challenging- and fun.

When the literature is considered about the importance of creativity, the nature of pre-school years and pre-school education, it seems that some special treatment is necessary. This treatment does not have limitations, and there exists no specific recipe of treatment for creativity. Here, the quality and quantity of the materials used, teacher-student relations, and play atmosphere are the means through which creativity and problem solving can be achieved. There are some examples that emphasize the importance of curriculum for pre-school years. Liikanen (1975) found in his study on pre-school children that social background variables are not strongly related to creativity before or after training for creativity but, the more creative activities and art interest the parents had, the more creative their children were both before and after the training. The training program appears to increase children's creativity more than traditional kindergarten classes.

In a study, Dodge (1991) designed a curriculum to provide practical and comprehensive assistance to family child care providers in a range of settings. The curriculum consisted of two parts. Part 1 is composed of setting the space, helps care givers formulate a philosophy of child care, understand child development, prepare their settings, and plan their programs. It includes many ideas for making the home environment safe and inviting, selecting the right kinds of materials, managing the day, guiding children's learning and behaviors, and building a partnership with parents. Part 2: Activities, offers and ideas on ways to select materials and plan experiences that help infants, toddlers, preschoolers, and school-aged children grow, and develop. The nine types of activities described in Part 2 are; Dramatic play, blocks, toys, art, books, sand and water, cooking, music and movement, and outdoor activities. Dodge (1992) claims that the teaching guide provides teachers of young children with a philosophy and guidelines for teaching that address children's social, emotional, cognitive and physical development. The guide describes a curriculum that offers teachers guidance, support and freedom to be creative and responsive with children, and provides children including disabled children, with a carefully organized and rich environment.

Allgeier (1991) claimed that behavior is influenced by play contexts, and that toys which aid creative development should be established as part of the pre-school curriculum.

2.7. Preschool Education In Turkey

Ministry of National Education has prepared three curricula for pre-school children, in three levels; for creshes (for those who are 0-72 months old), for children who are 4-5 years old, and for children who are 6 years old. The general objectives of pre-school education are given below (Ministry of National Education, Dept. of Preschool, 1994)

2.7.1. General Objectives Of Turkish Pre-school Education.

The objectives of the pre-school curriculum have been defined as the following;

1. To enable children to develop in physical, cognitive, psychological and social areas, and to help them gain the major habits.

2. To help children develop loyalty in national, moral, cultural and humanistic values, in every chance.

3. To help children gain love for Atatürk, nation, country and the flag.

4. To help children gain responsibility, and become honest, respectful, polite and neat people.

5. To give opportunities that will enable children gain express themselves, gain independence, and build self-control.

These objectives are parallel to the objectives of Turkish National Education, which are focused to develop all the individuals of Turkish culture in terms of the following;

2.7.2. General Objectives of Turkish National Education

1. To develop individuals as people who are loyal to Atatürk's revolutions and principles, and nationalism; who anticipate, protect and develop the national , moral, humanistic and cultural values of Turkish people; who know and perform their own responsibilities for the Turkish Republic, that is egalitarian, democratic and secular .

2. To develop individuals as productive members of the society, who have a healthy personality in terms of body, mind, morality, and psychology; who have free and scientific power of thinking; a broad vision, respect for human rights, personality and investment, responsibility for the

society, and creativity.

3. To prepare individuals for life by developing their interests, abilities, and skills, and by supporting them with knowledge, and skill to cooperate, and to help them gain a profession that will contribute to personal and social satisfaction.

2.7.3. The Philosophy

Generally, the philosophy of Turkish educational system (as mentioned above) is focused on the importance and continuity of the culture and the value system of Turkish culture. As can be seen in the principles above, individuals in the system are perceived as members of the society, rather than individuals who have different abilities, needs and interests, and are expected to play the role of " good citizens" who contribute to the well-being of the society. This is easily perceived at all levels of the education system, including pre-school education. In the present study, it was observed that in selecting the units, important dates of history were given priority, even though they were rather abstract and memorization-based issues for the five-year- olds to comprehend, and these units were not given special effort to be turned into concrete terms through activities and materials, for children to understand.

2.7.4. Organization and Past History

The first studies about establishing pre-school education in Turkey started at the beginning of the 20th century. However, the economic and political conditions of Turkey avoided to make innovations, during the Ottoman Empire. During the first years of the Republic, some emphasis was given to pre-school education, however, it was not considered as important as the upper levels of the educational process. The first practical model for pre-school education was stated at the 10th National Conference for Turkish Education, in 1981. At the conference, it was aimed to make pre-school education a part of the normal educational system, to cope with ever changing socioeconomic conditions. As a result, it was decided to add one period, as the pre-school class. It was also considered to protect and develop the already existing kindergartens, and the basics of pre-school curriculum was determined. At the conference, pre-school education was considered as an educational level which was optional at the beginning, but gradually turned out to be obligatory for children between 0-5 years old.

2.7.4.1. Objectives and Selection of the Units :

The pre-school education is regulated by the Ministry of Education through specific units prepared by pre-school and curriculum specialists, from universities, ministry and the field. The curriculum which was prepared in 1994, there are clear objectives referring both general and behavioral objectives. The curriculum also includes a measurement scale encompassing psychomotor, affective and cognitive domains. For the implementation part, there are classroom activities in the curriculum. The important point here is that these subjects, and their implementations are presented as sample cases that should be taken as guides for classroom teachers, rather than packages. Therefore, teachers are obliged to make their original daily plans by considering these guides This aspect of the curriculum very encouraging for freedom of teachers to create activities and methods in the teaching- learning process however, it leads to huge differences between the written curriculum and the real curriculum. Based on the guidelines in the written curriculum, objectives, activities and strategies are usually designed by the curriculum specialists or the teachers themselves in the kindergarten. For example, in the present study it was observed that the subjects were decided on by the specialist of the kindergarten, and the teachers were deciding on their objectives and implementations of the units, individually. This individuality in setting the objectives and implementing them in the classroom makes it more difficult to achieve standardization and equalization in teaching. Moreover, in the sample kindergarten, the units were not ordered from simple to complex, and from center to peripheries. Rather, they were ordered in a mixed way with repetitions in close distances, and missing parts in some units (see Appendix). This lack of order inhibits lateral and vertical transfer, which constitute retention of new information, and building new schemas. Order of the units is extremely important because when it is considered that pre-school children are in preoperational stage, their learning needs should be supported by mental cues which enable them to visualize the incoming information, and develop new schemas by operating mental strategies. Moreover, a meaningful order of the topics may lead to creativity and problem solving skills, by inducing higher amounts of curiosity and motivation. Creativity and problem solving are skills that are integrated and they can be shaped by the kind of education, as well as by the background factors like socioeconomic status, or special abilities. Especially when the literature that supports the importance of the type of education given in early years is considered (Kawenski, 1991), setting the objectives and units seems to be especially important. The major reason for having clear goals and objectives is not to direct children in the learning process, but to help the teacher to have a broader vision about the procedure. Having goals would also be helpful for the teacher to make modifications whenever there exists a problem during implementation and evaluation. It can easily be predicted that the difference between the written and real curricula in pre-school education leads to similar problems in other kindergartens as well, since it is vulnerable to the background characteristics of pre-school teachers ; such as level of education (e.g., vocational school or university), individual differences in experience (e.g., first year in job or having a few years professional experience), and differences in personality and abilities (e.g., creativity of the teacher herself, personality characteristics of the teacher, etc.). To sum up, it seems to be a problem for Turkish pre-school education that there is no standardized, curriculum; rather there is a clear guideline which can be freely used by teachers. When the teacher characteristics for pre-school education are considered, this "freedom" can be misunderstood by different teachers at different times, depending on internal and external factors.

2. 7.4.2. Implementation of the Units and the Nature of Classroom Activities:

In terms of classroom activities, the teacher acts as the authority in the classroom, who makes decisions on the activities and materials. In other words, the teacher is stuck with the conventional roles of the teacher, and students are forced to play the conventional role of students. This was reflected in student- teacher relations as well; teacher being the sender and the student being the receiver. Even though there are no strict time limits and formal classroom look, what is being done in the class is completely a formal education, almost never supported by two way communication, that is, communication from students to teacher and vice versa. One- way communication in pre-school inhibits one very important factor that should be given in pre-school.: satisfaction of needs. Those needs are emotional, cognitive and social needs such as freedom in expressing the self feelings, thoughts, being encouraged to produce ideas. When children are forced or encouraged to obey the rules of our conservative adult community, the chances are that they will not be able to develop unique life styles , and unique views in life through which they represent themselves.

2.7.4.3. Evaluation and the Follow-up:

The curriculum prepared by the Ministry offers a detailed evaluation scale for kindergarten teachers . Also, YA-PA offers booklets for following children's progress from beginning to the end of the pre-school years. However, in Turkish pre-school education, such scales are not referred to often. Rather, teachers use observation to asses problems in behaviors, or setting out their curricula in the classrooms. One of the reasons for the lack of measurement in kindergarten might be that pre-school education is not perceived as a part of our formal education , both by the parents and by the teachers. Rather, most people think of pre-school education ais a stage which keeps children in a secure place when the mother is at work. Here, children learn to be separated from the family- usually the mother, learn to get along with the peers, learn social rules and get ready to start elementary school. In such a stage, people do not need any standardized evaluation of progress; rather, teachers rely on their own observations on children, and inform parents and give them feedback about their children only when a problem occurs. This situations also leads to a lack of parent-teacher communication, as both sides do not give feedback to each other, regularly as both sides do not believe the importance of continuous evaluation during the pre-school years

2.7.5. Pre-school Research in Turkey

There are several studies in Turkey which search for the effects of different teaching methods and strategies in terms of developing cognitive growth, creative thinking and problem solving, both in pre-school education and the following years. Recent literature in Turkey focuses on the beneficial effects of early childhood education on children's creativity as well as cognitive, affective, and psychomotor development. Many recent studies claim that pre-school education has a positive effect on development (Atar, 1987; Çınar, 1990; Yılmaz, 1990; Yinesor, 1989; Ercan, 1993). The literature in Turkey emphasizes the impact of educational practices both in terms of home investigation programs (Ercan, 1993), and programs applied in kindergartens (Başal, 1992; Ömeroğlu, 1990; Çınar, 1990). There is an emphasis given on educational technology; such as use of computers in the pre-school, effects of socioeconomic status on children's development in pre-school, and general evaluation of already- existing pre-school curricula. For example, in an experimental study, Pekçağlıyan (1990) compared the effects of computer-aided instruction in the classical curriculum in pre-school, and she found significant increases in performances like recognizing, description and differentiation of geometrical shapes and color tonations in the experimental group. Similarly, Coşkun (1990) searched for the effects of computer utilization in pre-school to help concept acquisition for number symbols between 1 and 5. She suggests that computers should be used as a part of concept learning, and as a reinforcement of symbol acquisition. Consistent with the literature abroad, studies in Turkey reveal that the use of special training - through computers, dramatization, introducing materials, etc. do increase cognitive development including concept learning, creativity, problem solving and retention of knowledge for short and long terms. In another study, Afsuroğlu (1990) claims that educational practices are very effective on the development of some cognitive skills like learning geometrical shapes in children between 5-6 years old. She suggests that efficient teaching strategies will not only help knowledge acquisition, but also retaining information in memory for a few weeks. Çınar (1990) also claims that early childhood education is very important on children's social development, especially when it is well planned, includes materials enhancing learning, and well-trained staff who encourage development of pre-school children. It was suggested in another study that pre-school education is effective on language development(Yinesor, 1989). Activities like drama are also gound to be effective in creativity development at early ages (San. 1979).

There are some other studies in Turkey, suggesting that the socioeconomic status of children and educational levels of their parents do have an impact on social adaptation, as well as on cognitive and creative development. These findings are also consistent with the findings obtained in the western countries. In a study, it was found that for language development in pre-school, there are differences between children from families in different socioeconomic levels (Erkan, 1990). Another noteworthy finding about family background characteristics is that these factors are important determinants of family expectations of pre-school education (Garih, 1991). In other words, there exist differences in expectations of mothers from high and low socioeconomic backgrounds, in terms of curriculum and language improvement. Such differences in SES also influence actualization of pre-school curricula . In a research about the problems that teachers face in implementation of pre-school curricula , majority of teachers pointed out the differences in SES of children, which inhibit learning the given knowledge (Kandır, 1991).

CHAPTER THREE

METHODOLOGY

In this chapter, the activity-based spiral curriculum and data collection procedures employed in this study to develop, implement and evaluate it are presented.

3.1. The Problem Statement

The present study explores the development, implementation and evaluation of an activity- based, spiral pre-school curriculum in METU Kindergarten. The main question involved in the study is ;

Is there a significant effect of the activity-based, spiral curriculum on creativity of the experimental group subjects?

Related questions with the main question are presented below,

Is there a significant effect of the activity-based, spiral curriculum on fluency of the experimental group subjects?

Is there a significant effect of the activity-based, spiral curriculum on flexibility of the experimental group subjects?

Is there a significant effect of the activity-based, spiral curriculum on originality of the experimental group subjects?

Is there a significant effect of the activity-based, spiral curriculum on elaboration of the experimental group subjects?

To see if there is any effect of the program on behaviors as perceived by the parents and the teachers, the following problems were posed;

Is there a significant effect of the activity-based, spiral curriculum on Parent Observation Scale in the experimental group?

Is there a significant effect of the activity-based, spiral curriculum on Teacher Observation Scale in the experimental group subjects?

3.2. Definition of Terms:

3.2.1. Activity-based, Spiral Curriculum

This is a curriculum model designed and developed by the researcher, based on the activities carried out inside and/ or outside the classroom. The curriculum consisted of a hierarchical order of the units and topics, according to their levels of complexity and abstraction. In other words, the organization of the units is from simple (directly related, central issues to the child) to complex (peripheral issues which are not directly related, but relevant to the child).

3.2.2. Creativity

Creativity refers to the scores of subjects at the dimensions included in the Torrance Test of Creative Thinking-Form A (See 3.2.2.1., 3.2.2.2., 3.2.2.3., and 3.2.2.4.).

3.2.2.1. Item Fluency:

Item Fluency score is simply the number of responses minus the number of duplications and irrelevant responses. The higher the frequency of unique responses given at the test, the higher the Item Fluency.

3.2.2.2. Item Flexibility:

Item Flexibility score is obtained by counting the number of different categories into which the subject's responses can be classified. Variety of the categories that the given responses belong to will lead to a higher score of Item Flexibility. Scoring for Flexibility is done according to the directions and the list in the User's Manual.

3.2.2.3. Item Originality:

Item Originality refers to the ability to give responses which are not frequent. On the TTCT, scoring for originality is based on tabulations of the responses of 500 subjects from kindergarten through college. Responses found in 20 per cent or more of the records are given no credit. Responses occuring in from 5 to 19 per cent of the records are scored one point; those ocurring in 2 to 4 per cent of the records are awarded two points. All other responses showing imagination and creative strenght are awarded three points. Scoring for originality is done according to the User's Manual of the TTCT.

3.2.2.4.Item Elaboration:

This is measured by awarding those ideas communicated by each object, in addition to the minimum basic idea. Item elaboration is scored by giving credits to every detail of the main idea, at the TTCT.

3. 3 Design of the Study:

3.3.1. Subjects

The subjects were three classes of 5 year-old children in METU Kindergarten. One of the classes was the experimental group, and the others were control groups. There were altogether 28 boys and 23 girls, and 22 children from families of academic staff and 29 from families of administrative staff in the study (See Table 1).

The classroom teachers and parents of the children were also the subjects of the study. Although there were two teachers in each classroom (the classroom teacher and her helper), only the classroom teachers were included in the study. Therefore three teachers and 51 families were included in the study.

Table 1. Distribution of subjects according to Groups and Sex.

SEX	EXPERIMENTAL	CONTROL 1	CONTROL 2
MALE	12	10	8
FEMALE	8	8	7
TOTAL	20	18	15

Table 2. Distribution of subjects according to Groups and Birth Dates in Monthly Intervals.

Month Intervals	EXPERIMENTAL	CONTROL 1	CONTROL 2
January-April	11	1	3
May-August	8	4	10
Septem-Decem.	1	13	-
Total	20	18	13

3.3.2. Instruments

The instruments used in this study are given below:

3.3.2.1. Torrance Test of Creative Thinking- Form A (TTCT- Form A) :

TTCT-Form A was administered to measure figural creativity of the subjects. TTCT was developed by E.P. Torrance (1966) , and was translated by Yontar in 1985 into Turkish.The Torrance Test of Creative Thinking consists of batteries of verbal and figural activities based on an analysis of thinking manifested by scientists, writers, artists, and others in making outstanding creative achievements. These activities require kind of thinking analogous to the thinking involved in recognized creative achievement. Each activity is believed to bring into play somewhat different mental processes yet each requires the subject to think in divergent directions (Torrance, 1966). The test is composed of three activities and yields scores on the four creative ability measures of figural originality and figural elaboration. These activities are; 1. Picture Construction Activity; 2. Incomplete Figures Activity; and 3. Repeated Figure Activity. In this study, Picture Construction Activity was omitted, since it includes cultural norms.

According to Gerald Halpin and his collegues (1974), studies using the torrance Tests of Creative Thinking indicate that this is a instrument has useful reliability and validity (Hooland, 1968).

Inter-scorer reliability score of the test was calculated by Oral and Yontar in 1991, in an unpublished study. Results are shown below:

Table 3: Interscorer reliability scores of TTCT.

Measure	Coefficient of Correlation
Figural Fluency	1.00
Figural Flexibility	.96
Figural Originality	.96
Figural Elaboration	.95

3.3.2.2 Parent Observation Scale (POS)

POS is a Likert type of scale which is developed by the researcher in order to evaluate parents' views about their children's behaviors on a 4-bipolar continuum. POS does not measure creativity, rather it includes questions about daily behaviors that are easy to observe at home. For example, " Does he/she talk about the the events happen at kindergarten that day?", or "Is he/she able to concentrate easily on a particular task at home?". Some of the items refer to skills which interact with creativity. For example, "Can he/she associate a topic that is taught at school with the home environment?" is one of these items. The ratings were done on a scale where 1 stood for "never", 2 stood for " sometimes", 3 stood for " frequently", and 4 stood for "always". The behaviors were controlled by two independent developmental psychologists for their consistencies, and it was confirmed that the behaviors can be utilized in the instrument. Parent Observation Scale is given in the Appendix. Inter-item reliability scores of Parent Observation Scale for three applications are shown in the table below:

Table 4. Inter-item reliability coefficients of POS in three applications.

Parent Observation Scale	Inter-item coefficients
First Application	.96
Second Application	.94
Third Application	.81

3.3.2.3. Teacher Observation Scale (TOS) :

TOS is a four-point Likert type of scale which is developed by the researcher in order to evaluate teachers' views about their students' development . TOS items do not assess changes in creativity, but rather it includes questions about daily behaviors that are easy to observe at kindergarten; such as "Is he/she able to ask questions freely during observations or experiments?", or "Is he/she able to pronounce the new words accurately?". Similar to POS, in TOS there are some items which interact with creativity such as "Does he/she associate a topic with other topics?". The ratings were done on a scale where 1 stood for "never", 2 stood for "sometimes", 3 stood for "frequently", and 4 stood for "always". Teacher Observation Scale is given in the Appendix. Inter-tem reliability of

Teacher Observation Scale at three applications are shown in the table below:

Table 5. Inter-item coefficients of TOS at three applications.

Teacher Observation Scale	Inter-item Coefficients
First Application	.95
Second Application	.94
Third Application	.72

3.3.2.4 Validity Of The POS And TOS: The following validity evidence has been collected for the POS and TOS.

3.3.2.4.1 Content- Related Evidence:

The purpose of the observation scales was to assess the perceptions of parents and teachers about their children's behaviors. The observation scales were selected among the literature including behaviors that reflect cognitive, social and pscyhomotor development (Day, 1988; Biehler& Snowman, 1990; David, 1990; de Bono, 1992). In general, the content of these scales were checked by two specialists in terms of appropriateness of these behaviors. The behaviors which were covered in the scale were checked by two independent developmental psychologists in terms of their consistencies. Based on the literature review and expert opinions, the content of the scale was considered appropriate for the purpose of the study.

3.3.2.4.2. Criterion- Related Evidence:

The sub-dimensions of the TTCT were Fluency, Flexibility, Originality and Elaboration. As the content of TOS and POS were examined, it was observed that some dimensions are highly related to those behaviors as measured by TTCT. If parents and teachers are rating children's behaviors more positively throughout the treatment, this could be interpreted as a behavioral change in children. Even though this treatment is basically for enhancing creativity of students, if any change has occured, this might be reflected in TOS and POS. Since there is a contentwise similarity between creativity behaviors and the behaviors observed by the scale, significant correlations should be expected between the observation scales and the creativity scale under the condition in which TTCT scores were treated as a criterion measure. When correlations among these scales were closely investigated, the following correlations were observed among these scales. For instance, there are significant correlations between Originality 2 and Pos2 ($r=.3660$; $p=.008$), as well as Originality 2 and POS 3 ($r=.3521$; $p=.011$). The correlations between Fluency 2 and POS 2 and POS 3 were also significant ($r=5101$; $p=.000$ and $r= .3136$; $p=.025$, respectively). Similarly, the correlations between Flexibility 2 and POS 2 and POS3 were significant ($r=.5025$; $p=.000$ and $r=.4215$; $p=.002$, respectively).There were also significant correlations between Elaboration 2 and POS 2 and POS3 ($r= .2855$;$p=.042$. and $r=.4533$; $p=.001$, respectively). There was also a significant correlation between Originality 2 and TOS 2 (r=.3560; p=.010).

Eventhough the use of creativity scores as a criterion variable is questionable, these moderate to low correlations can imply that TOS and POS could be good measures of children's behavioral changes throughout the treatment. There was a significant and negative correlation between POS3 and TOS1 (r=-.3586; p=.010). This implies significant gains through the treatment, in favor of children's behavioral changes, since ratings at the beginning of the treatment by the teachers were reversed at the end of the treatment on the parent observation scale. At the last observation, parents rated children positively as compared to the beginning of the treatment.

When the correlations were examined for the three groups, significant relationships were also observed for each group (See Appendix), which can be considered another evidence for criterion-related validitiy.

Validity is a never ending process but within the framework of this research, these correlations deemed adequate evidence for the parent and teacher observation scales.

3.3.2.5. The Activity-based, Spiral Curriculum

3.3.2.5.1. General Objectives of the Activity-based, Spiral Curriculum :

The activity-based, spiral curriculum was developed by the researcher in order to reach the following general objectives:

1. develop in cognitive, affective and psychomotor domains as well as help them gain real-life skills.

2. develop flexibility in learning, thinking and problem solving.

3. gain a high self-esteem and internal locus of control.

4. gain environmental awareness and help them develop healthy social relations with the environment and people around.

In order to give clear ideas about the activity- based, spiral curriculum, the following characteristics about the content, implementation and teacher factor are presented.

3.3.2.5.2. Characteristics of the Activity- Based, Spiral Curriculum

1. <u>Setting the Objectives:</u> In the activity-based, spiral curriculum, related objectives were given for all the units, in the cognitive, affective and psychomotor domains.

2. <u>Hierarchical Order of the Units</u>: The order of the units was from simple to complex, and from center to peripheries. The units started from the simplest concepts which are related to the students' own lives like their feelings and bodies. The units gradually moved further to subjects which are indirectly influencing childrens' lives, such as the seasons, shopping,

etc. The complete order of the units is given in Appendix A.

3. Flexible Structure and Flexible Flow of the Units: Before the activity-based, spiral curriculum was implemented, a flow chart which included the weekly schedule of the subjects and activities was prepared by the researcher. Every week, the schedule of that week was on the flow chart. The chart was placed on one of the walls,of the classroom, so it was easily accessible, and easy to control the activities all through the day. This led the teacher and the researcher act rather flexibly. Through a continous exposure to the flow chart, the teacher and the researcher were able to check the program flow any time of the day, give decisions about the efficiency of the program, and make modifications individually or as a team, whenever a problem emerged during a particular activity, or a better idea about implementing the unit has come up. In other words, the new program was relatively more flexible and open to changes and modifications, because everything done in the classroom was visible and more comprehensive, it was possible to make modifications or add new alternatives on the program, and discussions and idea exchange was made possible between the teacher and the researcher. Here, another important point is that this system has given an opportunity to the teacher for using initiation during implementation. Thus the teacher alone was stimulated to use her own creative potential and problem-solving skills.

4. Spiral Structure: All the activities done in the classroom were related to the subjects and therefore, supported the subject. Therefore learning was

reinforced through relevant actities and discussions. During the reinforcement of activities, subjects started form simple and continued to complex forms of knowledge.Thus the students were able to recognize and create associations between different contexts, such as settings, people or objects. As an implication, students were provided with opportunities to develop skills for applying what is learned in the classroom to their own lives. In order to enhance building associations, problem-solving and creative thinking skills, implementation included activities like role-playing, experimentation, demonstration, questioning, discussion and brain-storming.

5. Eclectic View to Learning: The students were stimulated to perceive the events, objects, views, etc. through different views. In order to do this, units were discussed in a combined way in their contents. For example, social units were connected their scientific components, and scientific units were taught together with the social aspects and daily implications.

6. Opportunity for Inquiry and Idea Generation: During implementation, questions like "what would happen if...?" or " What would you do if ...?" were used frequently. This increased children's motivation as well as it helped for the production of creative ideas, and problem-solving skills.

7. Use of Humor for Enhancing Creativity: Humor was always at the first hand during the activities, because it seems to be the most efficient way to initiate motivation and interest, as well as keeping attention and focus on

the topic presented.

8. Physical Warm-Up: Every day, right after breakfast, a 30 minute warm-up was an important part of the implication. The students were shown video tapes including songs with rithmic movements, related to the content of the song. The students have started the day with this dance activity. The major reason for including this activity in the program was to help children get rid of the morning stress which is primarily originated from separation from the parents and also to have a recreational activity early in the morning. Thus many students were prepared for learning in a motivated, and psychologically relaxed manner.

9. Opportunity for Family and Teacher Feedback through Evaluation : Before the study, it was observed that the classroom teachers had one day of the week to meet the parents. It was not obligatory; parents who wanted to meet the teachers were able to come to the kindergarten that specific day. However, many parents were not meeting the teacher and receiving feedback about their children's progress at school. Therefore, parent-teacher communication was not in the optimum level. Besides, this teacher-parent communication was usually a one-way communication rather than a two-way communication. The meetings were done only when there was a problem. One of the parties had things to say to the other one; if the parent had a problem, he/she was more likely to talk about the child's problems, expecting the teacher to solve it, and if the teacher had a problem, she usually complained about some specific manners of the child

in the class and asking the parent to solve that problem. Situations in which both parent and teacher cooperated to create alternate ways to solve problems, or to increase positive conditions were quite rare. Thus, the family- kindergarten relations were artificial to some extent, because the school administration was not quite familiar to the problems arising between child-teacher-parent triangle and therefore, was inadequate to offer alternative solutions to the problems. In the present study, the Teacher and Parent Observation Scales were delivered to them three times ;one at the beginning, one in the middle and one at the end. This procedure was quite helpful in increasing family-kindergarten relations, because the questionnaires included questions that allow for personal suggestions of the parents and teachers. Thus, the parents were given a chance to feel as a member of the school, and teachers were given a chance to feel more confident because of being referred to as professionals for giving suggestions.

10. Evaluation: The activity-based, spiral curriculum was evaluated by the parent and teacher observation scales three times . Besides, the effect of the new curriculum was evaluiated on students' creativity.

3.3.2.5.3. Materials Used During Implementation of the Activity-Based, Spiral Curriculum:

1. Books: In the kindergarten, there was a rich library, composed of books produced by Turkish companies. Most of them were story books, and

some of them were encyclopedias . During the new program, some other books which were produced by British and American companies were used as well as the Turkish ones. The foreign books were about science, nature, and stories- including children's classics. The new books were pop-up books, lift-up books, 3-D books and some of them were mixed. The design of the books were rather interesting for the children they were very effective to visualize new information and see the objects' inside and outside simultaneously, to see cause-effect relations and to increase concrete operational skills.

2. Audio-visual Aids: In the kindergarten, there was a TV and Video room that was used by single classes or altogether, in predetermined times. There was also a musical equipment in the room. The materials were usually video cassettes which included popular cartoon characters. These materials were either brought by children from their homes or they were present in the kindergarten. There were also music cassettes which were mostly the selections of Turkish pop music, rather than special songs for children. During the study, video cassettes of Sesame Street were used twice every week, regularly, as an important part of the program. Also, every day started with the gym time, that composed of watching and following the movements in video specially done for children, and composed of children's songs.

3. Artistic Activities: Activities like mask making and /or costume making by children themselves were not done in the kindergarten. In the new

program, as part of the drama and role playing, face and body masks, and simple costumes like dresses or body parts of humans and animals were tried. It was observed that children were quite interested in those activities and learned the subjects better. Besides, during the study, creative activities were done using different materials like Epsom salts, dry tempera, etc.

3.3.2.6. Characteristics of the Pre-Existing Curriculum of the Kindergarten

1. The Objectives: In the pre-existing curriculum, the objectives were not clear, only one or two general objectives were stated. Setting strict objectives for pre-school is not realistic. However objectives may give ideas to teachers about their implementation and evaluation. At the present study, lack of objectives was a problem for the teachers, as they did not have clear vision about what they wanted to develop in their students.

2. Unit Order: In the pre-existing curriculum, units and subjects were given in a chaotic order, and this led to lack of meaningful order among topics. This was one of the biggest problems of the kindergarten. Even though the administrators who prepared the curriculum were satisfied with it, there were important problems with the order. The unit order was not designed in a meaningful way to allow building associations among topics. This situation was not beneficial for creativity to develop.

3. Unit Implementation: Generally, in the pre- existing curriculum, implementation of a particular subject through classroom discussions lasted for an hour per week or even less. In other words, subject matters were usually taught through short lectures, and sometimes by the help of simple drawing/painting activities in the program. It was also observed that in the pre-existing curriculum, the students were asked questions directly related to the unit, but questions which could increase children's imagination, creativity and problem solving skills were not asked. In other words questions and activities which increased creativity were not considered in the classroom activities. Another observation was that the majority of the classroom activities were not related to the main theme of the subject in the previous program. They were not either supported by activities like role playing, experiments, observations, discussions, brain-storming, and so on. For example, the units were presented without a structure so that children had to learn the units "Autumn" and "Rain" in different times, without mentioning about the relationship during implementation.

4. No Use of Humor During Implementation : The main purpose of the pre-existing curriculum was to focus on the societal rules and norms. Thus, children were reinforced to be serious and respectful most of the time. Humor, which is an important factor that enhances creative thinking and positive attitudes was not referred to very much during implementation of the units in the previous program .

5. Perception Related to the Units: The teacher was using a perception that was directly related to the topic to be taught. There was no case during the study in which the teacher herself used or asked children to employ multiple viewpoints when perceiving the events. In other words, there was no eclectic tendency in teaching.

6. Evaluation: There was no evaluation of the program. The curriculum was designed by the administrative staff and was implemented without evaluation. This situation was perceived as a problem by the administrative staff, because of lack of feedback from the families.

3.3. 3. Procedure

Before the present study, a needs assessment study was done on teachers and parents of children in all grades in METU Kindergarten. The study included questions about subjects' satisfaction about the kindergarten. The results showed that both the parents and teachers were satisfied with the kindergarten, and the curriculum in general, even though most parents were not informed about the curriculum in the kindergarten. However, there were some suggestions from some parents and teachers that the program could be improved in creativity, by the use of appropriate activities and materials.

The needs assessment study, which was done one year before the actual study has led to the idea of developing a curriculum which includes activities that may enhance creativity and problem-solving skills.

Then the pre-existing program was examined. It was noticed that the kindergarten curriculum was not created on a special effort. It was composed of unit titles, which were not ordered from simple to complex, but rather chaotic structure. Another important characteristic was that the activities done in the kindergarten were not in relevance to children's needs and interests. The unit titles were given to teachers and each teacher was free to build on these titles as she wished. The activities however, were not motivating curiousity and creativity. Rather, children were basically obliged to learn the rules and obey them. After these observations, an activity-based, spiral curriculum for the 5 year-old children was developed by the researcher. The curriculum included topics and activities suitable for that particular age group, because technically, it was not practical to have clear observations on creativity of children younger than 5, and it was not easy to give enough time to implementation to 6 year-old classes, as most of their time was devoted to preparation activities for elementary school. The curriculum included those characteristics mentioned in the sections above, and the administrators were asked whether it was possible to implement this new program in the kindergarten. The request was accepted, and the legal permissions were taken.

At the beginning of the study, several meetings were held with the administrators and the 5 year-old class teachers , in METU Kindergarten. During these meetings, both the administrators and the teachers were given information about creativity education and about the necessity of creativity today, in the world and in Turkey. There was an agreement among the administrators, the teachers and the researchers during these discussions. Then, the administrators and the teachers were informed about what was going to be done in the present study. The teachers were asked whether any one of them was eager to participate in the study. One teacher volunteered to cooperate, and her class was selected as the experimental group.

Before the term started, in order to have pre-test scores, all the 5 year-old children in the kindergarten were delivered Torrance Test of Creative Thinking- Figural Form A. Their parents were delivered Parent Observation Scale, and the three classroom teachers were delivered Teacher Observation Scale.

The activity-based, spiral curriculum was designed as a program to be implemented by the classroom teacher. This was told to the experimental group teacher, and she accepted to implement the program. It was planned by the researcher and teacher to have regular meetings twice a week for discussing and modifying the program.

At the second week of the study, the experimental group teacher came up with complaints about the difficulties in the program. Her major complaint was that the program was overwhelming for her. Although she had a co- teacher in the classroom, she said that the program needed long times for preparation. Then she asked the researcher to join the implementation . As a matter of fact, the curriculum was not developed to be implemented both by the researcher and the teacher. Rather, it was developed to be implemented by the teacher alone, so that the problematic parts would be be better observed in a natural classroom environment. However, thinking that it would be beneficial to get in the implementation process to see the problems in the classroom and correct them in practice, the teacher's request was accepted by the researcher. From the second week on, the researcher also participated in the study two days a week, and had the opportunity to observe student- teacher relations and behaviors in the classroom.

The study lasted for 18 weeks, each week encompassing one unit respectively (see Appendix). At the first week of the study, children in all three groups were administered TTCT-Form A, as the pre-test measurement. Also, the teachers and the parents of the subjects in three groups were administered Parent Observation Scale and Teacher Observation Scale as pre-test measurements. At the 9^{th} week of the study, POS and TOS were re-distributed to the teachers and the parents and were collected back at the end of the week. At the final week of the study, children in all groups were re-administered the TTCT- Form A as the post-test measurement. Parents and teachers of children in three groups were distributed POS and TOS as the post-test measurements. At the end of the study, children in all groups had two TTCT-form A, three POS scores and three TOS scores.

3.4. Analysis of Data

A 3(Group)x 2(Sex) repeated measures analysis of variance was employed in the present study. Among the group differences , those ones that are significant were analyzed by the Tukey range in order to specify the major sources of the significance. Repeated measures design is used when the same variable is measured on several occasions for each subject. Therefore, in the present study, repeated measures design was used to measure creativity on pre- and post-tests, in three groups.

The advantages of repeated measurements are that besides requiring fewer experimental units; e.g., human subjects, they provide a control on their differences. That is, variability due to differences between subjects can be eliminated from the experimental error. Analysis of variance models with more than one independent variable can be used for repeated measures data. In a repeated measures analysis of variance, all dependent variables are not tested together, as is usually done in MANOVA. Instead, sets of transforming variables that correspond to particular effects are tested. The first variable tested is the constant. The other variables are then tested individually, and in interactions with each other.

3.5. Limitations of the Study

The program developed by the researcher has brought some practical problems during implementation. One of the limitations in the study was teacher resistance to implement the new curriculum in the experimental group. The new curriculum required daily check-outs and frequent follow-ups. Although the teacher of the experimental group was eager to cooperate with the treatment procedures at the beginning, she gradually developed psychological resistance. During the study, it was also observed that her attitude to keep up with the previous track caused the students of the experimental group to have a conflict between the previous and the new programs. Most of them showed positive attitudes toward the activities and topics used in the new program, and rejected the previous program and some behaviors of the classroom teacher.

A third limitation was about utilization of the resources allocated for the experimental group. It was observed after two weeks form the beginning of the study that some videotapes and books were shared and used together with the experimental group and control group 1. The teachers were both warned about the importance of the problem and they were reminded that the purpose was to see the group differences at the end of the study, but the classrooms could not completely controlled for the whole day.

A fourth limitation was about the analyses about the age effects.

Since there were not equal month intervals in age levels in the groups and some scales were returned blank, it was not possible either to conduct analyses on the effects of age on dependent variables, or the interaction of age with any other variable.

A fifth limitation was about the differences in the pre-test scores of the 3 groups in TTCT, POS and TOS. Since this was an intact-group experimental design, it was not possible to equalize the pre-test scores of the three groups as in laboratory conditions. However, this problem was solved to a large extend by the utilization of the repeated measures design, since an important characteristic of this design is that the different levels of pre-test scores are automatically equalized as the proportions of the gained effects within and between groups are analyzed.

The final limitation of the present study was that the study was not done under laboratory conditions. Therefore, observation of the pure effects of the activity-based, spiral curriculum was not very easy. Variables like social factors, psychological factors or physical conditions were not under proper control, but they were dependent on the real-life experiences. Also, the characteristics of the experimental group and the control groups were limited to intact group design. However, when the practical suggestions and recommendations included in the study are considered, it seems that this research led to a broader scope of discussions and speculations, which refer to the quality of Turkish pre-school education, quality of pre-school teachers and curriculum structures.

If this study were done under laboratory conditions, there would probably be little amount of variables or factors to discuss about.

CHAPTER FOUR

RESULTS OBTAINED FROM ANALYSIS OF DATA

The results related to the effects of the developed activity-based, spiral curriculum on creativity and behaviors as perceived by parents and teachers are given below.

4.1. Results Obtained from the Pre- and Post Test TTCT Scores:

There are significant differences between groups in terms of all the sub-dimensions of the TTCT- Form A ; Item Fluency, Item Flexibility, Item Originality and Item Elaboration, as evidenced by significant interaction term, obtained in repeated measures design. The details of the sub-dimensions are given below: It should be stated that sex did not have a significant effect on any sub-dimension of creativity. Therefore no further analyses were carried out about sex.

4.1.1. Results of Pre- and Post Test Item Fluency

The following two tables were obtained in the repeated measures analysis of variance on item fluency.

Table 6 : Tests of significance for Group and Fluency interaction.

Source of Variation	ss	DF	MS	F	Sig. of F
Within cells	4306.65	45	95.70	-	-
Fluency	88.61	1	88.61	.93	.341
Grp. by Fluency	2855.44	2	1427.72	14.92	.000

Table 7: Tests of significance for Group main effect on Fluency.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	9109.46	45	202.43		
Group	2758.19	2	26678.76	131.79	.000

As can be seen in the tables, the group main effect and interaction of group and item fluency are significant.

In order to understand the significant differences observed as a result of averaged tests of significance of item fluency, means scores of experimental and control groups are indicated in the graph below.

As observed in the graph, the significant difference among three measures of item fluency might be due to the gradual increase in the experimental group, (Mean pre- and post- test scores being 13.30 and 28), and the gradual decrease in control group 1(pre-test 24.94 and post-test 15.88). It is also apparent that the scores of control group 2 remain constant (Pre-test mean score 8.84, post-test mean score 8.69). The graph also reveals a significant interaction. evidenced by the crossing lines of the experimental group and control group 1. In item fluency, all three groups are significantly different from each other.

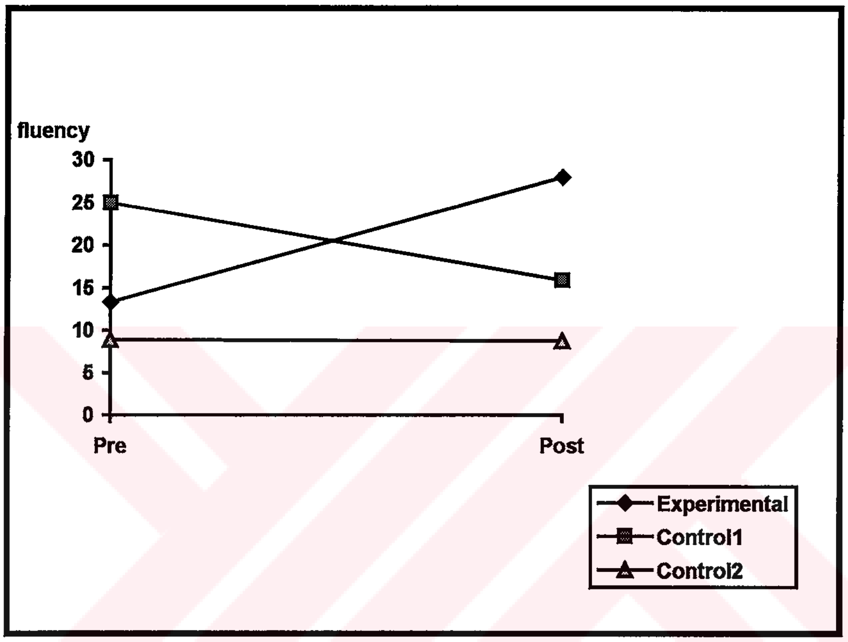

Figure 4.1:Pre- and post-test mean scores of Item Fluency in three groups.

4.1.2 . Results of Pre- and Post Test Item Flexibility

The following tables were obtained in the repeated measures analysis of variance, on item flexibility. As table reveals, there is a significant interaction between group and flexibility, and the main effect for group is significant.

Table 8: Tests of significance for Group and Flexibility interaction.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	621.41	45	13.81		
Flexibility	24.45	1	24.45	1.77	.190
Grp. by Flexibility	478.28	2	239.14	17.32	.000

Table 9: Tests of significance for Group main effect on Flexibility.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	1735.62	45	38.57		
Group	255.56	2	127.78	3.31	.045

In order to understand the significant differences observed as a result of averaged test of significance for item flexibility, mean scores of the flexibility scores across the three different groups were indicated in the graph below.

As observed in the graph, the significant difference among groups is evidenced by the gradual increase in the experimental group (Mean pre-test 5.95 and mean post-test flexibility 10.60) , and the decrease in the control group 1, (11.27 as pre-test and 6.38 as the post- test flexibility) with the stability of the scores of control group 2 (6.46 as pre- and 3.69 as post-test mean scores) . The significant interaction between groups is evidenced by the crossing lines of the experimental group and control group 1.

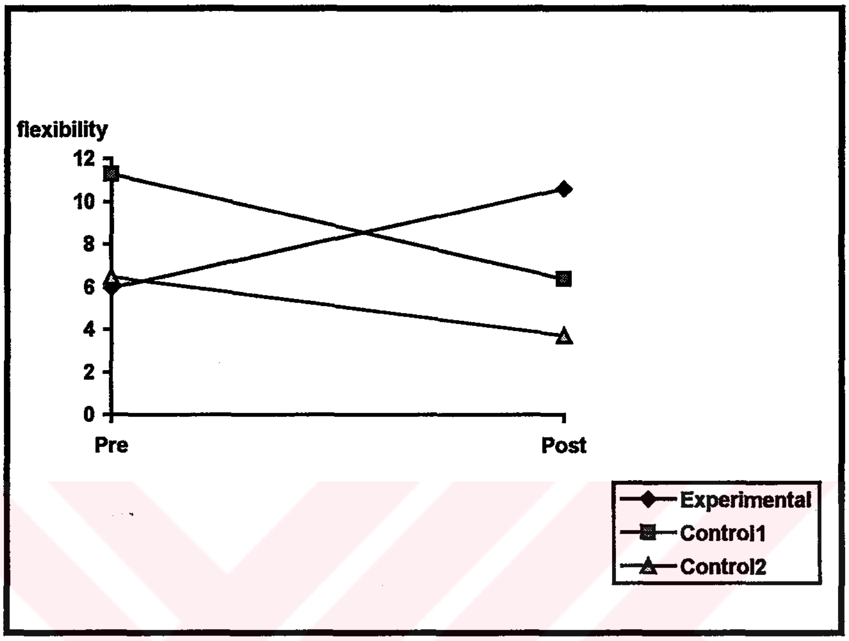

Figure 4.2: Pre- and post test mean scores of Item Flexibility for three groups

4.1.3. Results of Pre- and Post Test Item Originality

The following two tables were obtained in the repeated measures analysis of variance, on item originality.

Table 10: Tests of significance for Group and Originality interaction.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	6073.38	45	134.96	-	-
Originality	8.45	1	8.45	.06	.804
Grp. by Originality	5035.22	2	2517.61	18.65	.000

Table 11: Tests of significance for Group main effect on Originality.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	12781.81	45	284.04	-	-
Group	2521.61	2	1260.81	4.44	.017

It is revealed in the tables above that the main effect for group is significant, and group interaction with item originality is also significant.

In order to understand the significant differences observed as a result of averaged test of significance for originality, means of originality scores across three different groups were indicated in the graph below.

As the graph reveals, the significance of the differences among groups are evidenced by the gradual increase of the experimental group (pre-test originality 9.80, and post-test originality is 27.10), and a gradual decrease in the originality scores of control group 1 (pre-test mean score 23.61 , and post-test mean score 8.38). It is also revealed in the graph that the mean originality scores had a slight decrease, from pre-test score 7.46 to post-test score 4.07.

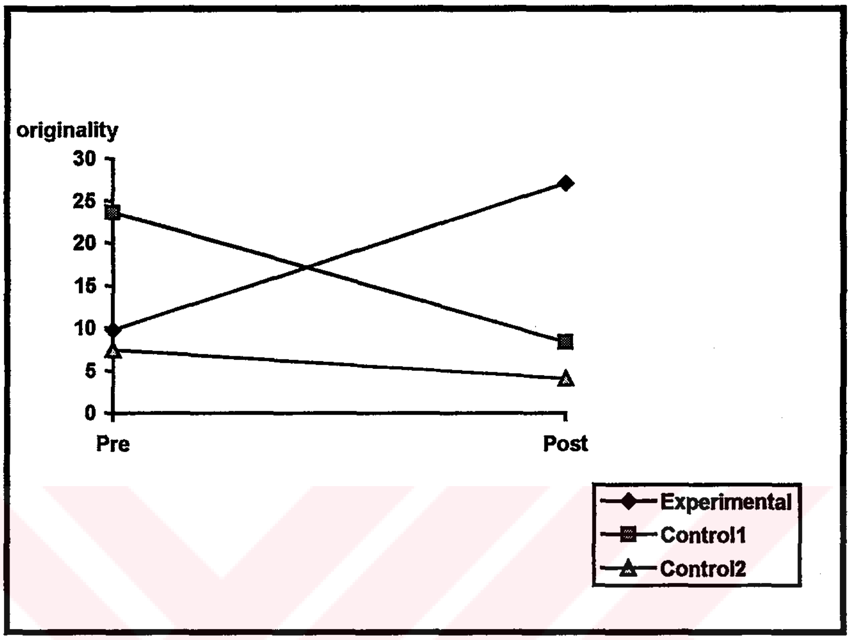

Figure 4.3 : Pre- and post-test mean scores of Item Originality in 3 groups

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4.1.4. Results of Pre- and Post- Test Item Elaboration

The following two tables were obtained in the repeated measures analysis of variance in item elaboration.

Table 12: Tests of significance for Group and Elaboration interaction.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	8750.97	45	194.47	-	-
Elaboration	2043.73	1	2043.73	10.51	.002
Grp. by Elaboration	6409.01	2	3204.50	16.48	.000

The group main effect for item elaboration is also significant (F= 4.02; df= 1; p=.025).

Table 13: Group main effect on Elaboration.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	23634.80	45	525.22		
Group	4221.07	2	2110.54	4.02	.025

As the tables clearly demonstrate, main effect for group and main effect for originality is significant. Also, there is a significant interaction between group and originality.

In order to understand the significant differences among different groups, the graph below .

As can be seen in the graph, the significant difference among three groups is evidenced by the gradual increase of the experimental group (pre-test and post-test mean scores as 6.90 and 38.45), and the gradual decrease of control group 1 (pre- and post-test mean scores as 15.88 and 12.61). It is also clear that control group 2 remains constant (pre- and post-test mean scores as 6.23 and 5.84) .

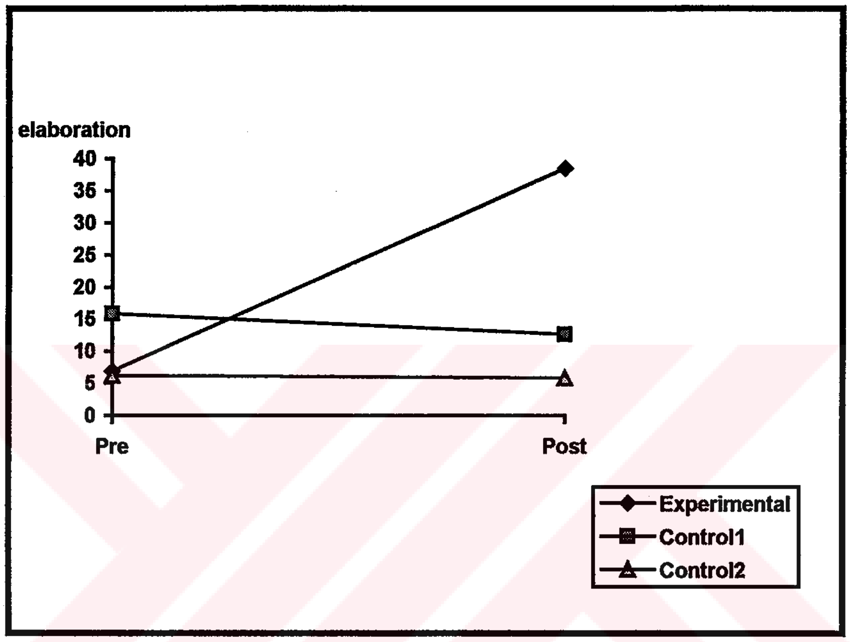

Figure 4.4: Pre- and post-test mean scores of Item Elaboration for three groups

4.2. Results of the Pre- and Post- Test Parent Observation Scale

The following two tables were obtained in a repeated measures design analysis of variance on parent observation scales. It should be mentioned that sex did not have a significant effect on POS scores, and therefore no further analyses were carried out about sex.

Table 14: Tests of significance for group and parent interaction.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	5069.59	70	72.42		
Parent	95.03	2	47.51	.66	.522
Grp. by Par	3509.84	4	877.46	12.12	.000

Table 15: Tests of significance for group main effect on Parent Observation Scale.

Source of Variation	SS	DF	ms	F	Sig. of F
Within cells	4296.06	35	122.74		
Group	6037.50	2	3018.75	24.59	.000

The tables above indicate the significant differences coming from the mean differences among the three measures and the interaction terms. Table 14 indicates no significant main effect for parents' ratings, but a significant interaction of group and parnts' ratings. Table 15 also indicates a significant main effect for group.

In order to understand the significant differences observed as a result of averaged tests of significance for Parent Observation Scale, means of the POS scores across three different groups were indicated in the graph below.

As can be observed in the graph, the significant interaction of parent and group is evidenced by the gradual decrease of control group 2 (mean POS scores being 41.41; 30.83, and 18.75). The significant difference among three measures of POS might be due to the gradual increase in the mean scores of the parents' ratings in the experimental group and control group 1 (42.47; 49.41; and 51.58 for the experimental group and 41.61; 44.27; and 48.83 for control group 1). The Tukey range was estimated as 3.87 for the marginal mean differences among the three groups.as a result, the significant difference in the marginal mean scores was observed between the experimental group and control group 2 (32.83>3.87 at α=.05).

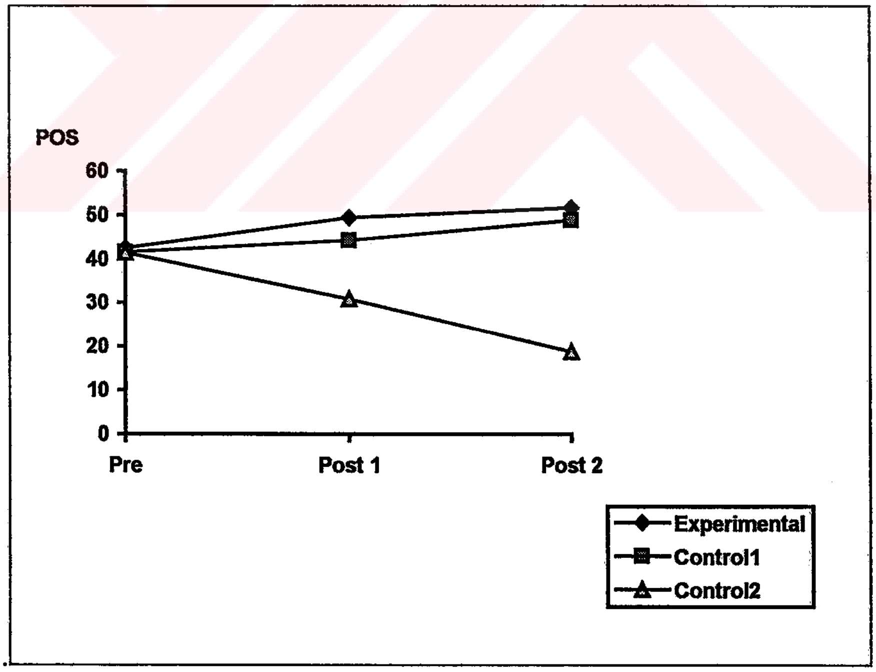

Figure 4.5: Mean scores of Parent Observation Scale in all groups for three measurements

4 .3. Results of the Pre- and Post-Test Teacher Observation Scale

The following two tables were obtained in a repeated measures analysis of variance on teacher observation scales. It should be mentioned that sex did not have a significant effect on TOS, and therefore no further analyses were carried out about sex.

Table 16: Tests of significance for group and teacher interaction.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	3195.51	84	38.04	-	-
Teacher	3662.89	2	1831.44	48.14	.000
Grp.by teac	2064.82	4	516.21	13.57	.000

Table 17: Tests of significance for group main effect on Teacher Observation Scale.

Source of Variation	SS	DF	MS	F	Sig. of F
Within cells	12971.95	36	360.33		
Group	1463.93	2	731.96	2.03	.146

Table 16 indicates the significant differences coming from the mean differences among the three measures and the interaction terms.

In order to understand the significant differences observed as a result of averaged tests of significance for teacher , means of the TOS scores across three different groups were indicated in the graph below.

As can be seen in the graph, the significant difference among the three measures of TOS might be due to the higher mean scores in the teachers' ratings in the groups (65.94, 77.55 and 77.439 for the experimental group; 55.94; 67.83; and 79.61 for control group 1; and 75.08; 75.33; 77.08 for control group 2). The significant interaction is also evidenced by the crossing lines observed between the experimental group and control group 2. The same increase in the mean scores of the control group 1 is also clearly seen in the graph.

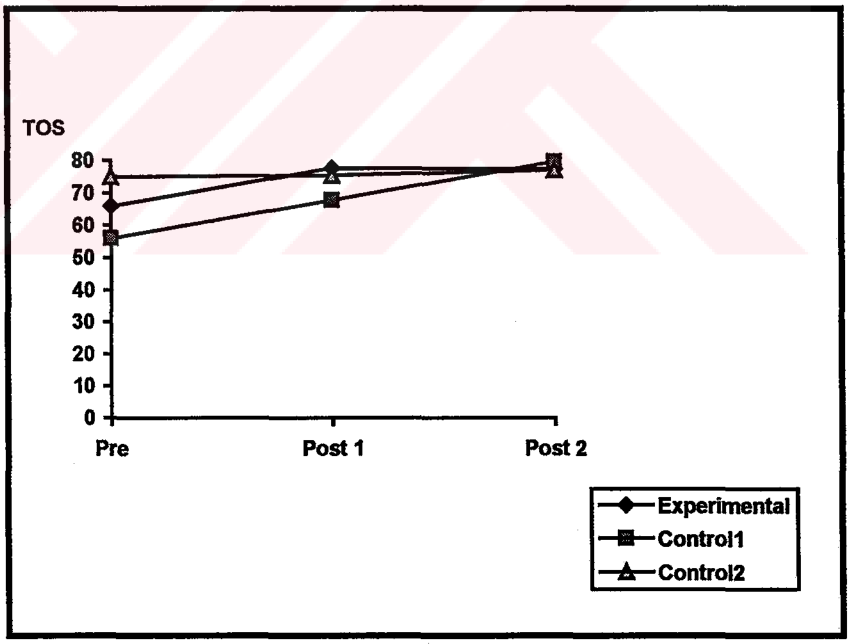

Figure 4.6: Mean Scores of Teacher Observation Scale in all groups for three measurements

CHAPTER FIVE

DISCUSSION OF THE RESULTS AND COMMENTS FOR THE FUTURE

In the present study, the experimental group had significantly higher post scores on creativity, whereas control groups 1 and 2 had lower scores in post-test measurements of creativity. In Parent Observation Scales, the experimental group and control group 1 have increased post-test scores, whereas control group 2 had increased. In Teacher Observation Scales, all the groups had increased post-test measurements but when the experimental group was compared to control groups 1 and 2, the improvement here was not as high as the control groups.

The present study has demonstrated that the experimental group had significantly higher post-test scores on all dimensions of the Torrance Test of Creative Thinking; which are mainly fluency, flexibility, originality and elaboration. This finding seems to be an evidence of the influence the activity-based, spiral curriculum on the improvement of creative thinking skills of pre-school students. Findings of the present study also support the existing literature which claims that creativity and problem solving can be taught through specially designed curriculum and methods of instruction (Bruner 1971; Amabile 1994; Torrance 1969). Moreover, the present study adds on to the literature, claiming that problem solving and creativity can be improved in pre-school years through inquiry training, utilisation of different materials like computers, audio-visual aids in education, and through opportunities for young children for trial and error (Scott et al, 1965; Severide and Sugawara, 1985; Kawenski and Henderson et al. , 1991; Houghland, 1992, Bhasanavich, 1993; and de Bono 1995).

The present study includes some important findings about the importance of the curriculum on creativity development. Curriculum is a system which is composed of sub processes such as setting the goals, implementation and evaluation. Curriculum also includes factors like teacher and student characteristics; quality, quantity and use of sources and materials; school-family relations, and so on. At the present section, the results of the study will be overviewed together with their curricular significance.

When the three groups are compared with each other in terms of pre- and post- test creativity scores, the results are very interesting. It must be mentioned that the control groups have followed the pre-existing curriculum of the kindergarten, which was not specially designed for enhancing creativity or cognitive skills like problem solving or inquiry, but for teaching the social rules and keeping children under control and security. It is very interesting to see that the scores of control groups 1 and 2, who have followed the already-existing curriculum have obtained lower post-test scores on the four sub-dimensions of creativity; fluency, flexibility, originality and elaboration. An interesting observation is related to pre-test creativity scores of the three groups. Control group 1 had higher pre-test scores on fluency, flexibility, originality and elaboration than the other groups. When it's considered that control group 1 have not been treated for creativity before, and all the three groups had followed the same program, the pre-test scores do not seem to be related to a curricular influence. This finding can be attributed to several factors. One of them could be the age factor. All the subjects were born in 1990. When age is considered in terms of months however, it is seen from Table 2 that the experimental group is the oldest group among the all three groups, because most children in this group were born in the first 4 months (January- April) of 1990. Control group 1 was the youngest group, because the majority of children in that group were born in the last 4 months of 1990 (September- December). Control group 2 was between the experimental group and control group 1 in terms of age, because most children in control group 2 were born between May and August. When it is considered that month differences in birth order are important in cognitive functioning in young ages, then it could be speculated that the subjects in control group 1 were the youngest group, and therefore the most flexible group in the sample. Because of their flexibility and freedom in thinking, children in control group 1 were able to get the highest scores on TTCT, at the beginning of the study. Another possible reason could be the chance factor. In other words, among the three groups, the most creative children were somehow collected in control group 1. Because this group was actually creative and the pre-existing curriculum haven't been implemented yet, they were able to succeed on the first application of TTCT.

When the post-test scores are considered, however, it's observed that creativity scores of children in control group 1 had radical decreases. This situation becomes quite meaningful when the effects of the program and school are considered. Children in control group 1 were not given any treatment by the researcher. Rather, they followed the pre-existing curriculum of the kindergarten. It was observed that the classroom teacher had a calm, warm and affectionate personality and she was very enthusiastic about the strategies used during the implementation. She was able to create interesting activities in the classroom. However, she was dependent on the pre-existing curriculum. Therefore she was limited to use her own creativity during implementation. Even though she has brought new ideas during implementation, she was not free enough to give decisions on the other components of the pre-existing curriculum, such as deciding on the selection and order of the units. On the basis of these facts, it becomes more understandable that teacher characteristics alone are necessary but not sufficient in enhancing creativity of the students. In order to increase creativity in students, the curriculum must be carefully designed as a whole, and it must be implemented in a flexible environment, as well as qualifying and educating teachers as practitioners and decision-makers is important. Moreover, it seems that teacher's role seems to be an important determinant of creativity development during pre-school education. When teachers are given initiatives in the decision-making process within the curricular context and when they are given opportunities to develop and exhibit their own creativity in their classrooms, pre-school education could be more beneficial for the development of creativity and other social and cognitive skills. This brings the necessity for including special training programs on teacher autonomy and problem solving skills, during the teacher education process.

Another interesting finding is about pre-and post-test creativity scores of the subjects in control group 2. These subjects had the lowest pre-test creativity scores and they decreased their scores at the post-test measurements. Similar to control group 1, control group 2 was also dependent on the pre-existing curriculum. However, there were two basic differences between control groups 1 and 2, which can explain the lower creativity scores of control group 2 in pre-and post-test conditions of creativity. The first difference was about the environmental conditions in which control groups 1 and 2 were placed in the kindergarten. Control group 1 was placed in a classroom which was at the center of the building, close to the play rooms, toilets, and the administrative staff room. It also had large windows, through which sunlight passed inside and children could see the garden clearly. Control group 2, on the other hand, was placed in a far edge of the kindergarten. This classroom was as large as the classrooms of the experimental group and control group 1, but it did not have large windows and looked at the back yard. Therefore it was darker than the other classrooms. The classroom was adjacent to the laundry of the building. There was no other door to pass to the laundry, therefore activities were frequently disturbed, as the staff had to use this classroom. The second difference between control groups 1 and 2 was the teacher factor. Characteristics of the teacher of control group 1 are explained above. The teacher of control group 2 also had a calm personality, but she was not as enthusiastic as the teacher of control group 1. Rather than using activities which support creativity, she used activities which are determined and specified by the administrators. When creativity scores of control group 2 are considered in their natural frameworks, then it may be speculated that the implementation process lacked focus, concentration, flexibility, motivation, and activities which make up a creativity- enhancing atmosphere. It could also be speculated that the observation in control group 2 can be attributed to chance. It seems that, children in control group 2 actually had lower creative potentials tahn children in the other groups. However, when it's remembered that potentials can be developed by training in creativity (Amabile, 1992, Parnes, 1992), and when the disadvantages of this group in terms of placement and implementation are considered, it becomes essential to think about the effectiveness of educational procedures more than the potential levels of children, in order to improve creativity. Higher performance of the teacher of control group 1 compared to the teacher of control group 2 during implementation also seems to be influenced by differences in their distances to the administration room. Control group 1 was right against the administration room, and therefore it was frequently controlled by the administrative staff, during the day. On the other hand, control group 2 was placed far away from the administrative room, and it was not visited or controlled so often by the administrative staff. As a result, a careful observation and contribution of the administration to the educational process seem to effect teacher performance to a large extent.

Based on the information about the similarities and differences among the three groups, POS and TOS scores of these groups can be discussed in detail. It must be stated that parent and teacher observation scales do not measure creativity. These scales are composed of behaviors that can be easily observed both in the classroom and home, so they can be used to have an idea about children's behavioral patterns. Although POS and TOS were not developed to measure creativity, many items include cognitive , social and psychomotor skills which go interact with creativity.

About the parent and teacher observation scales, results of both measures are worth paying attention. When parent ratings are considered, it was observed that the parents of children in all groups started with very close pre-test scores, which can be an evidence for parent consistency and objectivity. Unlike the parents, teachers had different pre-test scores. The teacher of control group 2 had the highest pre-test score and teacher of control group 1 had the lowest pre-test score. Teacher of the experimental group was in the middle. At the post-tests, parents of children in the experimental group and control group 1 have thought that their children were progressing satisfactorily, whereas the parents of children in control group 2 has developed opposite views about their children. Parental ratings for control group 2 do not seem too strange, because when the physical disadvantages and teacher characteristics of that class are considered, decrease in the parent ratings might be due to a general reflection of them. When ratings of the teacher in control group 2 are considered with parent ratings, it can be stated that the teacher evaluation is more optimistic than parent evaluation in this group; perhaps because of the level of children's sincerity in their behaviors in the classroom and at home, or teacher's inclination that her student's are doing well. In other words, the teacher of control group 2 might have thought that her students were developing their behaviors, not because the children were really so, but because they were performing differently - probably performing more desirable behaviors in the classroom and more natural behaviors at home. Another reason here might be that the teacher of control group 2 might have perceived the scales as a threat to her performance, and she might have exaggerated children's behaviors, by scoring them too high on the teacher observation scale.

The gradual increase in parent and teacher observation scale scores of control group 1 is worth paying attention. When control group 1 is compared to control group 2, it can be easily noticed that the greatest difference between them is about the teacher characteristics and physical conditions- which were in favour of control group 1 in the present study. The progress of control group1 on POS and TOS might be due to the positive teacher characteristics. The physical conditions of control group 1 were also motivating children's interests, and grasping the subject matter. Even though the curriculum implemented in this classroom was not designed to develop most of the items in POS and TOS, due to the environmental factors and teacher characteristics, students in this group have developed behaviors which reflected skills on these scales. Interestingly, subjects of control group 1 could not increase their creativity scores at the post-test measurement of TTCT. Here, it could be speculated that creativity is not a skill which could be developed under a rule or discipline-oriented curriculum. When the experimental group and control group 1 which have similar teacher characteristics and physical conditions, the most important difference seems to be the syllabus. The increase in the post-test creativity scores of the experimental group and the decrease in the post-test creativity scores of control group 1 reveal that syllabus has a vital importance on creativity. According to the results of the present study, teacher characteristics and environmental conditions are important determinants of cognitive, social or psychomotor learning, but for creativity to develop, there must be a creativity-oriented curriculum, such as the activity-based, spiral curriculum. That is not to deny the importance of teacher characteristics and the environmental effects which are two vital components of curriculum however, when the implemented curriculum is not focused specially on creativity, does not involve special activities for inquiry, questioning, and similar others in the classroom, then it might be far away from inducing creative problem solving skills in the students, even though it may be successful in the learning process.

When the parent ratings of the experimental group are considered together with the teacher ratings, it becomes interesting that the parents are more satisfied than the teacher, with the developmental progress of children. The slightly increasing line of the experimental group in figure 4.5 demonstrates that parents of children in the experimental group might have thought that their children continued to gain through the whole course of the study. When one thinks that children's behaviors often change at home (spontaneous, expressive and free) and at school (more formal, hesitant and silent) , then it sounds logical that parents observe more natural behaviors at home than teachers do at school. Also, parents are able to observe their children more thoroughly than teachers , and thus they can make more reliable comparisons among the past and present state of the behaviors. At the beginning of the study, it was expected to investigate the progress of behaviors that are related to cognitive, social and psychomotor domains separately. However, due to low return rates at the third application of POS, it was not statistically possible to make this investigation. Apparently, further research about school and family relations is necessary in order to explain such dynamics in more detail.

At the present study, the activity-based, spiral curriculum was designed for the experimental group teacher to implement, so that the study would be based on completely real- life conditions. However, the teacher told that the new curriculum was overwhelming and difficult to implement. On her complaint, the curriculum was overviewed by the researcher, to see if there were any difficulties in application. When factors such as time, materials and teacher effort were considered, it was noticed that the curriculum was not difficult to implement in the classroom, by the teacher who also had a co-teacher to help the activities and preparation. Instead of difficulties or time consumption, the activity-based curriculum included good organisation and careful preparation before implementing. The teacher was told that the activity-based curriculum was designed on classroom activities and experiences and for it to be successful, it had to be implemented by careful organisation and preparation of the activities, and it should be the teacher herself to manage these activities as a part of the curricular procedure. But the teacher claimed that the program was too new for her to get used to, so she asked the researcher to help some of the activities. On her insistence, the researcher joined classroom implementations twice a week. During the study, some observations were done about the teacher's characteristics. For example, the teachers of the experimental group and control group 2 had similar patterns of implementation. Both teachers were dependent on what is given to them, and they were hesitant to think beyond already existing rules. Therefore, they were not modifying or organising their implementations, but only doing pre-determined activities, as well as building authority and control over the students. However the teacher of control group 1 was different than the other teachers. She was more self-confident, independent and able to make her own creations during implementation. She also had long - and short-term goals. She was flexible enough to modify her activities according to the progress and interest of her group. At the first glance, the terms "creativity" and "planning" seem to be conflicting with each other, as creativity needs flexibility and intuition which recall a disorganised structure. Here, it should be reminded that when creativity is being developed in pre-school years, there are some procedures to follow. And these procedures are somewhat different than personal creativity and problem solving in adulthood. If a teacher wants to enhance creativity and problem solving, she/he must be able to create some paths through which children can pass and develop their potentials. In order to create these paths, the teacher must create the background by recognising the goals, must be aware of the resources and obstacles. The teacher should also be capable of perceiving and combining different variables together to create a whole, during creativity training. For example, the teacher should be certain about which skills to develop. She/he should also be flexible enough to modify and adapt her program according to ever-changing individual or societal needs and conditions. This process needs vision, good capacity for planning and organising items. As will be mentioned in further parts of this section, the quality of teacher training in the area of creativity seems to be a vital part of pre-school education, as the initial step of developing creativity and problem solving.

It is interesting to see that although the experimental group has had the highest post-test creativity scores, it has the lowest TOS scores among the three groups. There are some reasons of that situation. One of these reasons is that the experimental group teacher was not trained in creativity, and she was especially focused on keeping the classroom discipline, rather than on enhancing creative thinking skills. She was informed about creativity both at the beginning and during the regular meetings in the study. She believed that she was trying to develop creativity in her classroom, but in fact she worked to keep the harmony and organisation among children, as well as increasing her own control over them. For example, a brilliant idea originating from the current topic in the schedule was usually perceived as disturbing or destructive though the phenomena was quite valuable, in the framework of creativity. Items such as `building associations among subjects`, or `telling their own ideas independently` were not evaluated in the framework of creativity but in the framework of discipline. Therefore, a behavior which revealed a cognitive skill which is closely related to creative development was misperceived by the teacher as being "out of the norms and therefore unacceptable". From the creativity perspective, such behaviors were successful because they were performed independently without the limits of context or area . However, from the teacher's view, a clever behavior was evaluated as the one which is performed within the limits. Hence, the

TOS results in the experimental group reveals that creativity and classroom discipline were conflicting issues. The experimental group teacher who evaluated these two issues together has failed to detect the increase in creativity in cognitive and social behaviors. This explanation can be supported by the study of Günçer and Oral (1991). In this study, it was found that among the 3rd and 4th graders, those who are more creative were perceived by their classroom teachers as nonconformists to school discipline. The explanation was that in Turkish educational system, rules were more emphasised rather than values. It is also a well-known fact that great emphasis is given on socialisation in Turkish educational system. Cognitive development is also perceived in terms of developing skills which will help socialisation. The sad thing is that socialisation is often misunderstood as obeying the rules and principles by conforming the existing system. Cognitive skills and behaviors which reflect creativity, originality and independence are often misperceived as out of the socialisation process, and therefore unwanted. A similar situation might have occurred in the experimental group, in the present study. It was observed that children who gradually developed behaviors like telling their own ideas, rejecting some rules (e.g. rejecting to sleep at noon, refusing to eat a particular kind of food, or using a toy for a different purpose) were rated as those of bad manners, or as those who are not as easy-going and nice as children in the next-door classroom. The experimental group teacher was not directly informed about the findings related to perception of creative students as nonconformists by their teachers, in order to avoid biased conditioning in the experimental group teacher. Another reason here was to see if teacher perception of creative students would be supporting the results of the previous study (Guncer and Oral, 1981).

At this point, it is a matter of curiosity whether the TOS scores of the experimental group would be higher if the subjects were evaluated by a person who is less discipline-oriented or by someone who is well educated in creativity. When discussing creativity education for teachers, pre-service training or in-service training such as the one done to some extent in the present study, may have some help but it won't be adequate for teachers to gain a broad vision about creativity. Short-termed training before or during the educational process may be too weak to develop flexibility and positive attitudes which will also influence teacher personality to be open for change, to be independent from the social norms, to be tolerant to different ideas and to understand rather than criticise behaviors and ideas that look different in the classroom. It seems to be a matter of a teacher training process in the long run, for creativity to become a part of teachers' personalities.

Another reason for lower TOS scores of the experimental group could be the teacher attitude. In the experimental group, the teacher had to change her own process in order to participate in the study. She did not develop positive attitudes towards the activity-based curriculum, because of the reasons mentioned above. At the TOS ratings, she was asked to evaluate her students' behaviors, which meant evaluating the activity-based curriculum. It is quite natural that the teacher reacted this situation by giving relatively lower scores than the control groups. Stimulating a discipline-oriented teacher to implement a creative curriculum and then asking the same teacher to evaluate the program will of course lead her to evaluate the program negatively. It was observed that the teacher of the experimental group reflected her reaction to the activity-based, spiral curriculum in her lower scores in TOS. Although the teacher has reacted by giving lower scores, she still demonstrated that the program was beneficial in behaviors, by her TOS scores. Here it could be speculated that the TOS scores would be higher if the scales were filled out by a person who was more objective towards the activity-based, spiral curriculum.

A third reason for lower TOS scores of the experimental group could be that the teacher has thought that something new would happen and it would lead to great differences in children. Therefore she might have developed some criteria which were in fact too high above the levels of children in the experimental group. When she compared her criteria with the actual performance of children, the teacher might have been frustrated towards the end of the study and scored her students not as good as she expected at the beginning of the study. It must be kept in mind that education - especially pre-school education-doesn't mean modifying or developing behaviors sharply. Rather, it has a cumulative effect, which should be tested in the long run. One implication of this could be that future research would be done better it it's carried in a wider range of time, in order to see such cumulating effects in behaviors. It is also important to remind that TOS is an instrument which is developed in order to collect teachers' perceptions about students' behaviors in the classroom. To end up with a particular score on TOS does not indicate a child's real behavioral pattern, rather it reflects the teacher's ideas about that child's behaviors in the classroom, as she perceives him or her.

The explanations above are speculations. It should be reminded that regardless of the findings, there can be biases on the side of the teacher and the parents. For example, the teacher might have been overwhelmed to fill out 20 questionnaires three times, so at the last measurement, she did not take care about the details anymore. The same problem can also be true for parents. Another explanation could be that for children in the experimental group, increased creativity does not necessarily require all the behaviors develop at the same speed. Similarly, for children in control group 1 and 2, increased TOS scores do not necessarily mean that their creativity has increased.

The results of the present study are especially important as it is an intact group research, as mentioned in the limitations. There was no random selection of the subjects, the three classrooms were taken as they were. As explained in the limitations, this situation led to more realistic outcomes than in laboratory conditions. Many factors which interact with each other during pre-school education were observed and discussed in detail, which could not be done under laboratory conditions. Besides, the present study has demonstrated that fundamentals of kindergarten education such as regular record keeping; involving parents in the evaluation; designing a spiral curriculum which originates from real life needs and real-life skills of pre-school children, including more interesting activities and humor in these activities could be included into the kindergarten administrators' and teachers' checklists. One important observation in the present research was that the role of pre-school teachers and pre-school administrators who lead teachers are extremely influential both in the teaching process, and in establishing social contact with children and families. Therefore, attitudes of teachers and administrators toward innovations and modifications in any point of pre-school education can have either encouraging or deleterious effects on scientific knowledge and future research. In the present study, the teacher of the experimental group was eager to cooperate with the treatment at the beginning, but later it was observed that the she could not catch up with the requirements of the new program like flexibility, good organisation, including variations in the implementation process, and so on. The reason for her problem was that she was discipline-oriented, and was more focused on keeping the harmony and order in the classroom. This was not surprising, because the education system in Turkey is focused on training people to learn the rules and apply them to pre-determined problems. When the social structure is examined, it's also easy to observe that in Turkish culture, it's not very frequent to come up with original ideas, creating alternatives to different problems in different areas, and appreciation of creative efforts and products. What is important in Turkish culture is the survival of the present system and present security. Not only in Turkey but also in many other countries (Torrance, 1966), original ideas are not easily welcomed, because they are not tested before. However, open-mindedness and flexibility in thought and behavior are the basic skills for creativity to emerge and develop and these skills can be taught at the early years of life more easily and strongly.

To gain skills necessary for enhancement of creativity, educators must spend special effort to accept creativity as one of the basic domains of growth and development. They must also try to understand what components creativity has and why it is necessary to develop creativity. When these concepts are clearly examined and understood, special programs and models for developing creativity could be introduced to education in pre-school years.

Another factor that indirectly causes misperceptions about creativity, creative children and adults in Turkish educational system seem to lack a standardised pre-school curriculum in practice which goes parallel to the written curriculum and guidelines. As discussed in the previous section, most kindergarten teachers and parents do not consider the long term effects of pre-school education seriously. There is another reason for the tendency in teachers to emphasise obedience to norms and rules, but not creative, social and cognitive development. As Higgins and

Parsons (1983) claims, kindergarten teachers are mostly females, who are themselves conditioned to obey the social rules of the society, more than males. Especially in the Turkish community, female teachers who usually come from relatively more conservative family backgrounds, give more importance and attention to "social adaptation", which refers for them "obeying the rules in order to be approved by the society and the adults around". When there is no strong belief in the importance of pre-school education in terms of the development of cognition, creativity and problem solving, there are weak personal efforts to enhance general thinking skills including these areas. Due to these lack of efforts, developing new types of curriculum which aims to enhance creativity becomes almost impossible; rather, boredom on the side of children take place. It is well known that two important barriers to creativity and creative problem solving are boredom and lack of challenge. Therefore, creativity training must be everybody's responsibility (Grupas, 1990). New types of curricula may emphasise different points and thus they may seem as conflicting with each other in practice, but with serious academic studies, even though they look different, they do serve the same purpose: to help children gain all possible skills appropriate for them in pre-school education. What happens today in Turkish society is that all pre-school practitioners are dependent on just one curriculum outlined by the Ministry of Education and they hesitate to try out new ideas and innovations in the field, because there are no radical alternative views that motivate practitioners to use. However, there are some teachers who show higher performances in their classes in pre-school, such as the teacher of control group 1 in the present study. This conflict brings the question of who will be selected as a pre-school teacher. This problem is discussed in the following pages.

As Bruner points out, kindergarten children mostly rely on experience and personal practices in learning. Therefore, kindergarten teachers can be considered as the luckiest group among all the other teachers. They are lucky because they are able to use the whole surrounding environment without being dependent on a written , unchallenging curriculum as much as they want to. Kindergarten teachers are able to use humor during the learning process, they can use play- which is the most efficient means of learning at pre-school ages, they can try out new materials, create and develop their own style of teaching. The only thing necessary is imagination of the teacher. However, being a kindergarten teacher is a very demanding process at the same time. It is demanding as one must possess an easy-going kind of personality; a good sense of humor; practical skills that enable the person use his or her environment all the time. These skills are the basic characteristics which are necessary for teacher education today in the world. When the importance of a kindergarten teacher is considered in terms of being a model adult for pre-school children, a facilitator of learning, and a general guide for all the possible behaviors that may occur any day and in the future, training of kindergarten teachers becomes especially important. If a kindergarten teacher feels enthusiastic about her profession, and if he or she uses his or her creativity on the curriculum and instruction, then pre-school education can turn out to be the basic and most durable gain for a young child, who will continue to learn in the future on steps built on a flexible basis. This basis will also become the child's structure that will decide upon his or her future personality and cognitive style. When one considers the opposite, one can predict how much a negative or poor treatment can influence a young child and mislead his or her future personality, cognition, and general adaptation in life. Thus the whole point of discussion should not be focused on only developing curricula for pre-school education, but also the ways of training qualified teachers for kindergarten who will transmit positive attitudes, practical knowledge to the young generation by developing their creative problem-solving skills. Developing methods for training kindergarten teachers will need detailed research of course, but the frame should be consisted of assessment of pre-school teachers and pre-school administrators in terms of personality characteristics, knowledge in child development, flexibility and creativity, enthusiasm in teaching, and ability to teach (transmit knowledge in the best way) to pre-school children. When one of those factors is missing, then the quality of pre-school education decreases. Moreover, in-service education must be an essential part of the teaching profession in kindergartens. Regular transfer of theoretical and practical knowledge through seminars or workshops are believed to be beneficial. A crucial question is about whom to be a pre-school teacher. In this study, quality of the teachers was not found satisfactory for development of creative thinking and problem solving skills.This brings the question of how to increase teacher quality in pre-school. Here, a very important problem is related to the selection of prospective pre-school teachers to teacher colleges. As discussed in several parts of this chapter, teacher training has a vital role in a qualified pre-school education. Similarly, criteria which are taken as the basis for accepting prospective teachers to teacher colleges or universities are very critical. As the present study has demonstrated, teacher qualifications are extremely important in the developmental progress. Thus, it becomes a responsibility of the society and people who are involved in the pre-school education, to make decisions about the desirable pre-school teacher qualifications. Because classroom teaching is different than teaching in a particular area of study, assessment of qualifications for accepting teacher candidates should be based more on personality characteristics than on scientific knowledge. In Turkey there are no opportunities to learn about personality characteristics of pre-school teachers through interviews or other face-to-face communications, before their acceptance to universities or colleges, hence it seems that new attempts should start to aid human resource allocation in pre-school. Assessment of pre-school teachers and creating a selective procedure for pre-school teachers who have desirable personality characteristics like patience, creativity, humor and similar others, can be accomplished by a long-term study that would encompass longitudinal projects, team-work, and follow-ups through reliable measurement devices. The present study is therefore, too limited to create innovations in curriculum and teacher assessment, but it is expected to initiate further research in this field.

It should also be stated that, in Turkey, one of the reasons that the qualification and standardization of pre-school curriculum and pre-school staff development is lacking seems to be that pre-school education is not given priority by the social scientists and educators. It would be unfair to leave the whole responsibility on pre-school staff and blame pre-school practitioners for lack of creative ideas or enthusiastic tendencies in the area, because they are not offered alternatives by the academic staff. Only recently, people in universities have started to get involved in the area of pre-school which is rather untouched, and due to this, studies are not adequate to construct innovative curriculum models for pre-school children. When it is considered that human nature is universal, and so are the most of the values, aesthetic preferences, cognitive processes and creativity,- especially in this world of enormous communication among different cultures- then it would be unfair as well as meaningless to insist on raising children limited in just one culture or subculture, and in limited pattern of behavior. When there is variation in life, it should be reflected to education. Thus, it seems to be misleading to organise pre-school children according to the Turkish culture and according to our rules in their thinking, acting, aesthetic preferences, and self expressions. Of course, it is not to deny our culture, and necessity of social adaptation. The present study suggests that educators at all levels must look for combinations of different cultures, and value systems and they must use them carefully in order to create a rich source for positive development. Adapting to the world is more important than adapting to our society only. Therefore skills such as creativity and problem solving must be developed as early as possible. Human life consists of sensitive periods in which new and important experiences that shape one's life are obtained and learned . Pre-school is one of these sensitive periods and it would be the best use of potentials in creativity, divergent thinking, and problem solving to develop well-organised, and meaningful knowledge through cleverly designed pre-school curricula and training programs. If these skills are not given enough emphasis, then trying to induce them in later years as in high school or university, or even in the professional life, doesn't work. Many university instructors complain that their students are not capable of solving problems, and they are far from being creative. Many parents also complain that the school that their children attend does not develop problem-solving skills, does not induce self-respect, and self-confidence. Many employers complain that their employees are not able to take initiatives, not able to give creative and constructive decisions. When school and professional life are considered, it could be seen that at school people are conditioned to obey rules, but the same people are expected to be autonomous, creative and constructive problem-solvers and policy-makers. In such a context where our educational system is an artificial institution that does not give anything useful for the real life demands; but rather avoids or inhibits young people to gain those skills, then the best way is to start from the beginning years and re-consider what is being done at the earliest stage of the educational process. Only then, greater opportunities to detect, modify and correct mistakes could be obtained by the educators, administrators, and parents.

As mentioned above, teacher training must include the purpose of increasing teacher autonomy and problem solving skills. However, when kindergarten teachers are not educated in creativity, in other words, if they are not supported with a rich background about the necessity and nature of creativity, then autonomy of teachers becomes a subjective concept. When creative background is missing, teacher autonomy may not be helpful for developing and implementing a creative curriculum in kindergarten. A background about creativity doesn't refer to developing positive attitudes or personal beliefs toward creativity. Even when the teacher believes in the importance of developing creativity during pre-school years, her/ his efforts may fail to improve creativity and problem solving in the pupils, when she/ he lacks scientific knowledge and vision about creativity and its utilization during the life span. An important reason for the lack of creativity and other skills in teachers seems to originate from the inefficiency of the academic staff who focus on pre-school teacher training. As stated in the limitations, the present study was not conducted under laboratory conditions. Hence, the results include many psychological, social and educational factors. A benefit of the present study is that it has focused on practice more than theories about pre-school education. Therefore, the present study may be considered as a good source about possible practical problems which are faced by pre-school practitioners, during the educational process in Turkish educational system. When it's considered that in Turkey many academic studies about pre-school focus on theory rather than on practice, an important contribution of the present study is that it warns researchers about possible problems in their research. Therefore it can be considered as a guide which is based on real-life problems in pre-school education.

The present study is expected to initiate further research on problems of creativity education. It is also expected that a wider range of curriculum models for enhancement of creativity and problem-solving skills in pre-school education will be developed and used in Turkey. Even though there are studies done in pre-school education, there is no experimental research specially focusing on building up creativity in pre-school years. Apparently further research is necessary to build up a program focusing on enhancing creativity, based on different designs. An important contribution of the present study to the field of creativity and education is that it demonstrates that creativity can be developed in Turkish pre-school education, through special efforts on the field, both in theory and practice.

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APPENDIX A: THE UNIT LIST

UNITS	SUBJECTS
1. OUR BODY	Growth
2. ME AND MY FRIENDS	What I like, what my friends like
3. SEASONS	Autumn
4. OUR BODY	5 senses, external organs and sanitation
5. SPECIAL OCCASIONS	Atatürk and the Republic (November the 10th)
6. SOCIETY	Charities (Kizilay)
7. NATURE	Water and evaporation
8. OUR BODY	Food (Vitamins and energy givers)
9. SOCIETY	Our neighborhood
10. NATURE	Animals (Domestic and wild)
11. SOCIETY	Shopping and money
12. SPECIAL OCCASIONS	New Year
13. SEASONS	Winter
14. OUR BODY	Internal Organs (1)
15. OUR BODY	Internal Organs (2)
16. SOCIETY	Transportation
17. SOCIETY	Communication
18. OUR WORLD	The sea, land and people

APPENDIX B THE UNITS & SYLLABUS

UNIT 1: OUR BODY SUBJECT: GROWTH

COGNITIVE DOMAIN
OBJECTIVES
a. To grasp the meaning of growth
e.g.;
a.To distinguish the pictures of humans,animals, and plants as young and old.
b.To tell about the future of a human, animal or plant in cases of being fed or unfed.
b. To grasp the meaning of reproduction of humans, animals, and plants of different species.
.e.g.; a.To list the names of at least 5 animals that reproduce with giving birth
bTo list the names of at least 3 animals that reproduce with laying eggs.

AFFECTIVE DOMAIN
OBJECTIVE
a.To participate in class activities like discussions and experiments about the subject .
e.g.; a. To follow class discussions for at least 5 minutes.
b. To perform plant watering activity for at least 3 times a week
c. To help peers during seed planting activity
d. To select a plant for the self
b.. To show desire to participate in planting activity
e.g.; To volunteer to plant the seeds when the teacher calls for help

PSYCHOMOTOR DOMAIN
OBJECTIVE
a.To use the materials properly when handling, planting and watering seeds and plants
e.g.;
To relate the appropriate tool for appropriate activity.
b. To perform planting activity correctly as the teacher demonstrates
e.g.;
To pour water in appropriate amount , as the teacher shows to the soil

Special Reading Materials Used:
Mainwaring, J. (1989). The Egg: First Discovery Series. London: Moonlight Publishing.
Pearse, P. (1988). See how you grow. London: Macdonald and Co. (Publishers) Ltd.

UNIT 1: OUR BODY SUBJECT: GROWTH

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00: Breakfast and gym 10.00: Int. to unit How are we born and grow MATERIAL: Growth(pop-up book) Discussions and questioning were used	9.00: Breakfast and gym 10.00: The egg and animals that reproduce by egg are introduced MATERIAL: The Egg (colored book) Discussions and questioning were used	9.00: Breakfast and gym 10.00 Discussion: What must we do to grow up? Importance of nutrition, sleep and sports are emphasized. Old clothes are tried and babyhood pictures are analyzed.	9.00: Breakfast and gym 10.00.ACTIVITY: Each child's profile was drawn from their shadow's on colored papers	9.00: Breakfast and gym 10.00. CONCEPT FORMATION: Pictures showing concepts like tall-short, fat-slim, little-big, and superlatives were presented .
LUNCH AND SLEEP	LUNCH AND SLEEP	LUNCH AND SLEEP	LUNCH AND SLEEP	LUNCH AND SLEEP
15.00.ACTIVITY: GROWING SEEDS Beans and lentils were placed in cottons and water was added. Children were divided into groups of 3 and each group was responsible from one plate of seed. Children were asked about their expectations	ART: 3-D PICTURE Children were given ready-made drawings of different male-female faces, and were asked to make those faces old by the use of cotton, crayons and pieces of fabrics supplied. FREE PLAY	SESAME STREET (30 MINUTES) FREE PLAY	ACTIVITY: SEED PLANTATION Children discussed about plants as living creatures. And planted seeds in soil and watered them. FREE PLAY	ART: PAINTING Children painted pictures having opposite characteristics such as big tree and small flower. SESAME STREET (30 MINUTES) FREE PLAY

UNIT 2: ME AND MY FRIENDS
SUBJECT: WHAT I LIKE , WHAT MY FRIENDS LIKE

COGNITIVE DOMAIN

OBJECTIVE
To understand that one can be different than others in aspects like physical appearance, self decisions, likes and dislikes.
e.g.;

a. To state the major differences in hair, face, and body between the self and peers.

b.. To give at least 2 examples of the things one likes and dislikes.

AFFECTIVE DOMAIN

OBJECTIVE

To show interest in similarities and differences between the self and others.
e.g.;

a. To show the favorite food among 5 different kinds of food.

b. To tell about the favorite friend and toys during group discussion.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To construct the cardboard house by using the tools appropriately.
e.g;

a. To use the glue, scissors and crayons at appropriate times and in correct forms.

b. To attach the walls, roof, door and windows correctly.

Special Reading Materials Used:
Children`s Television Workshop. <u>İşte buna kızarım</u>. Susam Sokağı Hikaye Kitapları Dizisi. İstanbul: Remzi Kitabevi.
Children`s Television Workshop. <u>Edi`ye benzemek</u>. Susam Sokağı Hikaye Kitapları Dizisi. İstanbul: Remzi Kitabevi.

Children`s Television Workshop. <u>Minik kuş paylaşmasını bilir.</u> Susam Sokağı Hikaye Kitapları Dizisi. İstanbul: Remzi Kitabevi..

UNIT 2: ME AND MY FRIENDS SUBJECT: WHAT I LIKE, WHAT MY FRIENDS LIKE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00: Breakfast and gym 10.00: ACTIVITY: PICTURE Each child drew their favorite friend, food, and toy on the colored profiles taken at the 1st week STORY: Little Bird knows how to share Sesame Street Publ.	9.00: Breakfast and gym 10.00: Stories, songs and puzzles about friends and friendship ACTIVITY: COOPERATION Group work on constructing a house of construction paper	9.00: Breakfast and gym ICE- SKATING	9.00: Breakfast and gym SESAME STREET :	9.00: Breakfast and gym FREE PLAY
12.00. LUNCH **13.00.SLEEP**	**12.00.LUNCH** **13.00.SLEEP**	**12.00.LUNCH** **13.00.SLEEP**	**12.00.LUNCH** **13.00.SLEEP**	**12.00.LUNCH** **13.00.SLEEP**
13.00. ACTIVITY: Yellow Behavior cards were associated according to the quality of the manner FREE PLAY	13.00.ACTIVITY: Özkaynak figure-ground matching exercises FREE PLAY	13.00.: SESAME STREET (30 MINUTES) FREE PLAY	13.00: NUMBERS : Numbers 3 and 4 were introduced through matching and painting FREE PLAY	13.00: SESAME STREET (30 MINUTES) FREE PLAY

UNIT 3: SEASONS **SUBJECT: AUTUMN**

COGNITIVE DOMAIN

OBJECTIVE

To understand the common characteristics of autumn and the changes in plants and clothes in autumn.

e.g.;

a. To state what happens in autumn with own statements like " it rains:, :leaves fall down", "we wear warmer clothes", "schools open", etc.

b.To tell about differences between activities specific to summer and autumn,during discussions like going to sea side, wearing boots and raincoat, eating watermelon, etc.

AFFECTIVE DOMAIN

OBJECTIVE

To attend closely to the group activities

e.g.;

a. To ask questions about autumn during the reading activity

b. To answer teacher's questions about autumn.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To relate appearance of the picture to the form of the leaves.

e.g.;

To choose the leaf which is best suiting for making human figure among different leaves, during the art activity.

Special Reading Materials Used:

Mainwaring, J. (1989). Weather. First Discovery Series. London: Moonlight Publishing.

Mainwaring, J. (1989). Birds. First Discovery Series. London: Moonlight Publishing.

Day, B. (1988) Early Childhood Education: Creative Learning Activities.New York: Mac Millan Inc.

UNIT 3: SEASONS SUBJECT:AUTUMN

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00: Breakfast and gym ICE SKATING MOGLI (ANIMATION)	9.00: Breakfast and gym ART: PICTURE Leaf people	9.00.Breakfast and gym ICE SKATING	9.00.Breakfast and gym CREATIVE DRAMA: Children cut color papers in leaf shapes and attached them on to their bodies.Then they created a storm by actions and dropped the leaves.	9.00.Breakfast and gym MUSIC COURSE
12.00: LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP
INTRODUCTION Autumn : Through discussion, questioning and outside observation, simple characteristics of autumn and related human clothes or food were found out.	SESAME STREET (30 MINUTES) FREE PLAY	ART: LEAF PRINTS (Water paint) FREE PLAY	READING: The book "WEATHER" was read by the teacher , giving the situation of weather, birds, food and clothes during autumn Preparation for next day's activity: Collecting natural material	ART: COLLAGE Children were divided into two to make group pictures of autumn by the use of real leaves, pebbles, seeds and other natural materials.

UNIT 4: OUR BODY
SUBJECT: 5 SENSES, EXTERNAL ORGANS AND SANITATION

COGNITIVE DOMAIN

OBJECTIVES
a.To know the names of 5 sense organs and to understand their functions
e.g.;
a.To list the names of 5 sense organs
b.To state the functions of the 5 sense organs

b.To understand basic rules to protect our body
e.g.;
To tell what may happen if one listens to music always loudly, watches TV from a short distance, touches something hot, does not brush teeth, and catches cold.

AFFECTIVE DOMAIN
OBJECTIVE
To show interest in blind and deaf people
e.g.;
a.To talk in discussions, watch films and books about handicapped people with interest
b.To ask questions about the lives of handicapped people

PSYCHOMOTOR DOMAIN

OBJECTIVE
a.To relate sense organs to the types of stimuli
e.g.;
To match the specific stimulus that the teacher present to the right sense organ; such as song-ears, flowers- nose/eye, etc.
b.To use materials appropriately
e.g.;
a.To use materials like tooth brush, comb, brush, etc. as the teacher shows
b.To wash hands and face before and after lunch, and toilet, using soap and water properly.

Special reading materials used:
Baer, G (1992). Have you seen my finger? New York: Random House, Inc.
Johnson, A. (1982). Soft as a kitten. New York: Random House, Inc.
Pearse, P. (1988). See how you grow. London: Macdonald and Co. Publishers LTD.

UNIT 4: OUR BODY **SUBJECT:5 SENSES, EXTERNAL ORGANS AND SANITATION**

MONDAY 9.00:Breakfast and gym ICE SKATING	TUESDAY 9.00:Breakfast and gym EXPERIMENT: Children tried to figure out objects by closing their sense organs This practice was done for every sense	WEDNESDAY 9.00:Breakfast and gym ICE SKATING	THURSDAY 9.00:Breakfast and gym DEMONSTRAT-ION-DISCUSSION Cleaning items:detergents, and similar materials are harmful to our skin, eyes, etc. What should we do to protect?	FRIDAY 9.00:Breakfast and gym DRAMA Children attached the costumes on their bodies and animated that organ, telling about its function and ways of protection
12.00:LUNCH 13:00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP
INTRODUCTION TO 5 SENSES What they are, and their functions. Pictures and discussions were used SESAME STREET (30 MINUTES) FREE PLAY	DISCUSSION: How do handicapped people live? e.g.Blinds or deafs. Alternatives for such people like trained dogs, blind alphabet, deaf language, etc. Areas of medicine related to our sense organs	DISCUSSION-PRACTICE How should we look after our sense and external organs? * using eyeglasses * going to dentist *protecting from the sun * washing hands and feet etc. FREE PLAY	ARITHMETIC CONCEPTS Countable items: Can we count our hair, hands, teeth,skin? COSTUME PREPARATION Children were delivered cardboards . Each child drew a particular organ and painted it.	DRAMA Children came together to create a body composition of all sense organs ACTIVITY: MATCHING Children matched pictures of each organ to related items SESAME STREET

UNIT 5: ATATURK AND THE REPUBLIC
SUBJECT: NOVEMBER THE 10TH

COGNITIVE DOMAIN
OBJECTIVE
To know terms like "Atatürk", "Padişah", and "people"
e.g.;
To select Atatürk's picture among different pictures

AFFECTIVE DOMAIN

OBJECTIVE
To show interest in flag making activities and in role-playing activities (Responding)
e.g.;
a.To state self opinions in group discussions about the Turkish flag
b.To select a particular role at role-playing activity.

PSYCHOMOTOR DOMAIN
OBJECTIVE
To know the the physical appearance of the Turkish flag.
e.g.;
a.To find the Turkish flag among the flags of other countries.
b.To draw a Turkish flag and paint it correctly, without looking at a model.

UNIT 5: ATATÜRK AND THE REPUBLIC SUBJECT NOVEMBER THE 10TH

MONDAY	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**
9.00:Breakfast and gym ICE SKATING	9:00: Breakfast and gym ACTIVITY: Flag - making by cutting red-white papers and making the design of the Turkish flag	9.00: Breakfast and gym ICE SKATING	9.00 Breakfast and gym ACTIVITY: Children made Atatürk cards by tcutting papers	9.00: Breakfast and gym HOLIDAY
12.00:LUNCH **13.00:SLEEP**	**12.00:LUNCH** **13.00:SLEEP**	**12.00:LUNCH** **13.00:SLEEP**	**12.00:LUNCH** **13.00:SLEEP**	**12.00:LUNCH** **13.00:SLEEP**
INTRODUCTION ROLE- PLAYING Children animated the characters like "padişah", "people" and "Atatürk" and discussed about past events	PAPER WORK Children cut the moon and star from alimunium folio and attached them to red construction paper	MAGIC PAINT Children made flags with magic paint	SESAME STREET (60 MINUTES) FREE PLAY	HOLIDAY

UNIT 6: SOCIETY SUBJECT: CHARITIES (KIZILAY)

COGNITIVE DOMAIN

OBJECTIVES

a. To know what "Kizilay" is.e.g.;

a.To state the basic function of Kızılay.

b.To state that people help each other in bad situations.

c.To tell how Kizilay helps people who are injured or homeless.

b.To understand what earthquake, water float and fire are.

e.g.;

a.To tell that earthquake and water float are natural events which are not caused by people, but caused by the structure of the world.

b.To tell that fire can happen because of people, due to lack of attention.

c.To give examples about things than happen after earthquake, water float, and fire.

d. To state the differences between the pictures of healthy and injured people on pictures of earthquake.

AFFECTIVE DOMAIN

OBJECTIVES

a.To show sensitivity to problems like earthquake, water float, and fire.

e.g.; To ask the reasons of earthquake, water float and fire.

b.To participate in classroom discussions

e.g.; To answer teacher's questions like " where do you think these people will live now, after the earthquake?"

PSYCHOMOTOR DOMAIN

OBJECTIVE

To play the role during the earthquake drama, appropriately.

e.g.,To play a specific role among characters like an injured person, doctor, nurse, policemen, and charity people by using the body and gestures appropriately.

UNIT 6: SOCIETY SUBJECT: CHARITIES

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00:Brek.& gym ICE SKATING FREE PLAY	9.00:Break.& gym Reading: "Andy the Ambulance" Discussion: What is earthquick? Children discussed about it by drawing pictures on the board under the supervision of teacher	900>Bre.& gym. ICE SKATING FREE PLAY	9.00:Bre.& gym TRIP TO ANITKABIR	9.00: Bre.&gym COSTUME MAKING: Nurse dress
12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP
INTROD: Teacher asked children what happens in cases like earthquick, water float, or fires. She started a discussion in which the roles of charities were identified	CREATIVE DRAMA : The events discussed in the morning session were played by children. Roles like doctor, policeman, nurses or people injured were distributed at the beginning and children spontaneously created an earthquick story.	GROUP WORK: Making money box SESAME STREET (30 MINUTES) FREE PLAY	FREE DRAWING FREE PLAY READING	SESAME STREET (30 MINUTES) MUSIC

UNIT 7: NATURE **SUBJECT: WATER AND EVAPORATION**

COGNITIVE DOMAIN

OBJECTIVE

a. To know the principle that water boils and steam comes out , and water is frozen and ice comes out.

e.g.;

a.To define the steps of water- boiling experiment after watching.

b.To state that when ice is melted, it becomes water again, and wets the paper, when the teacher asks; " Why is your paper wet?", during the ice-cube activity.

b. To know that rain comes down from the clouds in the sky, which are steam.

e.g.,

To state the steps of boiling- evaporating -hardening

OBJECTIVE

To understand that things can be hard, liquid and gas.

e.g.;

a.To tell how hands dry after being washed.
b.To give at least two examples of liquids.
c.To state that steam is caused by boiling water
d.To state that ice is frozen water
e.To state that rain comes from the clouds

AFFECTIVE DOMAIN

OBJECTIVE

To show interest in the experiment and ice painting activity.

e.g.;

a.To ask questions to the teacher and/ or peers about the experiment.

b.To answer teacher's question :" Why do you think are able to paint this paper although we don't have any crayons?"

PSYCHOMOTOR DOMAIN

OBJECTIVE

To draw a picture by mixing the ice cubes, and dry tempera.

Special reading materials used in the classroom:

Mainwaring, J. (1989). <u>Weather</u>. First Discovery Series. London: Moonlight Publishing.

UNIT 7: NATURE   SUBJECT: WATER AND EVAPORATION

MONDAY 9.00.Break.&gym ICE SKATING FREE PLAY	TUESDAY 9.00.Bre.& Gym EXPERIMENT: EVAPORATION T.brought some ice cubes to the class and told that they were going to make rain in the class. She boiled them in the pot.T.asked children about their guesses Children discussed about the steamwhile bserving and then watched the water drops under the tray	WEDNESDAY 9.00:Bre.&gym ICE SKATING FREE PLAY PREPARATION FOR ACTIVITY: Children filled ice containers with water and placed sticks in them and put them in freezer	THURSDAY 9.00:Break.& gym ART: ICE PICTURES T. put dry tempera on white papers and children mixed different colors by the ice cubes they prepared the previous day Children also drew pictures as well as creating different colors on papers	FRIDAY 9.00: Bre.& gym PAINTING MUSIC
12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP
INTROD: T. brought hard and liquit materials to the class and asked children in what ways they are different. Children talked about their main features and t. concluded by saying"tomorrow we will make rain here.	THINKING: T. asked children what happens when our hands are wet, what happens when it rains, and how clouds are formed. Children discussed about it by referring to the experiment they did.	PLAY-SEARCH T. drew three lines on the board and classified them as hard liquit and gas. Children told the items they think in a certain class and t. drew its picture in that class.	SESAME STREET (30 MINUTES) STORY READING	SESAME STREET (30 MINUTES) FREE PLAY STORY READING

UNIT 8: OUR BODY **SUBJECT: FOOD (VITAMINS AND ENERGY GIVERS)**

COGNITIVE DOMAIN

OBJECTIVES

a. To know the names of basic fruits and vegetables

e.g.;

a.To list at least five fruit names

b.To list at least three vegetable names

b. To know the concept of vitamin

e.g.;

a.To tell that vitamins work to protect our body from sickness, and are necessary for growth.

b.To select the kind of food that includes vitamin among different kinds of food.

c. To know the concept of energy and energy giving food.

e.g.;

a.To list at least 1 kind of energy giving food , such as chocolate, cake , candies, etc.

b.To tell that one gets fat if eats too much sweet and bakery.

AFFECTIVE DOMAIN

OBJECTIVE

To enjoy during cooking exercises

e.g.;

a. To state which of the groups to participate during salad or cake making activities.

b. To volunteer to taste the self-made food during the activities.

PSYCHOMOTOR DOMAIN

OBJECTIVES

a. To use materials like knife and mixer, appropriately.

e.g.;

a.To cut vegetables and fruits into slices or cubes without cutting fingers

b.To manipulate mixer when dealing with the cake without spreading dirt around.

b.To clean the work area after the activity

e.g.;

a.To bring the materials used back to their places

b.To wash hands before and after working

Special reading materials used in the classroom

Mainwaring, J. (1989). Fruit First Discovery Series. London: Moonlight Publishing.

Mainwaring, J. (1989). Vegetable. First Discovery Series.London: Moonlight Publishing

Pelham, D. (1993). Sam`s sandwich. Santa Fe: White Heat Ltd.

Pelham, D (1994). Sam`s snack. London: Random House.

UNIT 8: OUR BODY SUBJECT: FOOD (VITAMINS, PROTEINS AND ENERGY SUPPLIERS)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00:Break.&Gym ICE SKATING FREE PLAY	9.00: Break. & Gym READING: Books "Vegetables" and "Fruits" were read. Differences between fruits and vegetables were discussed and simple forms of fruits and vegetables were drawn on the board	9.00:Break. & Gym ICE SKATING FREE PLAY	9.00:Break.& Gym ACTIVITY:COOKING Children were divided into 2 groups and different fruits and vegetables were brought in the class. One group made fruit salad and the other group , vegetable salad. Salads were eaten at lunch.	9.00:Break. & Gym PAINTINGACTIVITY: COOKINGMaking cake. Children made mosaic cake by biscuits, cream and milk. Then they ate it at lunch. During cooking activities, discussions were carried out about the functions of different kinds of food
12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP	12.00:LUNCH 13.00:SLEEP
INTRODUCTIONT. asked questions about fruits and vegertables and children discussed about the topic . During discussion, colored pictures were used.	COLLAGE: Making human figures of cereals SINGING FREE PLAY	SESAME STREET (30 MINUTES) STORY READING	STORY READING VIDEO HOUR	SESAME STREET (30 MINUTES) FREE PLAY

UNIT 9: SOCIETY SUBJECT: OUR NEIGHBORHOOD
COGNITIVE DOMAIN
OBJECTIVES
a. To know about the local street and home address
e.g.;

a.To tell about the home- whether it is an appartment, house, etc.

. b.To tell about the local street- whether there are any shops, schools, park, playground, etc.

b. To know the steps to do when get lost
e.g.;

a. To state that one should ask for help from a policeman when gets lost.

b. To show the I.D. cards prepared in the class during role playing.

c. To tell home address, and names of the parents when the teacher asks.

c.To know the surrounding places to the kindergarten itself.
e.g.;

a.To state the differences between areas at kindergarten like the classroom, play room, eating area, sleeping area, etc.

b.To state the differences between the kindergarten territory and the outer spaces like the road, other buildings, and the garden of the kindergarten.

AFFECTIVE DOMAIN
OBJECTIVE
To show awareness in the kindergarten's surroundings.(Receiving)
e.g.;

To ask teacher about the places and objects (e.g. traffic signs, statutes, symbols, etc.) , during the campus trip.

PSYCHOMOTOR DOMAIN
OBJECTIVE
To find the way to places in the kindergarten like toilets, play room, classroom and garden without the help of others.

Selected Readings:
<u>Edi Kayboldu</u>. Susam Sokagi Yayinlari.

UNIT 9: SOCIETY **SUBJECT: OUR NEIGHBOURHOOD**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00:Bre.&Gym ICE SKATING FREE PLAY	9.00.Bre.&Gym ACTIVITY: CARD MAKING Children cut 5*4 cm cards. Teacher wrote the addresses and phone numbers on these cards and asked children why they prepare them. A discussion started about "what must we do when we get lost". Concepts: Policeman, an adult , salesperson, etc. can help us.	9.00.Bre.&Gym ICE SKATING FREE PLAY	9.00.Bre.&Gym DRAWING: Children draw the pictures of their street, home, school, etc. optionally	9.00.Bre &Gym PAINTING CAMPUS TRIP
12.00:LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP
INTROD: T. chats with the children about their homes, streets, groceries, etc. and discusses about the differences and similarities of different regions . HOMEWORK T. asks children to bring their addresses and phone numbers tomorrow	THINKING/ DISCUSSION What shall we do if we get lost? READING "Edi Kayboldu" Sesame Street Publ. Events in the book and real life are matched abd children created their own solutions and viewpoints	SESAME STREET (30 MINUTES) SINGING/ DANCING FREE PLAY	VIDEO HOUR FREE PLAY DANCING	SESAME STREET (60 MINUTES)

UNIT 10: NATURE SUBJECT: DOMESTIC AND WILD ANIMALS

COGNITIVE DOMAIN

OBJECTIVES

a. To understand the basic differences and similarities between domestic and wild animals.

e.g.;

a.To give at least three examples to wild animals

b.To give at least three eamples to domestic animals

b. To understand that different types of animals live in different ways

e.g.;

a.To explain that some animals live in water, some live at ground, and some fly.

b.To give at least one example to animals in water, in air and at ground.

AFFECTIVE DOMAIN

OBJECTIVES

To participate in class discussions

e.g.;

a.To tell about self feelings about a particular animal.

b.To volunteer to feed the animals around.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To imitate specific animals .

e.g.;

To imitate the voices and actions of the animals that the teacher gives as example.

Special reading and audiovisual materials used in the classroom:

Mainwaring, J. (1989). Birds. First Discovery Series. London: Moonlight Publishing.

Mainwaring, J. !1989). Cats. First Discovery Series. London: Moonlight Publishing

Mainwaring, J. (1989). Farm animals. First Discovery Series. London.Moonlight Publishing.

Pelham, D. & Foreman, M. (1988). Worms wiggle. Pop-Up Book.London: Harper Collins Publ. Ltd.

Campbell, R. (1983). Oh dear! Lift-the-flap-book.London, Blackie and Son Ltd.

Video Cassette: Mogli (Raksotek)

UNIT 10: NATURE SUBJECT: DOMESTIC AND WILD ANIMALS

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
ICE SKATING FREE PLAY	DISCUSSION What are the names of animal nests?What do different domestic and wild animals eat?	ICE SKATING FREE PLAY	MASK MAKING Making animal faces from paper plates, fabrics, crayons, cotton and cardboard	PAINTING DISCUSSION What can we do to save our world and living creatures on earth
12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP
INTROD.Teachers brings a cardboard divided into 3 sections as land, sea and air. And asks children to place the correct paper animal figure on the correct place.	ART: Making cotton lamb,and chick.: ACTIVITY: Tarzan's guess what game	SESAME STREET (30 MINUTES) DANCING	DRAMA: ROLE PLAYING Imitating the animal behaviors and voices by the masks made in the morning session	SESAME STREET (30 MINUTES) VIDEO HOUR (ANIMALS)

UNIT 11: SOCIETY **SUBJECT: SHOPPING AND MONEY**

COGNITIVE DOMAIN

OBJECTIVE

To understand that different objects do have different values according to their qualiities, and money is paid in different amounts to different goods according to their values.
e.g.;

a.To give examples to at least 2 expensive and 2 cheap goods.
b.To explain that in order to buy something expensive, one should have more money.

AFFECTIVE DOMAIN

OBJECTIVE

To show interest in shopping procedures and good manners in shopping, and to show interest in different kinds of shops.
e.g.;

a.To answer teacher's questions about the good and bad manners during shopping, appropriately.

b.To tell about the differences between different shops like jewellist and green grocer.

c.To volunteer for the role- playing activity about the salesman and customer.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To play the roles of different characters like salesman, customer, parents and children appropriately.

Special reading materials used in the classroom

Children`s Television Workshop. Edi Kayboldu. Susam Sokağı Hikaye Kitapları Serisi. İstanbul: Remzi Kitabevi.

UNIT 11: SOCIETY   SUBJECT: SHOPPING AND MONEY

MONDAY ICE SKATING FREE PLAY	TUESDAY CONCEPT: Cheap- expensive DISCUSSION What are cheap, what are expensive? ROLE PLAYING Salesman-Costumer	WEDNESDAY ICE SKATING FREE PLAY	THURSDAY CONCEPT: Bank and saving money THINKING AND DISCUSSION: What is the function of the bank?	FRIDAY PAINTING DANCING
12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP
INTROD:T. opens a discussion about shopping, and spending money and children express their feelings when they go out for shopping with thier families	AWARENESS: Let's learn about money. Banknotes and changes SESAME STREET (30 MINUTES)	Learning about different shopping centers * Jewellery *Fishing store * Shoe shop	SESAME STREET (30 MINUTES) DRAWING Children draw pictures of different kinds of shop as they are interested	VIDEO HOUR (Shopping) FREE PLAY

UNIT 12: SPECIAL OCCASIONS **SUBJECT: NEW YEAR**

COGNITIVE DOMAIN

OBJECTIVE

To know that time is going on and new year shows a new year period.
e.g.;

To tell that every year, people grow one year older.

AFFECTIVE DOMAIN

OBJECTIVE

To volunteer for the new year activities in the classroom.
e.g.;

To tell about self feelings about the new year celebrations.
To participate to the classroom decorations .

PSYCHOMOTOR DOMAIN

OBJECTIVE

To use the materials like scissors, crayons, pens and papers appropriately.

Ahlberg, J. & Ahlberg, A. (1992). The jolly Christmas postman. London: William Heinemann Ltd.

UNIT 12: SPECIAL OCCASIONS SUBJECTS: NEW YEAR

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
ICE SKATING FREE PLAY	ART: Makking New Year card	ICE SKATING FREE PLAY	ART: Making New Year card	PAINTING SESAME STREET(30 minutes)
12.00:LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP	12.00.LUNCH 13.00.SLEEP
INTROD: T. Teacher talks about the meaning of the new year and children discuss about their feelings about new year	SESAME STREET FREE PLAY	ART: Drawing pictures about the new year FREE PLAY	New Year Decoration FREE PLAY	NEW YEAR PARTY

UNIT 13: SEASONS **SUBJECT: WINTER**

COGNITIVE DOMAIN

OBJECTIVE

To understand the major characteristics of winter in terms of changes in the weather, clothes, and food.
e.g.;

a.To state what the weather will be like in winter.
b. To give examples to fruits in winter.
c. To explain the general differences between between winter and the other seasons.

AFFECTIVE DOMAIN

OBJECTIVE

To show interest in the subject of winter by building links with the real life and stories and activities carried out in the classroom.
e.g.;

a. To select clothes to worn in winter among several types of clothes that the teacher brought into the classroom.
b. To complete the bird food activity starting form beginning to the end.
c. To help friends when making a snowman.

PSYCHOMOTOR DOMAIN

OBJECTIVE
To use epsom salt mixture as the teacher demonstrates
e.g.;

a.To mix epsom salts with warm water without messing around.
b.To paint the picture with epsom salt mixxture properly.

Special reading materials used in the classroom:

Mainwaring, J. (1989). Weather. First Discovery Series. London: Moonlight Publishing.

UNIT 13: SEASONS SUBJECT: WINTER

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00.Bre.&Gym ICE SKATING FREE PLAY	9.00.Bre.&Gym ART: Winter Landscape (Small group act.) STORY READING "Little bird and the pine tree"	9.00.Bre.&Gym ICE SKATING FREE PLAY	9.00.Bre.&Gym CREATIVE ARTS: FUZZY PICTURE Making a winter picture and covering it with epsom salt.	9.00.Bre.&Gym PAINTING Drawing and singing about winter
12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP
DISCUSSION Children discuss about the features of winter, kinds of food, the climate, clothes, and similar items by linking them to their own lives.	GROUP WORK Making a snowman FREE PLAY	ACTIVITY: Preparing bird food : Children put pieces of bread, cookies, berries, and fruits on robes and hang them on the branches of the trees in the garden.	SESAME STREET (30 MINUTES) FREE PLAY	SESAME STREET(30 MINUTES) DANCING

UNIT 14: OUR BODY **SUBJECT: INTERNAL ORGANS (1)**

COGNITIVE DOMAIN

OBJECTIVE

To know the shapes, places and functions of internal organs.
e.g.;

a. To tell the shape, show the place and state general function of the stomach.
b.To tell about the major differences between boys and girls.

AFFECTIVE DOMAIN

OBJECTIVE

To participate in class discussions about the internal organs and participate in classroom activities.
e.g.;

a.To express ideas about the classroom activities and the books read.
b.To ask questions related to the topic during discussions.
c.To answer teacher's questions about the subject, eagerly.

PSYCHOMOTOR DOMAIN

OBJECTIVE

a. To use the materials appropriately during the collage.
e.g.;

To select pieces of food rather than unrelated objects when filling the stomach during collage.

b. To draw the pictures of stomach and intestines correctly on a human body picture.

UNIT 14: OUR BODY SUBJECTS: INTERNAL ORGANS (1)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00.Bre.&Gym ICE SKATING FREE PLAY	9.00.Bre.&Gym COLLAGE: Stomach of a fat child	9.00.Bre.&Gym ICE SKATING FREE PLAY	9.00.Bre.&Gym Reproduction and the genitals. Children discussed their functions, and differences between males and females by colorful books and pictures	9.00.Bre.&Gym PAINTING READING: "Growth"
12.00 LUNCH 13/00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP
INTROD: T. draws the internal organs on the board and explains the functions of each organ . Children discuss about them	SESAME STREET (30 MINUTES) FREE PLAY	PICTURE: Children draw the picture of intestines and discuss their functions, and how they work	SESAME STREET (30 MINUTES) DANCING	FREE PLAY VIDEO HOUR

UNIT 15: OUR BODY **SUBJECT: INTERNAL ORGANS (2)**

COGNITIVE DOMAIN

OBJECTIVE

To know the shapes, places and functions of internal organs.
e.g.;

a.To state the shape, show the place and explain the function of the heart.
b.To state the shape, show the place and explain the function of the brain.
c.To state the shape, show the place and explain the function of the lungs.
d.To tell what to to protect our internal organs.

AFFECTIVE DOMAIN

OBJECTIVE

To participate in class discussions about the internal organs and participate in classroom activities.
e.g.;

a. To tell about self - thoughts about the classroom activities.
b..To ask questions related to the topic during discussions and activities.
. c.To answer teacher's questions eagerly during the activities and discussions.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To use the materials appropriately during the classroom activities.
e.g.;

a.To use the stetescope correctly as the teacher demonstrates, in order to hear the heartbeat.

b.To do the gymnastics movements correctly as the teacher demonstrates.

UNIT 15:OUR BODY **SUBJECT: INTERNAL ORGANS (2)**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00 Bre.&Gym ICE SKATING FREE PLAY	9.00 Bre.&Gym EXPERIMENT: THE HEART Children first listen to their heart beats by steteoscope and then make a 2-min. gymnastics. Then they listen to their hearts again and discuss about the difference between two situations and the possible reasons.	9.00 Bre &Gym ICE SKATING FREE PLAY	9.00 Bre.&Gym EXPERIMENT: THE LUNGS Children bring baloons and fill them with air and discuss what happens when we breath depending on the experiment.	9.00 Bre.&Gym PAINTING FREE PLAY
12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP
INTROD: T. shows the colorful pictures of the heart, lungs and brain to the class and asks about the functions of each by creating a discussion	SESAME STREET (30 MINUTES) FREE PLAY	DISCUSSION: What is the function of the brain? What happens when one gets a blow on the head? We should protect our head	SESAME STREET (30 MINUTES) FREE PLAY	STORY READING DANCING

UNIT 16: SOCIETY **SUBJECT: TRANSPORTATION**

COGNITIVE DOMAIN

OBJECTIVE

To know the meaning of "transportation", and functions of different vehicles used for transportation.
e.g.;

a. To give at least one example to the vehicles that go on the sea, air and land.

b.To tell about the the role of traffic signs and the policeman.

AFFECTIVE DOMAIN

OBJECTIVE

To enjoy and continue the toy-making activity by relating it to real-life events.
e.g.;

a.To build a toy vehicle by the given materials eagerly.

b.To play with the toy vehicle by sharing it with the friends.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To use the given paper rolls and other materials appropriately.
e.g.;

To use the given materials in order to make a toy vehicle, rather than to make any other toy.

Special reading materials used in the classroom:

Mainwaring, J. (1989). Flying. First Discovery Series. London: Moonlight Publ.

Vargo, V. Captain Sam. New York: Random House Company.

Blanchard, A. (1990). By what we go. U.K. Victoria House Publ.Ltd.

UNIT 16: SOCIETY **SUBJECT: TRANSPORTATION**

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00 Bre.&Gym ICE SKATING FREE PLAY	**9.00 Bre.&Gym** Learning about vehicles Book:" By what we go?"	**9.00 Bre.&Gym** ICE SKATING FREE PLAY	**9.00 Bre.&Gym** TOY MAKING: Children made different vehicles by used tooilet paper rolls and match boxes	**9.00 Bre.&Gym** ART:Mosaic Picture of a plane FREE PAINTING
12.00 LUNCH **13.00 SLEEP**	**12.00 LUNCH** **13.00 SLEEP**	**12.00 LUNCH** **13.00 SLEEP**	**12.00 LUNCH** **13.00 SLEEP**	**12.00 LUNCH** **13.00 SLEEP**
INTROD: T. draws a chart on the board, divides it into 3 sections and asks children about the vehicles that belong to each section	DISCUSSION How should we get on /in bus, train, car, etc.	CONCEPT FORMATION: Traffic Signs Traffic policeman How to cross the road	SESAME STREET (30 MINUTES) VIDEO HOUR	SESAME STREET (30 MINUTES) FREE PLAY

UNIT 17: SOCIETY **SUBJECT: COMMUNICATION**

COGNITIVE DOMAIN

OBJECTIVE

To know what "communication" is and to know that different machines are used for communication.
e.g.;

a.To tell that people communicate by language.
b. To tell the function of TV, radio and telephone.

AFFECTIVE DOMAIN

OBJECTIVE

To participate in classroom discussions and activities.
e.g.;
a.To bring home adress to class on time.
b.To volunteer to prepare postcards and send them home from the post office.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To prepare a postcard by drawing and painting and place it in the envelope correctly.
e.g.;

a.To put the stamp on the up right corner of the envelope.
b.To place the adress on the center of the envelope

Special reading materials used in the classroom:

Ahlberg,A.& Ahlberg,J. (1992). The jolly postman. London: William Heinemann Ltd.

Ahlberg,A.& Ahlberg,J. (1992). The jolly Christmas postman. London: W. Heinemann Ltd.

UNIT 17: SOCIETY SUBJECT:COMMUNICATION

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9.00 Bre.&Gym SESAME STREET (30 MINUTES) FREE PLAY	9.00 Bre.&Gym ACTIVITY: CARD MAKING Children make original postcards, put them in envelopes and stick on stamps, teacher writing the addresses of the relatives	9.00 Bre.&Gym SESAME STREET (30 MINUTES) FREE PLAY	9.00 Bre.&Gym TRIP TO THE POST OFFICE Children send the postcards they have made	9.00 Bre.&Gym PAINTING STORY READING (THE JOLLY POSTMAN)
12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP
INTROD. T. shows the colorful pictures of communication devices and children discusses about their functions with the teacher. HOMEWORK: T. asks children to bring the addresses of their relatives whom they want to send a post card.	Learning about the telephone: * How to talk * What different signals mean * How to use telephone	SESAME STREET (30 MINUTES) VIDEO HOUR (FILMS ABOUT COMMUNICATION DEVICES)	ACTIVITY: Toy Making Children make TV, radio or telephone using the cardboards, and materials around, then play roles as if they use those devices	Toy Making continues VIDEO HOUR (Films about communication)

UNIT 18: OUR WORLD **SUBJECT: THE SEA, LAND AND PEOPLE**

COGNITIVE DOMAIN

OBJECTIVES

a.To know that the earth is composed of sea, land and people.
e.g.;
To state that sea is wide and ocean is even wider.

b.To know that there are different people living on the earth.
e.g.;
To tell about differences between races by calling them correctly looking at pictures of blacks, whites and orientals.

AFFECTIVE DOMAIN

OBJECTIVE

To accept that a black child is no different from a white child, eventhough he looks different.
e.g.;
a.To ask teacher questions about the places that other people live in, the food they eat, etc.
b.To follow the videos about the earth for at least 10 minutes.

PSYCHOMOTOR DOMAIN

OBJECTIVE

To perform the dance steps and movements correctly as the teacher shows.

UNIT 18: OUR WORLD **SUBJECT: THE SEA, THE LAND AND PEOPLE**

MONDAY 9.00 Bre.&Gym ICE SKATING FREE PLAY	TUESDAY 9.00 Bre.&Gym INTROD. Questioning With colorful pictures, and a toy world, children discover the lands, sea, and oceans by discussions and answering teachers's questions	WEDNESDAY 9.00 Bre.&Gym ICE SKATING FREE PLAY	THURSDAY 9.00 Bre.&Gym T. brings the pictures of blacks, whites and far easterns to the class. By looking at the pictures, children see the similarities and differences among them.	FRIDAY 9.00 Bre.&Gym PAINTING VIDEO HOUR (Films about people of different countries)
12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP	12.00 LUNCH 13.00 SLEEP
SESAME STREET (30 MINUTES) FREE PLAY	PICTURE: Children make the pictures of the world	CONCEPT FORMATION: *What is a country *How different and similar are people in different countries * Are languages of different countrie also different	SESAME STREET (30 MINUTES) FREE PLAY	DANCING (about different folk musics) FREE PLAY

APPENDIX C: CRITERION-RELATED VALIDITY SCORES FOR INDIVIDUAL GROUPS

CRITERION-RELATED CORRELATIONS IN THE EXPERIMENTAL GROUP

TOS1-FLU2:	r=.4456,	P=.049
TOS2-ORI2:	r=.04621,	P=.040
TOS3-ORI2:	r=.4436,	P=.050
PAR2-FLU2:	r=.5174,	P=.019
PAR2-PAR3:	r=.4773,	P=.033
TOS1-TOS2:	r=.6335,	P=.003
TOS1-TOS3:	r=.6159,	P=.004

CRITERION-RELATED CORRELATIONS IN CONTROL GROUP 1

POS1-FLU1:	r=-.5469,	P=.019
POS1-FLU2:	r=-.4771,	P=.045
POS3-ELA1	:r=.5685,	P=.014
TOS2-ORI2:	r=.4830,	P=.042
POS3-TOS3:	r=-.5952,	P=.009
TOS1-TOS2	:r=.5868,	P=.010
POS1-POS2:	r=.5127,	P=.030

CRITERION-RELATED CORRELATIONS IN CONTROL GROUP2

POS2-FLE2	:r=.5551,	P=.049
POS1-POS2:	r=.5635,	P=.045
TOS1-FLE2:	r=.7446,	P=.004
TOS1-FLU2:	r=.6397,	P=.019
TOS3-ELA2:	r=.5523,	P=.050
TOS3-FLE2:	r=.7313,	P=.005
TOS1-ORI2:	r=.6585,	P=.014
TOS3-ORI2:	r=.5789,	P=.038
TOS1-TOS3:	r=.6726,	P=.012
POS1-TOS3	:r=.5789,	P=.038

APPENDIX D: AİLE GÖZLEM FORMU

Sayın Veli,
Aşağıda, evde çocuğunuzda gözlediğiniz bazı davranışlar bulunmaktadır. Lütfen bu davranışları dikkatle okuyup, verilen "Asla", "Bazen", "Sık sık" ve "Daima" maddelerinden çocuğunuz için en uygun olanları işaretleyiniz. Vereceğiniz bu cevaplar araştırmacı tarafından kesinlikle gizli tutulacak ve yuva için geliştirilmekte olan programın çocuklar üzerindeki etkilerinin araştırılmasında kullanılacaktır. Katılımınız için teşekkür ederiz.
NOT: Eklemek istediğiniz görüşlerinizi aşağıda bırakılan boşluklara yazabilirsiniz.

DAVRANIŞLAR	Asla	Bazen	Sık sık	Daima
Bilişsel				
1. Yuvada yaptığı etkinliklerden, o gün başından geçenlerden bahsediyor mu?				
2. Evde herhangi bir konuda kendi fikirlerini söyleyebiliyor mu?				
3. Sözcük dağarcığında gelişme oluyor mu? (Ayda 2-3 ya da daha fazla yeni sözcüğe rastlıyor musunuz?				
4. Evde bir konuyla uğraşırken zorlandığı zaman yardım istemeden önce kendisi çözmeye çalışıyor mu?				
5. Evde konuşulan konuları başka konularla bağdaştırabiliyor mu?				
6. Anne-baba ya da kardeşlerini kendi görüşleri doğrultusunda ikna etmeye çalışıyor mu?				
7. Evde herhangi bir konuyla uğraşırken rahatça konsantre olabiliyor mu?				
8. Evde herhangi bir konuda orijinal fikirler öne sürebiliyor mu?				
9. Kendi kendine öykü, senaryo, vs. yaratıyor mu?				

Duygusal	Asla	Bazen	Sık sık	Daima
10. Konuşkan mı?				
11.İçine kapanık mı?				
12.Sinirli,aç,yorgunolduğu zaman saldırgan tutum alıyor mu?				
13.Eleştiri aldığı zaman içine kapanıyor mu?				
14. Küsme huyu var mı?				
15. Evde kardeş ya da arkadaşlarıyla oyuncaklarını rahatça paylaşıyor mu?				
16. Başkası söylemeden odasını, yatağını toplamaya çalışıyor mu?				
17. Anne-babasının söylediklerini en çok bir tekrarda yapıyor mu?				
18. Giysilerini kendi kendine seçiyor mu?				
19. Evde başkası söylemeden dişlerini fırçalıyabiliyor mu?				
20. Tuvaletten çıkınca, dışarıdan gelince başkası söylemeden ellerini yıkıyor mu?				
21. Giysilerini kendisi giyebiliyor mu?				
22. Yemeğini çatal, bıçak, kaşığı doğru kullanarak yiyebiliyor mu?				

APPENDIX E : ÖĞRETMEN GÖZLEM FORMU

Aşağıda öğrencilerinizde gözleyebileceğiniz bazı davranışlar sunulmaktadır. Bu davranışlar, öğrenilen konular ve sürekli hayat becerileri olarak iki temel başlık halinde verilmiştir. Lütfen, bu davranışları dikkatle okuyunuz ve sınıfınızdaki her öğrenci için verilen "Asla", "Bazen", "Sık sık" ve "Daima" maddelerinden en uygun olanını işaretleyiniz. Katılımınız için çok teşekkür ederiz.

ÖĞRENİLEN KONULAR	Asla	Bazen	Sık sık	Daima
a. Bilişsel alan				
1. Sınıfta görülen konularla ilgili sorular soruyor mu?				
2. Konuyu kendi sözcükleriyle anlatabiliyor mu?				
3. Konuda geçen sözcükleri kurduğu cümlelerde doğru olarak kullanabiliyor mu?				
4. Konuyla ilgili olarak kendi fikirlerini (konuya ters düşse bile) söyleyebiliyor mu?				
5. Konuyla ilgili olarak, kendi deyimlerini ya da başkalarının anlattıklarını dile getirebiliyor mu?				
6. Konuyla ilgili olarak arkadaşlarıyla tartışıp, onlarla fikir alış-verişinde bulunabiliyor mu?				
7. Konuyla ilgili olarak yapılan sanatsal çalışmalarda herhangi bir faaliyeti kendi başına baştan sona sürdürebiliyor mu?				
8. Sınıfta gösterilen bir konuyu diğer konularla bütünleştirebiliyor mu?				
9. Deney ve gözlemler esnasında, rahatça soru sorabiliyor mu?				

ÖĞRENİLEN KONULAR	Asla	Bazen	Sık sık	Daima
b.Duygusal alan				
10. Konulara aktif şekilde katılıyor mu?				
11. Konuyla ilgili olan sınıf içi-dışı etkinliklere katılıyor mu?				
12. Konuyu sevip, sevmediğini açıkça söyleyebiliyor mu?				
13. Zorlandığı etkinliklerde etraftan yardımisteyebiliyor mu?				
14. Bir konu işlenip bitse bile, o konuyla ilgilenmeye devam ediyor mu?				
15. Arkadaşlarıyla oyuncak, vs. paylaşıyor mu?				

ÖĞRENİLEN KONULAR	Asla	Bazen	Sık sık	Daima
c.Psikomotor alan				
16. Yeni öğrenilen sözcükleri doğru şekilde telaffuz edebiliyor mu?				
17. Duygu ve düşüncelerini beden ve hareketleriyle rahat ifade edebiliyor mu?				
18. Dans ya da ritm çalışması yapılırken vücudunu ve hareketlerini ritme göre ayarlayıp, kontrol edebiliyor mu?				
19. Gördüğü, öğrendiği yeni şeylerin taklitlerini yapabiliyor mu?				
20. Kalem, çatal, bıçak, kaşık, makas, vs. araçları gerektiği gibi tutup, kullanabiliyor mu?				

d. Sürekli Hayat Becerileri	Asla	Bazen	Sık Sık	Daima
21. Başkasının yardımı olmadan çatal-bıçağı doğru kullanarak yemek yiyebiliyor mu?				
22. Sabahları okula gelince arkadaşlarına ve öğretmenine ilgi gösteriyor mu?				
23. Saldırgan mı?				
24. Sinirli, aç, yorgun olduğu zaman saldırganlaşıyor mu?				
25. Sinirli, üzgün olduğu zaman bunu başkasıyla paylaşıyor mu?				
26. İnandığı bir görüşe arkadaşlarını konuşarak ikna etmeye çalışıyor mu?				
27. Başkasında gördüğü bir davranışı, sözü, vs. taklit etmeye çalışıyor mu?				
28. İnatçı mı?				
29. İçine kapanık mı?				
30. Utangaç mı?				
31. Konuşkan mı?				
32. Eleştiriler karşısında içine kapanıyor mu?				
33. Oyun sırasında küsme, mızıkçılık yapma huyları var mı?				
34. Karşılaştığı bir sorunu çözmeden önce kendisi uğraşıyor mu?				

APPENDIX F

TORRANCE TEST OF CREATIVE THINKING: FORM A

Pupil's Name ______________________ Sex ________ Test Date ________

School ______________________ Age ______ Grade ______ Scorer ______________

Form ______

Resp. No.	Activity 1		Activity 2			Activity 3		
	Orig.	Elab.	Categ.	Orig.	Elab.	Categ.	Orig.	Elab.
1								
2								
3								
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28								
29								
30								

SCORE SUMMARY

	FLU	FLEX	ORIG	E
Act. 1	X	X		
Act. 2				
Act. 3				
TOTAL				
T SCORE				

COMMENTS:

PERSONNEL PRESS A Division of Ginn and Company A Xerox Education Company LEXINGTON

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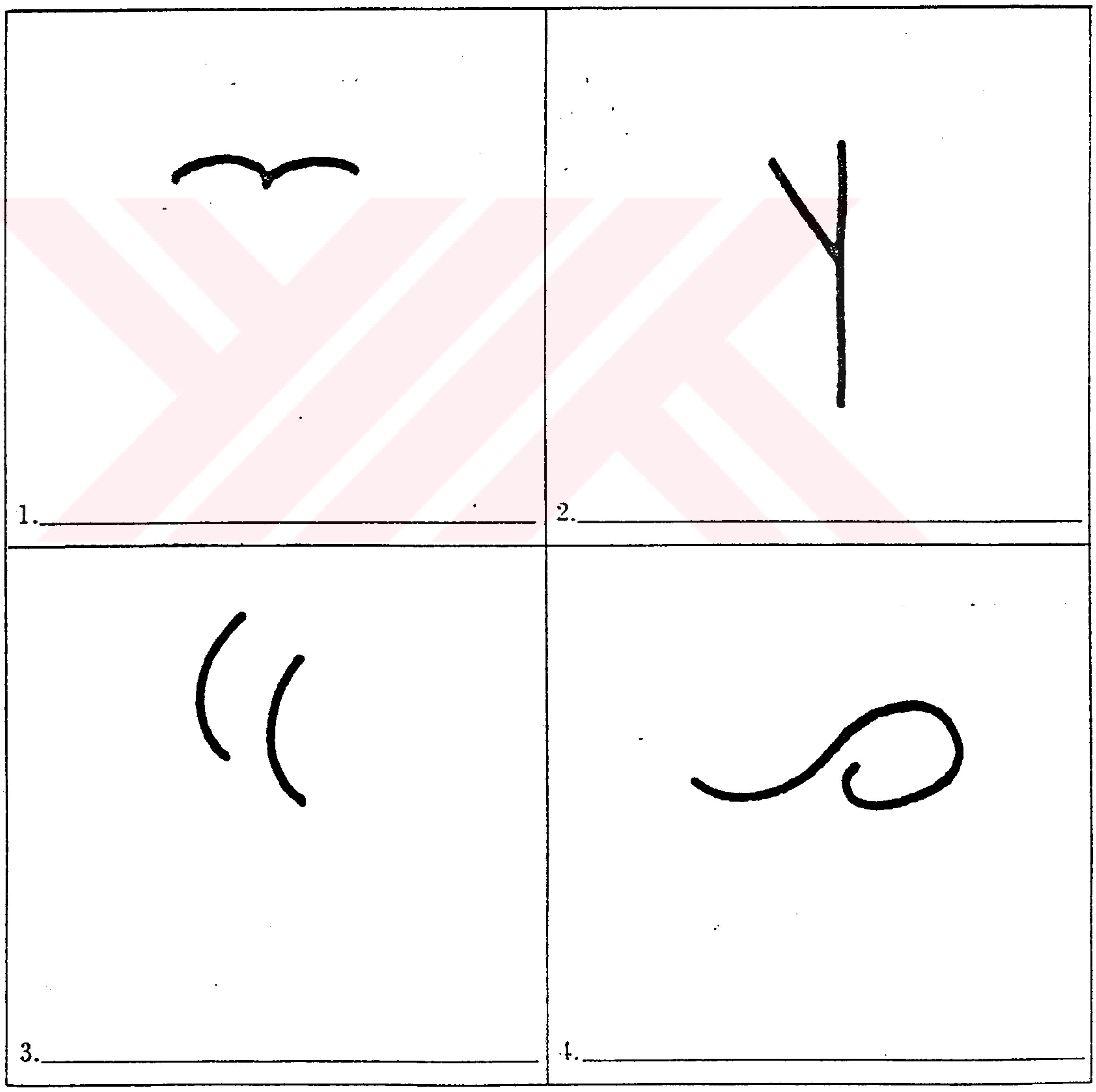
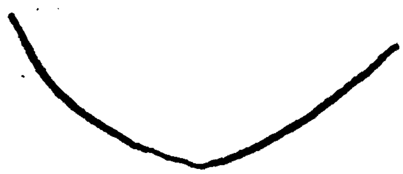
Activity 2. PICTURE COMPLETION

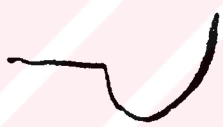
By adding lines to the incomplete figures on this and the next page, you can sketch some interesting objects or pictures. Again, try to think of some picture or object that no one else will think of. Try to make it tell as complete and as interesting a story as you can by adding to and building up your first idea. Make up an interesting title for each of your drawings and write it at the bottom of each block next to the number of the figure.





5.____________________

6.____________________



7.____________________

8.____________________

9.____________________

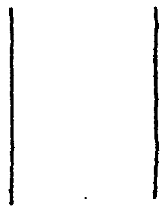
10.____________________

Activity 3. LINES

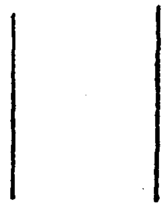
In ten minutes see how many objects or pictures you can make from the pairs of straight lines below and on the next two pages. The pairs of straight lines should be the main part of whatever you make. With pencil or crayon add lines to the pairs of lines to complete your picture. You can place marks between the lines, on the lines, and outside the lines—wherever you want to in order to make your picture. Try to think of things that no one else will think of. Make as many different pictures or objects as you can and put as many ideas as you can in each one. Make them tell as complete and as interesting a story as you can. Add names or titles in the spaces provided.

1. ____________________ 2. ____________________ 3. ____________________

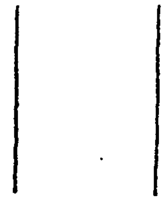
4. ____________________ 5. ____________________ 6. ____________________



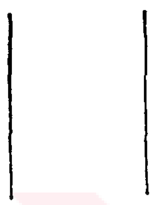
7.________________



8.________________



9.________________



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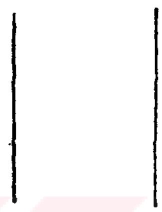

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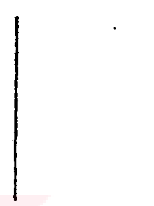

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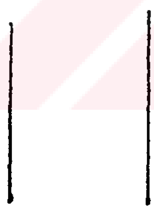

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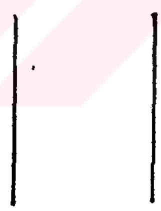

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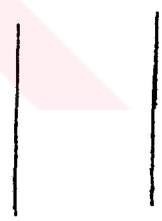

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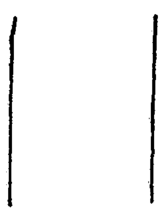
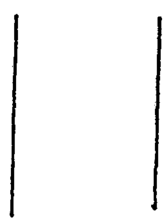
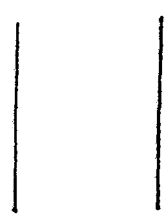


16.________________



17.________________



18.________________

19.________________ 20.________________ 21.________________

22.________________ 23.________________ 24.________________

25.________________ 26.________________ 27.________________

28.________________ 29.________________ 30.________________

VITAE

Günseli Oral was born in Balıkesir in 1966. She graduated from Middle East Technical University, Department of Psychology in 1988. She completed her M.Sc. in Middle East Technical University, Department of Educational Sciences in 1991. The title of her thesis was "The relationship between creativity and non-conformity to school discipline as perceived by the teachers of third and fourth graders". Between 1992 and 1993, she was granted by the British Council to make research on creativity in United Kingdom, University of Bristol. She completed her PH.D. in Middle East Technical University, Department of Educational Sciences in 1997. Günseli Oral has several papers about creativity and education, published abroad.