

26786

THE SHORT-TERM EFFECTS OF THE HOME INTERVENTION PROGRAM

ON THE COGNITIVE DEVELOPMENT OF CHILDREN

by

SEVIL ERCAN

B.A. in Guidance and Psychological Counseling,
Boğaziçi University, Istanbul, Turkey, 1990

Submitted to the Institute for Graduate Studies in

Social Sciences in partial fulfillment of

the requirements for the degree of

Master of Arts

in

Educational Sciences

BOĞAZIÇI UNIVERSITY

1993

**Y.C. YÜKSEKÖĞRETİM KURULU
DOKÜMANTASYON MERKEZİ**

26706

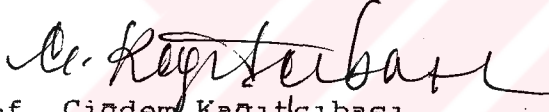
SHORT-TERM EFFECTS OF THE HOME INTERVENTION PROGRAM
ON THE COGNITIVE DEVELOPMENT OF CHILDREN

APPROVED BY



Assoc. Prof. Sevda Bekman

(Thesis Adviser)



Prof. Cigdem Kagıtcıbaşı



Prof. Ayhan Koç

JUNE 29, 1993

DATE OF APPROVAL

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my thesis advisor Assoc. Prof. Sevda Bekman, without her guidance and help this study would not have been possible.

I would also like to thank my committee members Prof. Çiğdem Kağıtcıbaşı and Prof. Ayhan Koç who have enriched this thesis by their valuable suggestions and critiques.

Moreover, my thanks to Yarkın Cebeci and Hülya Karagüven who have helped me with the statistical analyses of my study.

Furthermore, I am grateful to group facilitators in Adult Education Centers, mothers and most importantly their children who participated in this study. Without their help, this study would not have been completed.

Finally, my gratitude also to my family for their endless support and kind encouragement.

SEVİL ERCAN

ABSTRACT

The aim of the present study was to investigate the short-term effects of the Home Intervention Program on the cognitive development of children from disadvantaged backgrounds.

The Home Intervention Program was aimed at enriching children from economically disadvantaged backgrounds by means of mother training. It had two main components which are: a) a series of activities designed to help to foster cognitive development of children (HIPPIY), b) another series of activities designed to help mothers to improve the child's social and personality development.

In 1991 the program went through some changes especially the part which aimed cognitive development of children was redeveloped and put into application.

Although the short and long-term effects of the initial program were investigated previously, no research was done to test the effectiveness of the recently developed cognitive part of the program. Hence, this study looked at the comparative program effectiveness on a randomly selected experimental group of 40 children and their matched controls from three low income areas of Istanbul, namely Kagithane, Sarıyer and Beşiktaş.

The hypothesis of the study was that children whose mothers attended the Home Intervention Program would perform better on all the measures utilized compared to children whose mothers did not attend any kind of program. Comparison of the experimental and control groups was done by utilizing t-test analysis. Moreover, comparison of the three experimental groups was carried out by means of analysis of variance (One-way ANOVA).

Results of the t-test analyses showed significant differences between the two groups on all measures. That is, children whose mothers attended the Home Intervention Program performed better on the WAT, Simple Classification Task, Multiple Classification and the Vocabulary subtest of the WISC-R compared to control group. Hence, the hypothesis of the study was confirmed by the findings.

Comparison of the three experimental groups to investigate whether there would be differences between them indicated that, there was a significant difference between the three experimental groups only on Multiple Classification Task.

ÖZET

Bu çalışmanın amacı Anne-Çocuk Eğitim Programı' nın elverişsiz şartlardan gelen çocukların bilissel gelişimi üzerindeki kısa süreli etkilerini araştırmaktır.

Bu programın amacı elverişsiz şartlardan gelen çocukların gelişimini anne-egitimi yoluyla desteklemektir. Program iki ana bölümde oluşmaktadır : a) çocuğun bilissel gelişimini amaçlayan bir seri etkinlikler b) çocuğun sosyal ve kişilik gelişimini amaçlayan etkinlikler.

1991 yılında bu program bazı değişikliklere uğramış özellikle çocuğun bilissel gelişimini amaçlayan bölüm yeniden geliştirilmiştir.

Değişiklik yapılmadan önce programın kısa ve uzun süreli etkileri incelenmiş olmasına rağmen, yeni geliştirilmiş olan ve çocuğun bilissel gelişimini amaçlayan programın etkileri araştırılmamıştır. Nihayet bu çalışma, yeni geliştirilmiş olan çocuğun bilissel gelişimini amaçlayan programın etkilerini araştırmıştır.

Örnekleme İstanbul'un Kağıthane, Sarıyer ve Beşiktaş semtlerinin düşük gelirli bölgelerinden seçilmiş olan 40 çocuk ile bunlarla eşleştirilen kontrol grubundan oluşmaktadır. Annesi eğitim programına devam etmiş olan

çocuklar bilişsel gelişimi ölçen ölçeklerde annesi hiçbir eğitim programına devam etmemiş olanlara göre daha başarılı olacaklardır beklentisi çalışmanın hipotezini oluşturmaktaydı.

Deney ve kontrol grupları t-testleri kullanılarak birbirleriyle bütün ölçekler için karşılaştırılmışlardır. Ayrıca, üç deney grubu da tek-yönlü varyans analizi kullanılarak birbirleriyle karşılaştırılmışlardır.

Bulgular iki grubun performanslarının bütün ölçmelerde belirgin bir şekilde farklı olduğunu göstermiştir. Yani, annesi eğitim programına devam etmiş olan çocuklar Wechsler Analitik Üçlü, Sınıflama Becerileri Testi, Çoklu Sınıflama ve Wechsler Çocuklar için Zeka Ölçeği'nin Sözcük Dağarcığı alttestinde kontrol grubuna göre daha başarılı bulunmuşlar ve bulgular hipotezi desteklemiştir.

Deney grupları arasında farklılık olup olmadığını araştıran karşılaştırmalar sonucunda, sadece Çoklu Sınıflama Becerileri Testi için belirgin bir farklılık bulunmuştur.

Contents	Page
Acknowledgements	iii
Abstract	iv
Özet	vi
List of Tables	xi
List of Abbreviations	xii

I. INTRODUCTION

A. Importance of Early Childhood Education Programs	..1
B. The Role of the Environment and Early Ages on Cognitive Development of Children	.....3
C. Aims of Early Childhood Programs	.....6
D. What are the Program Approaches ?	.....11
E. What are the Program Options ?	.....13
I. Attending children in center based programs	.13
1. Integrated child development centers	.....13
2. Home-day care	.....14
3. Nutrition or health centers	.....14
4. Child-care and development centers at the work place	.....14
5. Preschools	.....15
II. Educating parents and other care givers	.....15
1. Home visiting	.....16
2. Adult education	.....17
3. Using mass media and alternative forms of	

communication with open audiences	18
4. Child to child approach	18
III. Promoting community development	19
IV. Strenghtening Institutions	19
V. Creating awareness and demand	20
F. Importance of Family as an Intervention Focus	20
G. The Effects of Early Childhood Development and Education Programs on Cognitive Development of Children	23
H. General State of Early Childhood Education in Turkey	28
The Turkish Early Enrichment Project	31
I. Scope of the study	36
II. METHOD	
A. Aim of the Study	38
B. Design of the Study	38
C. Sample of the study	39
D. Instruments	40
I. Wechsler Analytical Triad (The WAT)	40
1. Block Design.....	41
2. Object Assembly.....	42
3. Picture Arrangement.....	43
II. Simple Classification Task	43
III. Multiple Classification Task	44
IV. Vocabulary Subtest of The Wechsler Intelligence Scale for Children -Revised....	46

E. Procedure	46
F. Data Analysis	47

III. RESULTS

A. Description of Sample of Mothers	49
B. Results of Analyses for	50
1. Simple Classification Task	50
2. Multiple Classification Task	50
3. The Wechsler Analytical Triad	51
4. The Vocabulary subtest of the WISC-R	52
C. Results of Analyses for	53
1. Picture Arrangement subtest of the WISC-R ..	53
2. Block Design subtest of the WISC-R	54
3. Object Assembly subtest of the WISC-R	54
D. Comparison of the Experimental Groups	55
IV. DISCUSSION	56
V. LIMITATIONS OF THE STUDY	68
REFERENCES	70
APPENDIX.....	76

LIST OF TABLES

Table No.	Page
Table 1:	Program information about the seven of the studies which have been conducted on the effects of early childhood education on low income children .....27
Table 2:	Design of the Study .....38
Table 3:	Educational level of the sample of mothers...49
Table 4:	The results of t-test analysis for SCT.....50
Table 5:	The results of t-test analysis for MCT .....51
Table 6:	The results of t-test analysis for the Wechsler Analytical Triad .....51
Table 7:	The results of t-test analysis for VO .....52
Table 8:	The results of t-test analysis for PA .....53
Table 9:	The results of t-test analysis for BD .....54
Table 10:	The results of t-test analysis for OA .....54
Table 11:	Means and standard deviations for the three groups on MCT .....55
Table 12:	Results of analysis of variance on MCT .....55

LIST OF ABBREVIATIONS

- WISC-R: The Wechsler Intelligence Scale for Children-
Revised
- The WAT: The Wechsler Analytical Triad
- VO: The Vocabulary subtest of the Wechsler
Intelligence Scale for Children-Revised
- BD: The Block Design subtest of the Wechsler
Intelligence Scale for Children-Revised
- OA: The Object Assembly subtest of the Wechsler
Intelligence Scale for Children-Revised
- PA: The Picture Arrangement subtest of the Wechsler
Intelligence Scale for Children-Revised
- SCT: Simple Classification Task
- MCT: Multiple Classification Task

I. INTRODUCTION

A. Importance of Early Childhood Education Programs

There are various reasons to invest in the early childhood education programs.

The obligation to protect a child's human rights is one of the most important reasons to invest in programs which enhance early childhood development. Protection of children's rights implies that all children in the world have a right to develop to their full potential (Myers, 1992). Early childhood education programs have been reported as a means by which children improve their abilities fully for a more productive and personally satisfying life (Weikart, 1984).

Since the transmission of social and moral values begin in the early years of life, early childhood education programs play an important role in transmission of cultural values in these years. That is, moral and social capacities of children are also enhanced by these programs (Myers, 1992).

Better physical and mental capacity that is provided by early childhood development programs lead to better performance in schooling. This helps to build

skills like the ability to organize knowledge into meaningful categories, to transfer knowledge from one situation to another and to be more selective in the use of information. Those children who are exposed to early childhood development programs reach primary school better prepared and make better use of the school (Rogoff, 1980; Triandis, 1980; cited in Myers, 1992). Similarly, Schweinhart (1984) points out that the best documented immediate effect of early childhood education programs is an improvement in the child's intellectual performance. This increase in intellectual performance provides a good start in the early years and helps children in adapting to the highly demanding school setting in later years. Thus, early education and development programs enable the child to perform better in his/her first scholastic tasks. In turn, children realize that they have the capacity for better scholastic performance and develop a stronger commitment to schooling. Similarly, teachers recognize their better scholastic performance and develop high expectations for the child. Hence, improved intellectual ability evokes commitment of children to schooling and the rewarding by teachers which lead to improved scholastic placement of the child. Consequently, commitment to schooling by the child and scholastic placement together affect scholastic achievement which lead to scholastic attainment (Berrueta-Clement, 1984).

Moreover, there are economic benefits of early

childhood development programs. These programs provide quality labor, new and better job opportunities for women since they lose less worktime and have proper care opportunities for their children (Galinsky, 1986; cited in Myers, 1992).

Investment in health, nutrition, and psychosocial development during the early years can also bring cost savings by improving education through reductions in drop out rates and repetitions and also by reducing health costs and the need for remedial programs.

Furthermore, investments in early childhood development programs can help to modify inequalities rooted in poverty and discrimination since such programs provide equal opportunities for disadvantaged children in the start of schooling. Thus, early education and development programs become effective in preventing the developmental deficits that are common among culturally disadvantaged children.

B. The Role of the Environment and the Early Ages in the Cognitive Development of Children

Research evidence from different fields like physiology, nutrition and psychology demonstrates that early ages are the most promising time for providing the desired improvement in the development of intelligence,

personality and socio-emotional behavior of children (Bloom, 1964; Weikart, 1967; Smart, 1987; Myers, 1992). It has been pointed out that there are times during the life cycle when certain kinds of things are learned most efficiently. That is, human beings develop capacities in predictable sequences through the life span and at each developmental stage new capabilities emerge (Banet, 1976).

Hunt suggests that the environment can block and retard certain developments in an individual, as well as facilitate and accelerate them (1961; cited in Bloom, 1964). If general intelligence is a developmental characteristic and the individual learns various concepts and skills at relatively specific time periods, it would be reasonable to expect that lack of such learning in one time period may be difficult to make up fully in another period (Bloom, 1964). Thus, stimulating environments for learning provide opportunities for the exercise and challenge of the newly developing potentials and skills (Banet, 1976). Hunt (1961) further suggests that children should not be overwhelmed with stimulus variety, but the variety of inputs must somehow be matched with the child's present growth.

According to Piaget cognitive development takes place when children assimilate experiences from their environment since only then they will be able to accommodate or internalize these learnings. That is,

internalizing experiences is critical to cognitive growth and can not take place if appropriate experiences are not provided.

The unfolding and improvement of cognitive capacity depend on the environmental factors and lack of necessary environmental conditions have limiting effects especially in early childhood (Kağıtçıbaşı, 1979). One of the consistent findings is that children from socially and economically disadvantaged environments have lower IQ's than children from middle class families (Bee, 1989). That is the average IQ of children rises as the social class of the family and the mother's education level rise. These differences widen with age (Golden and Birns, 1983; Farron, Haskins and Gallagher, 1980; cited in Bee, 1989). Mothers of children from low SES backgrounds talk to their children less, provide fewer age appropriate toys, spend less time with them with intellectually stimulating activity, use less explanations and are more physical in their discipline (Farron, Haskins, and Gallagher, 1980; Bee, 1989). A study done in Istanbul with primary school children who failed in their classes showed that most of the under-achievers come from low socio economic backgrounds with inadequate family and environmental conditions (Şemin, 1975; cited in Elibüyük, 1984). Families from disadvantaged backgrounds are larger with more closely spaced children. Thus the environment experienced by the child in poverty is very different from

what is experienced by a child in a more rich family (Broman, Nichols and Kennedy, 1975; cited in Bee, 1989).

Since the environment is important for different areas of development especially for cognitive development, early development and education programs by providing stimulation and different experiences appropriate to the child's developmental level are important means of supporting and extending children's emerging skills and potentials. These programs provide children with learning experiences, exercises and challenges when they are developmentally best able to master, generalize, retain and relate them to previous experience and future expectations (Banet, 1976).

C. Aims of Early Childhood Programs

Myers (1992) suggests a comprehensive aim in early childhood development and education programs which incorporate components of survival, growth, development and care. He describes these four components as simultaneous process rather than sequential.

The process of survival can be thought of as seeking a healthy state in a death-sickness-health continuum rather than only preventing the death. Accepting this definition of child survival requires looking beyond the cases of mortality and designing programs that reduce

the rate of mortality. This demands clarity about what should constitute moving towards a healthy state which would necessitate looking not only physical health but also social and mental health.

Growth occurs as a result of an increase in the number of cells. The measures of growth are weight and height. These are easy to obtain and usually norms have been developed against which the measures can be compared. Growth depends on the amount and the kind of food a child eats. However, there is a strong tendency among nutritionists to overlook the fact that intake not only depends on how well food is assimilated by the body, but also can be influenced by child's social and psychological state.

Where growth is described by a change in size, development is characterized by changes in complexity and function. It is a process of change in which the child learns to handle ever more complex levels of moving, thinking, feeling, and relating to others. Moreover, development has certain characteristics which should be recognized by the early development and education programs.

Child development is multidimensional. It includes the physical-motor dimension (the ability to move and coordinate), the cognitive dimension (the ability to think

and reason), the emotional dimension (the ability to feel), and the social dimension (the ability to relate to others). Programs which aim at enhancing child development and education should incorporate all these dimensions. Measuring only how well a child is developing its ability to think or walk is not enough to evaluate a child's development. Thus, "whole development" of children should be emphasized in the programs of early childhood education. Early childhood education programs can be effective if and only if they have all the aims documented below. In the domain of physical development they should include attention to the child's physical well being and development by allowing the child plenty of exercise, by supplying play materials and physical activities. Goals in cognitive development should involve the promotion of curiosity, enrichment of language, the development of ability to handle concepts, to understand and solve problems, to observe and listen. The goals of early education in emotional development include promotion of children's sense of security and self respect. It is the experience of success, feelings of trust and belonging that create positive feelings. In the social area the goal is to develop healthy and effective interpersonal relations. Early education aims to prepare the child for his/her later social relations (Çınar, 1984).

Several dimensions of child development are interrelated and must be considered together. That is,

changes in one dimension effects development in another dimension. For example, if a child has emotional problems like being under stress, both the child's ability to develop physically and to learn will be affected. Thus, these programs which aim to meet the demands must recognize the interrelated dimensions of early development.

Development occurs continuously, it begins prenatally and continues throughout the entire life span. Hence, early childhood development and education programs should aim at children not only in the early ages but also before birth.

Development occurs in interaction ; development happens as the child responds to, learns from, and seeks to affect his/her biophysical and social environments. Therefore, the quality and nature of the child's experiences with his/her environment are important since they affect many aspects of children's behavior. The child's experiences with the people that are part of child's environment, their usefulness and availability, the nature and demands of the child's activities, the physical structure, the ecological characteristics of the environment, available toys and materials are all important in this respect.

Lastly, development is patterned, but unique; all

children develop and there is a general sequence or outline to that development. But, the rate, the character and the quality of development changes from child to child. That is despite the predictability of developmental sequence, people have individual characteristics. Thus, early education and development programs should not ignore or attempt to eliminate these characteristics. They should both aim at the target group in general and individual children by considering general and specific developmental characteristics, interests and talents.

Child care as the last aim of early childhood development and education programs consists of the actions necessary to promote survival, growth and development. It means responding to the basic needs of the child which go beyond protection and food. Child care also includes the responding to the need of affection, interaction, stimulation, security and play. Thus, early childhood development and education programs should provide a supportive environment which respond to all of the needs of childhood by providing some child care activities like sheltering, clothing, feeding, bathing, supervising a child's toilet, preventing and attending to sickness, showing affection, playing and socializing the child to its culture.

D. What are the Program Approaches ?

According to Myers (1992) there are five complementary program approaches intended to enhance early childhood development. Each has different immediate objectives and each is directed towards a different audience or group of participants.

The five program approaches are summarized below;

1. Attending to children in centers :

The immediate goal of this direct approach which focuses on the child is to enhance child development by attending to the immediate needs of children in centers organized outside the home.

2. Supporting and educating care givers :

It focuses on family members and intends to educate and empower parents and other family members to improve their interaction with the child and enrich the immediate environment of the child for better development.

3. Promoting community development :

Here, the emphasis is on working to change

community conditions that may affect child development. This strategy stresses community initiative, organization and participation to improve the physical environment. The knowledge and practices of community members and the organizational structure to allow common action provide the base for the political and social negotiations.

4. Strengthening institutional resources and capacities :

There are many institutions involved in carrying out the three approaches mentioned above. In order to function adequately these need financial, material, and human resources with a capacity for planning, organization, implementation, and evaluation of programs. Programs to strengthen institutions may involve institution building, training, provision of materials or experimentation with innovative techniques and models.

5. Strengthening demand of awareness :

This program approach concentrates on the production and distribution of knowledge in order to create awareness and demand. It requires social and political commitment from different groups like politicians, bureaucrats and professionals for creating and sustaining child care and development services.

E. What are the Program Options ?

Myers (1992) summarized some program options for these five different approaches in early childhood development and education. These are given below.

I. Attending children in center based programs

These programs attend to children outside their homes, usually in a group and for varying periods of time. They provide an alternative environment for the child. It is easy to measure what the program does directly to improve a child's health, nutrition, and psychosocial development.

Direct attention to children by center based approach can be organized in many ways. There are at least five different kinds of program options within this general program approach.

1. Integrated child development centers :

Integrated child development centers seek to promote comprehensive development by combining early education with nutrition, health and sometimes other services at the center. In some cases, an integrated center forms a part of a community development program.

2. Home day care :

It refers to an arrangement in which a women cares for, in her home, several children who are not her own. The care givers are often neighbors and are not formally trained caregivers. The child care arrangement may be informal and private and essentially custodial, or it may be formal, linked to other services and training. Care provided in a home for a small number of children can ensure a safe and healthy atmosphere and also respond to the child's developmental needs for love, security, interaction and exploration.

3. Nutrition or Health Centers :

The program occurs within nutrition or health centers. Centers in this category are those that attend to pregnant women. It is focused on diet and health considerations affecting the women. Health centers are visited only from time to time while nutrition centers usually involve daily attention over longer periods.

4. Child-care and development centers at the work place :

The setting may be a factory, a market place, or production cooperative run by women. Care may be

required by law, or it may be a response to workers' needs.

5. Preschools :

Early childhood programs have been associated with formal programs training in a classroom-like atmosphere in which relatively expensive materials are used to prepare children for primary school. Whether privately owned or overseen by a Ministry such preschools employ professional preschool teachers and are not linked to broader participatory programs of community development. There is little parent involvement and little attention to health and nutrition. They tend to be concentrated in urban areas and to cater to middle class children or government employees. In short, the formal preschool model is not well suited to most countries of the Third World. They may employ paraprofessionals, use local materials, incorporate health and nutrition components, involve parents and other community members and can be incorporated into an integrated child development scheme.

II. Educating Parents and Other Care givers

Programs emphasizing education of parents and other care givers reach the child indirectly through the care giver. The main purpose of the parent education programs

is to strengthen the self confidence of parents and to empower them with knowledge and skills that will enhance their own ability to foster physical, mental, social and emotional development in their child. Smith (1980) suggests that parents should be viewed as active educators with a role to play in their children's development. He sees parent's confidence in the area of child development as a crucial component of their competence. He further underlies the importance of continual parent participation.

Educating parents have some possible advantages over other programs. Such programs can provide benefits both for parents especially for mothers as well as for children by increasing her self confidence and willingness to take control of her own life as a result of feeling success in the care giving process. By designing programs that support parents the responsibility for raising children does not shift from the family to outside centers and institutions. That is the family maintains its function as a source for socialization.

The effectiveness of this approach is the concern of the present research.

1. Home visiting :

Home visiting provides a flexible approach to educating care givers. It reinforces learning through

periodic visits, allow adjustments to specific circumstances, permits demonstration and observation followed by practice and immediate feedback. Moreover, it promotes private free discussion that might not be possible in a group setting and also deals with the child in context. Since communication during home visits is direct, the success of this approach depends on the personality of the visitor. When compared with center-based alternatives the cost of home visiting program may be relatively low.

2. Adult education :

Many adult programs function at a rational level with broad coverage and involvement. They vary widely in terms of their focus on literacy, second chance schooling, health or nutrition information, or provision of technical skills.

In addition to the potential coverage and cost advantages associated with the possibility of incorporating child-care and development material into ongoing adult education programs, this program option can provide understanding through discussion, to provide additional examples and to apply a kind of pressure to act out what has been learned.

3. Using the mass media and alternative forms of communication with open audiences :

Mass media approaches to educating parents and other caregivers include the use of print, radio and television. A mass media approach will more effectively transmit knowledge if the messages are:

- directed towards a specific audience
- sensitive to the abilities, belief structures and value systems of the intended audience

4. Child to child approach :

Child to child approach is based on the care of younger children by older siblings. Such care occurs naturally, but the practice can be reinforced and improved by teaching the caregivers about the needs of their siblings and encouraging talking, playing and proper feeding practices.

It focuses on health and developmental education for older children usually in the upper years of primary school. Older children can provide information about new practices to peers, parents, and other community members. Also, in addition with their education they carry out direct actions to the community, identify health problems or organize clean up campaigns for the environment or setting up a play ground. The purpose of child to child programs differs from place to place,

but usually covers health care, nutrition, accident prevention, mental and social development, with attention to specific situations.

III. Promoting Community Development

Since general improvements in child survival, growth and development will depend on improvements not only in the home but also in the community, a comprehensive program of early childhood development must include attention to community conditions.

Community based discussions of early childhood can provide an excellent stimulus to broader community development for several reasons:

- child development from a holistic view allows discussions and action in several areas.
- most parents have a strong interest in the future of their children
- early childhood development sometimes provides a way for women to become involved in community affairs that would not otherwise be open to them

IV. Strengthening Institutions

For any or all of the first three approaches to be effective and sustained the institutions responsible for carrying them out will need to be strong and supportive.

Institutional strength lies in :

- capable and motivated people
- adequate facilities and materials
- available and appropriate technology
- effective organization and management

V. Creating Awareness and Demand

Helping to shape a child's environment at all other levels is a set of interacting social beliefs, attitudes and values. Political and social commitment are crucial elements in creating and sustaining child care and development services and activities. Often support must be built among politicians and policy makers who set guidelines, make plans and control budgets. Bureaucrats and professionals will often need to be convinced to try new ways and to look beyond time-worn and expensive models to alternative approaches. Without commitment from the groups most programs can easily be undermined.

F. The Importance of Family as an Intervention Focus

There are a number of conceptual contributions that reinforced the importance of family involvement in early intervention. The Transactional Model of child development formulated by Sameroff (1975) has played a significant role in promoting the involvement of family in early intervention. As defined by the model, the family

is the essential component of the caregiving environment that influences and influenced by the child resulting in differential outcomes for the child and family. The development of the child is seen as a product of the dynamic interactions of the child and experience provided by his/her family and social context. That is the child's outcome at any point in time is neither a function of the state of the child nor the state of the environment, but a complex function of the interplay of child and environment over time. It contradicts the idea that there are single causes for deficits in developmental outcomes and the belief that these causes can be eliminated by treating the child as an individual. Hence, intervention programs can not be successful if changes are made only in the individual child. Some changes in the environment must also occur that will act to enhance the existing competencies of the child and prevent the child from stressful life events.

Another conceptual contribution that complements and extends the emphasis on the environment other than the Transactional Model is Bronfenbrenner's (1979) view of the family as one system which is embedded in an ecological framework of systems (Simeonsson and Bailey 1990). He emphasizes the structure of the external systems that affect the family and the manner in which they exert their influence and intrafamilial processes that are influenced by the external environment. Although the family is the

principal context in which human development occurs, the processes that are operating in different settings in which children spend their time and their parents live their lives also affect the psychological development of children. His ecological model also takes into account changes over time not only within the person but also in the environment. That includes transitions which occur throughout life span and often serve as a direct impetus for developmental change.

Garbarino (1982), based on the ecology of human development, describes a systems approach to clarify the interplay of biological, psychological, social and cultural forces in early developmental risks at four levels; microsystem (individual family), mesosystem (child's school, service system), exosystem (parent's workplace), and macrosystem (presence of a national climate/policy).

The implications of the the Transactional Model and Family Systems approach for early intervention have been twofold. First, an intervention should have a systems orientation, since the influence of family members is reciprocal. Second, since the family system is embedded in larger ecology , assesment and intervention should consider different levels of these reciprocal effects involving the immediate family, the community and the society in which the family is situated (Simonsson and Bailey, 1990).

There is an agreement that early intervention programs should be provided to children from disadvantaged environments with identifiable risk of developmental problems. On the other hand, little attention is paid to the need for primary prevention programs oriented toward prevention of child and family dysfunction (Upshur, 1990). Usually early intervention programs which are aimed at providing secondary prevention services to children who at the time do not exhibit specific developmental problems target individuals whose characteristics or symptoms place them at risk of developing further problems. However, the potential for the true preventive roles of early intervention programs can be best utilised by providing services to groups of children with less well-defined disabilities or risks. By examining the secondary prevention activities of early intervention programs in serving children who are at risk for developmental delay, but who are not manifesting problems in earlier ages we can more clearly understand the potential benefits of primary prevention activities (Upshur, 1990).

G. The Effects of Early Childhood Development and Education Programs on Cognitive Development of Children

The importance of early childhood experience in terms of lasting impact on life-time development has been widely described and has served as the theoretical basis for the development of preschool education and early

intervention programs since the mid-60's (Bloom, 1964; Fowler, 1968; Hunt, 1964; Weikart, 1967; Lazar and Darlington, 1982; Myers, 1992).

Research evidence from different fields like psychology, education, sociology and health indicated that early childhood education and development programs have positive effects on the child's overall development covering physical, mental, personal, and social developmental areas. Since the present study is concerned with the cognitive effects of the early childhood development and education programs on children, the section summarizes only the short and long term effects of early childhood education and development programs on the cognitive development of children. There is a rich research literature describing both the short and long term impact on children's cognitive development through participation in such early intervention services as home-based and center-based (Upshur, 1990). One of the risk groups usually served by such early intervention efforts are children from low income families.

In the 1960s social scientists suggested that early childhood development and education programs for children from disadvantaged backgrounds were a challenge for them, assuming that family poverty caused children's scholastic failure. Hence, Head Start program were developed with the assumption that such programs would enhance children's

cognitive development (Klaus and Gray, 1968; Weikart, 1967; cited in Berrueta-Clement, Schweinhart, Barnett, Epstein, Weikart; 1984). However, after several years the first evaluations of the Head Start program showed short term but no long term effects on cognitive development. Recent research evidence show that early childhood education programs with high quality have both short and long term positive effects on cognitive development of children from disadvantaged environments (Berrueta-Clement, 1984).

A 10-year follow-up study of a program provided at birth through 30 months of age to a group of low income families indicated IQ gains, less need for special education, better achievement test scores and more achievement oriented attitudes for children (Provence and Naylor, 1983; Seitz, Rosenbaum, and Apfel, 1985 ;cited in Upshur, 1990).

Another study of early intervention which aimed at infants from 3 to 36 months of age from risk families helped to maintain IQs in the normal range for the experimental group whereas declines in IQ was observed for the control group (Ramey and Haskins, 1981; cited in Upshur,1990).

Maddan, Ottara and Levenstein (1984) studied a cohort of families who participated in early treatment

groups which focused on preventing school failure through developing early positive mother-child interactive patterns and parent responsiveness to the child. Although IQ differences of 13-15 points among children who have participated in the treatment group were found. Follow-up of these children in the first grade indicated no long term effects of the intervention on cognitive development, better teacher ratings, less retention in kindergarten, or less attendance in special education (cited in Upshur, 1990).

In a study done by Slaughter (1983) a comparison was made on the scores of the Mc Carthy Scales of Children's Abilities for children from both treatment groups (mother discussion groups versus home visiting). The results indicate higher scores for both treatment groups compared to controls. Slaughter concludes that the discussion group had broader ranging impacts because of its greater impact on the mothers (cited in Upshur, 1990).

Tandon in 1986 investigated the effects of The Massive Integrated Child Development Services which aims to provide a comprehensive center based program for improving the quality of life for poor children (0-6) and their mothers in India. Children who had participated in the ICDS program scored higher on the Ravens Progressive Color Matrices than the control group. School attendance, academic performance and general behavior in school were

all superior in the experimental group (cited in Myers, 1992).

Gordon developed six parent education programs between the years 1966 and 1970's to improve the intellectual functioning of infants. Projects consisted of involvement in the form of home visits and group experiences for children and included parents from low income backgrounds. Longitudinal follow-up studies of Gordon's projects showed that they had a significant and lasting effect on intellectual ability of participating children.

Seven of the studies which have been conducted on the effects of early childhood education on low income children (See Table 1) are identified by the Consortium For Longitudinal Studies (Berrueta-Clement, Schweinhart, Barnett, Epstein, Weikart; 1984).

Table 1
THE SEVEN STUDIES:
PROGRAM INFORMATION

Study ^a	Beginning Age of Child	Program Duration in Years	Program ^b for Children	Program for Parents
Milwaukee	3-6 mo	6	full-time year-round	educational/vocational
Perry Preschool	3 or 4 yr	2 or 1	part-time	weekly home visits
New York Pre-K	4 yr	1	part-time	opportunities for classroom involvement
Rome Head Start	5 yr	1	part-time Jan-Aug	opportunities for classroom involvement
Early Training	3 or 4 yr	3 or 2	part-time in summer	weekly home visits during school year
Mother-Child Home	2 or 3 yr	2	twice-weekly home visits	twice-weekly home visits
Harlem	2 or 3 yr	1	twice-weekly 1:1 sessions	no separate program

Based on the findings of these studies, the long term effects of early childhood education on children living in poverty can be listed for three age groups;

For early childhood, in terms of improved intellectual performance

For elementary school, in terms of better scholastic placement and scholastic achievement

For adolescence, in terms of a lower rate of delinquency , a higher rate of high school graduation and employment, a lower rate of teenage pregnancies.

Thus, research evidence demonstrated improvement in intellectual performance as represented by IQ scores, better scholastic placement and scholastic achievement of children for later years. This illustrates the fact that the impact of early childhood development and education programs can extend to adulthood.

H. General State of Early Childhood Education in Turkey

Preschool education in Turkey dates back to the time of Ottoman Empire. At that time the first preschools which were called " Sibyan Mektepleri " were opened during Fatih Sultan Mehmet period (Kantarcioglu, 1974).

The first attempts toward establishing preschool were made in 1913 by statement of a law. After this attempt in 1915 nursery schools and classes were started to open in the

country. When the Turkish Republic was established in 1923 there were 80 nursery schools in 38 cities. Since the government was interested in primary education, between the years 1930 and 1961 no formal preschools were opened. Between the years 1961 and 1963 various nursery schools and classes were opened again and in 1961 the law of General and Primary Education assigned the status of preschool education to be complementary within the structure of the primary education system (Bekman, 1982).

In Turkey, preschools can be separated into two categories on the basis of funding and support system: governmental and private preschool services. Governmental services are administered and financed by either the Ministry of Education or the Directory of Social Welfare and Child Care Institutions. On the other hand, non-governmental services are privately run and charge a fee that is set either by Ministry of Education or by the Directory of Social Welfare and Child Care Institutions (Bekman, 1982).

In an article written by Bekman in 1988, it is stated that in Turkey, there is no widespread system of preschool education. Nearly all of the available services are center based and privately owned. Thus, there is only one model of early childhood development and education in Turkey which is center based and none of the other models or program approaches exist.

Turkey has been undergoing rapid social change with massive migration from rural areas to big cities. As a result of this, the number of women including mothers of preschool children who are employed in non agricultural jobs outside the home has increased rapidly. These changes in the society created a demand for child care centers. A great number of centers were opened in a short time, but under inadequate supervision and control by the government. This created a low quality service with different aims; educational and custodial. In recent years, early childhood education and development has gained importance and several attempts have been made to provide services and materials other than center based ones.

Between the years 1978 and 1980 The Turkish Preschool Project was undertaken by Kağıtçıbaşı and Özgediz, with a team of child development specialists (Kağıtçıbaşı, 1983) to study the situation of the early childhood development and education in Turkey. This project aimed at developing alternative working models for preschool services and preparing materials for preschool use. In the light of this investigation it was realized that a comprehensive approach to early childhood education was necessary. Thus, the Early Enrichment Project was developed in 1982 by Kağıtçıbaşı, Sunar, and Bekman. In this project an interactional-contextual approach was used. In a contextual approach the immediate target of

the intervention is the child's social environment that is, the child's family, especially the mother.

There are several reasons why a contextual approach was preferred. First of all, providing enrichment to individual children in organized preschool settings is an expensive model of early education. Second, if the child is provided with intellectual enrichment only in the program and his/her home environment is neglected, the effects of the early childhood education program will not be long lasting. This is because the child is left with his/her own limited resources. On the other hand if the child's family is supported, gains will be long lasting. Third, contextual programs in countries where there are close-knit family, kinship and community ties will find more acceptance (Kağıtçıbaşı, 1990).

The Turkish Early Enrichment Project

The Turkish Early Enrichment Project was the first attempt to provide an alternative working model for early childhood development and education in Turkey, especially for children from disadvantaged backgrounds.

The project covered 255 children from families of low socio-economic status who were at risk for healthy development. The purpose of the study was to explore the long term effects of a home intervention program and to search the effects of the existing center based early childhood education system on the overall development of

the child. Three groups were included in the study, educational preschool, custodial preschool and home care environments. The whole sample covered one experimental group that received a home intervention program during the second and third years of the project and a control group that received no home intervention program.

The Home Intervention program had two parts. For the first part, HIPPY (Home Instruction Program For Preschool Youngsters) a home based enrichment program which was developed by Research Institute of Innovation in Education at Hebrew University (Lombart, 1981) was translated and adapted for Turkish use and it constituted the part which aims at the cognitive development of the child (Bekman, 1986).

The second part of the program was designed to improve the mother's sensitivity to the child's social and personal growth. The group meetings in addition to their function in the HIPPY served as a setting for guided group discussions. The group discussions are led by the local coordinators in which the mothers actively participated by asking questions, expressing feelings, sharing ideas and experiences. After group discussions group decisions are taken regarding some course of action to be taken in the homes. In the following meetings the results of the decisions are reassessed and a new decision is made. The topics discussed in group meetings include children's

health, nutrition, creative play activities, personality development, discipline and methods for changing negative behaviors. Throughout the program, mothers are encouraged to develop a positive self-concept.

Assessment of children in the first and in the last years of the project were done when children were 3 and 5 and 6 and 8 years of age by using several assessment procedures. The first measurements were done in 1982-1983 to provide in depth information about the two main environments of the child, home and school. The data that was collected in the fourth year of the project (1985-1986) provided information about the short term effects of the intervention. The assessments were also performed when children were 12 and 14 years of age that is six years after the program had ended.

Short and long term results indicate positive effects of the program both on children and on mothers. Findings related to the long term effects of the study were consistent with the short term results. They reflect cognitive gains, higher report card grades and better school achievement scores for the trained group. Moreover, there were significantly more children in school within the trained group compared to the non-trained group (Kağıtçıbaşı, 1983). Findings related to effects of the program on school attitudes also reflect a more positive attitude toward the school and better self picture about

academic performance for the trained group. The results of the study related to the effects of the program on social behavior and family relations show a better social integration for the trained participants. There is evidence which show that the home intervention program leads to a reduction in antisocial behavior. Moreover, results indicate a higher educational expectation of parents. Also, the trained mothers indicated a mutual understanding in their relations with their children. When the environment of children from both groups was compared in terms of degree of stimulation, the results reflect a better environment for the trained group. Furthermore, results indicated that women of the trained group had higher status in the family.

After the Early Enrichment Project was over, the Home Intervention Program continued to be applied in the field. At the moment the Home Intervention Program is applied in seven Adult Education Centers in Istanbul with more than 500 mothers. The program went through some changes, especially the program which aims to improve cognitive development was redeveloped in 1991 to be incorporated into the Mother Training Program to replace HIPPY. The name of the cognitively oriented program is Zihinsel Eğitim Programı (ZEP) and developed by Kağıtçıbaşı and Bekman in Boğaziçi University (1991). ZEP focuses on three main areas of cognitive development. These are language development, sensory and perceptual

discrimination skills and problem solving. It provides materials for educational activities in each of these areas. It includes, in total, 35 activities with different objectives. Some of the activities are aimed at developing the child's verbal abilities through listening to stories, playing rhyming games, recognizing shapes, learning some spatial concepts such as up, down, front, back, etc. Some of the activities involve comparing and contrasting various sensory stimuli, such as sounds and textures. Others focus on developing eye-hand coordination and on enhancement of some cognitive capacities such as classification, differentiation, seriation and construction of matrices. The whole program lasts 25 weeks and there is a worksheet for each week which contains 20 to 25 pages of exercises. Weekly worksheets contains several exercises to be used by the mother with the child each day. The materials are supplied to mothers on a weekly basis. Every week the materials are delivered to mothers and the usage of materials is demonstrated to them. The group facilitator supervises the use of that week's materials and the mothers in the group role play the activities that they would later carry out with their children. In addition to worksheets 8 story books with pictures are used for developing listening comprehension, verbal description, vocabulary, reasoning and question answer activities.

I. Scope of the Study :

The present study was planned mainly to investigate the effects of the Cognitive Intervention Program on the cognitive development of children from disadvantaged backgrounds. In the above review it was seen that early intervention programs have positive effects on the cognitive development of children and the most important factor that effects the child's development appears to be the child's environment (Banet,1976; Bloom, 1964; Weikart, 1967; Hunt, 1961; Kağıtçıbaşı, 1979).

As previously discussed, the state of early childhood development and education programs in Turkey is not satisfactory. There is no widespread system of preschool education programs and nearly all of the available services are center based and privately owned. That is, only the center-based model of early childhood development and education exists in Turkey (Bekman, 1990). As previously discussed Early Enrichment Project was developed and applied between the years 1982 and 1986 to provide alternative working models for preschool education in Turkey. It was developed by utilizing a comprehensive approach to early childhood development and education. In that, the child's social environment that is child's family especially the mother was chosen as a focus of the intervention. One of the reasons of why such an approach was utilized is that, providing enrichment to the

individual in organized preschool settings is an expensive model and more importantly if the child is provided with intellectual enrichment only in the program and her/his home environment is neglected, the effects of the early childhood education and development programs will not be long lasting (Kağıtçıbaşı, 1990; Myers, 1992).

Cognitively oriented part of the Home Intervention Program had been developed in 1991 as previously indicated, however no attempt was made to evaluate the newly developed part since 1991. Hence, the present study is an attempt to evaluate the short term effects of the program on cognitive development of children. It was expected that children whose mothers attended the Mother Training Program / Cognitive Intervention Program (ZEP) would perform better on all measures than the control group children.

METHOD

A. Aim of the Study :

The aim of the present study is to investigate the effects of the Cognitive Intervention Program (ZEP) on the development of children.

B. Design :

In this study Post-test Only Control Group Design was utilised. Children whose mothers participated in the Mother Training Program formed the experimental group and children whose mothers did not participate in the Mother Training Program formed the control group (See Table 2). Both groups were tested to investigate whether there was a significant difference between the experimental and control groups after the Mother Training Program was over.

Table 2 : Design of the Study

	Trained Mother	Non-Trained Mother	
A1	14	14	
A2	12	13	
A3	14	13	
	40	40	Total: 80

Subgroup A1: Sarıyer, Subgroup A2: Beşiktaş,

Subgroup A3: Kağıthane

C. Sample of the Study :

The sample included 80 children at the age of five who live in low SES areas known to be gecekondü areas in Istanbul. 40 children were selected from three of the seven Adult Education Centers where the Mother Training Program was applied. These three centers were Kağıthane, Beşiktaş and Sarıyer. A list of the mothers was obtained from each center and mothers were chosen from the list by random sampling procedure. Fourteen mothers from Sarıyer, twelve mothers from Beşiktaş and fourteen mothers from Kağıthane were chosen. Children of these mothers formed the experimental group. Also, 40 children for the control group were chosen from the neighborhoods in which the experimental subjects live. Since it was not feasible to use any kind of random sampling in the selection of the control group, the mothers who attended to the Mother Training Program were asked to nominate neighbors and friends in the same neighborhoods with children of the same age. These subjects were matched for age and SES. 5-year-old children who had never attended any kind of preschool education program and from the same SES with the experimental group formed the control group.

The age ranges and means for children were as follows: Sarıyer, mean: 5;6 and age range: 5;0-5;11, Kağıthane, mean: 5;3 and age range: 5;1-5;11, Levent,

mean: 5;0 and age range: 5;3-5;10.

D. Instruments :

Since ZEP provides materials for educational activities in several cognitive areas like language development, sensory-perceptual discrimination skills and some cognitive capacities like classification and differentiation, instruments which assess the different areas of cognitive development were used. An attempt was made to choose those tests which could evaluate the specific objectives of the Cognitive Development Program (ZEP).

The subtests of the test battery are given below.

I. The Wechsler Analytical Triad; consisted of three subtests of the Wechsler Intelligence Scale for Children; Block Design, Object Assembly and Picture Arrangement. These subtests were chosen to assess the cognitive style and analytical thinking of the child. Each subtest is discussed separately below.

Instructions for the WISC-R were translated and standardized for Turkish use by Savaşır and Şahin (1988). Turkish norms for standardization of WISC-R included 1638 students between the ages 6-0 to 16-3 from different SES groups. Its construct validity was computed and correlations between subtests were found

between .51 and .86. Also, split-half reliability was computed by using Spearman-Brown formula, for verbal, performance and total IQ in different age groups. Correlations were .98 for verbal and total IQ and .96 for performance IQ.

1. Block Design subtest was chosen for assessing the non-verbal ability of children. It involves the ability to perceive and analyze forms by breaking down a whole into its component parts of identical designs. The instrument can be conceived of as a nonverbal concept formation task requiring abilities for perceptual organization, spatial visualization and abstract conceptualization. It also requires visual motor coordination. This subtest is suitable for evaluating objectives which aim to develop part-whole relations and includes 11 items.

During the subtest the child is shown two-dimensional red and white pictures of abstract designs. The task requires assembling a design with two color plastic blocks. The assembled design should be identical to the design of each model. For the first two items the child is required to reproduce designs which are identical to a model constructed by the examiner. For the remaining nine items, the models are on the cards. The patterns are arranged in order of increasing difficulty. Four blocks are used for the

first eight designs and nine blocks are used for the last three designs. All of the items are timed. The first four items are given a maximum of 45 seconds; the next four items, 75 seconds; and the last three items 120 seconds. Items 1 to 3 are scored 2, 1 or 0 while items 4 to 11 receive 4 points for a correct completion and up to 3 additional time-bonus points for quick execution. The subtest is discontinued after two consecutive failures.

2. Object Assembly Subtest measures perceptual

organization ability. This subtest is also found to be appropriate for assessing the development of part-whole relations in the child. It includes 4 items. The task requires to assemble the pieces correctly to form common objects like a girl, a car, a horse, and a face. The items are given one at a time, with the pieces presented in a specified disarranged pattern. All children receive all items 1 through 4. All items are timed. The first item is given a maximum of 120 seconds; the next two 150 seconds; and the fourth item 180 seconds. Children can earn time bonuses of up to 3 points for quick performance. Scores for the first two items are equal to the number of cuts correctly joined. Similarly, scores for the last two items are equal to one-half the number of cuts correctly joined. Block Design and Object Assembly subtests together involve perceptual and organisational dimensions and

reflect the ability to interpret and organize visually perceived materials.

3. Picture Arrangement; The subtest measures the child's ability to comprehend and size up a total situation. It is a nonverbal reasoning test which may be viewed as a measure of planning ability. It involves anticipation and visual organization. In this subtest the examiner places the individual pictures in a specified disarranged order and the child is asked to rearrange the pictures in the right order to tell a story that makes sense. There are 12 series (items) which are similar to short comic strips. During administration one set of cards is presented at a time. The motor action required to solve the problems is to change the position of the pictures so that they make a meaningful story. All children started with the sample item. Items 1 to 4 are scored 2, 1 or 0, while items 5 to 12 receive 3 points for the correct arrangement with up to 2 additional time-bonus points. The subtest is discontinued after 3 consecutive failures.

In scoring the Wechsler Analytical Triad (WAT), the WISC-R scaled scores obtained from all three subtests (PA, BD, OA) were summed and averaged.

II. Simple Classification Task; was used for assessing children's classification ability. It includes 5 items

and each item of the SCT is represented by pictures of objects, persons, geometrical shapes and animals which are illustrated on two pages. The task requires to classify these 5 items with respect to color (black and white), size and number. On the first page, there are 3 pictures and a blank space. On the second page, there are 4 pictures. The child is asked to find the right picture from the second page which is in the same category with the pictures on the first page. First item of the SCT includes pictures of fruits and pictures of other objects. Second item covers some geometrical shapes and the third item covers pictures of buttons of different sizes. Fourth item includes animal pictures of different numbers and fifth item covers letters.

In scoring SCT, for each correct response 1 point is given and a total score is computed by adding up the points obtained.

III. Multiple Classification Task; was utilised for assessing complex classification ability. It is more difficult and discriminating than the Simple Classification. This task includes 5 items. For each item there are 9 pictures on two pages; 5 pictures and a blank space for a picture on the first page and 4

pictures on the second page. The child is asked to find the right picture from the second page for the blank space on the first page. Thus, the child is expected to abstract the relevant criteria in the row and the column of the matrix and choose the right picture from the second page which fits both criteria. First item of MCT includes pictures of different number of children. Second and fourth items cover geometrical shapes of different sizes. Third item covers pictures of children of both sexes with different accessories and fifth item covers pictures of persons, plants and animals of different size and kind.

In scoring MCT, for each correct response 1 point is given and a total score is computed by adding up the correct responses.

Simple and Multiple Classification Tasks were taken from the Summative Evaluation Material of Ball and Bogatz (1972; cited in Şahin, 1992) and adapted for Turkish use by Nail Şahin (1992). It was used for the Summative Evaluation of the Turkish Co-production of Sesame Street. These tasks were originally used by Educational Testing service in the USA for Second Year General Evaluation of Sesame Street.

Their reliability study was done by Şahin on more than 600 subjects between the ages 3 and 6 by computing

internal consistencies with Cronbach Alpha Coefficients. Reliability coefficients were .61 for pretest and .74 for the post-test after 6 months period.

IV. The Vocabulary Subtest of WISC-R; was chosen for assessing verbal ability of children. It includes 34 items. In the Vocabulary subtest the child is asked to explain orally the meaning of each word. Words are arranged in order of increasing difficulty. For all children administration of the subtest started with item 1. All words are scored 2, 1 or 0. The subtest is discontinued after five consecutive failures. It is a test of word knowledge and involves many cognitive functions like learning ability, fund of information, richness of ideas, memory, concept formation and language development. The number of words known by children is likely to reflect their ability to learn and to accumulate information.

E. Procedure :

In the beginning of the study, the list of the mothers who were in the training program was obtained from Adult Education Centers. Mothers randomly chosen from this list constituted the experimental group. Later,

the control group was selected from the same neighborhoods of the experimental group.

Assessments were done by visiting each child in his/her own home. These visits took approximately one hour during which WISC-R subtests and classification tasks were administered to the subject in one shot. The order of administration of subtests was as follows; Simple Classification Task, Multiple Classification Task, Picture Arrangement, Block Design and Object Assembly Vocabulary Test. The order of the administration of WISC-R subtests was arranged according to WISC-R administration procedures.

F. Data Analysis :

Raw scores for each subtest of the WISC-R scales were obtained and converted to scaled scores. Later, the Wechsler Analytical Triad score was computed by summing up scaled scores of Picture Arrangement, Block Design, and Object Assembly subtests of the WISC-R. This total score was then averaged. For the Vocabulary subtest of the WISC-R, raw scores of the subjects were also converted to scaled scores. The raw scores of the WISC-R subtests were converted to scaled scores by utilizing age 6 norm tables of the WISC-R. For Simple and Multiple Classification Tasks, total scores were computed.

A comparison of the two groups with respect to four different assessments were conducted by means of t-test analysis. Moreover, a comparison was made among the three experimental sub-groups by means of analysis of variance (one-way ANOVA).

III. RESULTS

In this section first, some demographic information about the mothers of the sample will be given. Then, the mean and the standard deviation values and t-test results on the Wechsler Analytical Triad (WAT), two Piagetian tasks (SCT, MCT) and Vocabulary subtest of the WISC-R will follow.

Further, analyses which compare experimental and control groups on Picture Arrangement, Block Design and Object Assembly subtests of the WISC-R separately by means of t-test analysis will be discussed.

The results of the analysis of the variance carried out to determine whether there are differences between the three experimental groups on the Wechsler Analytical Triad, Simple Classification Task (SCT), Multiple Classification Task (MCT) and the Vocabulary subtest of the WISC-R (VO) will be reported last.

A. Description of Sample of Mothers :

Mean age of mothers of the experimental group was 31 and for the control group it was 29. Moreover age range of mothers of the experimental group was between 25 and 40. Similarly, age range of the mothers of the control group was between 24 and 38.

A great portion of mothers of the experimental group was primary school graduates (26), followed by high school (Lycee) graduates (6). Equal number of mothers were secondary school graduates (Orta school) and literates with no schooling (4). Similarly, great portion of the mothers of control group was primary school graduates (28) followed by literates (6), illiterates (3) and secondary school graduates (3).

Table 3 : Education Level of the Sample of Mothers

	Experimental Group	Control Group
Illiterates	0	3
Literates	4	5
Primary Sch.	26	28
Secondary Sch.	4	3
High School	6	1

B. Results of T-test Analyses for Each Measure

1. Simple Classification Task (SCT):

When the two groups were compared on SCT, t-test results indicated a significant difference between the experimental and control groups. As Table 4 indicates the mean of the experimental group is 6.47 and the standard deviation is 1.63. On the other hand, mean of the control group is 3.02 and the standard deviation is 2.32. This difference is significant at $p < .0001$ and $t = 7.88$. These results confirm that children of the experimental group perform better on SCT than children of the control group.

Table 4 : The results of t-test analysis for SCT

Trained Mother			Non-Trained Mother		
N	Mean	SD	N	Mean	SD
40	6.47	1.63	40	3.02	2.23

$p < .0001$, $t = 7.88$

2. Multiple Classification Task (MCT) :

T-test results for MCT showed that the experimental and control groups are significantly different at $p < .029$ and $t = 2.23$. As it is seen in Table 5 the mean of the experimental group is higher than the mean of the control group.

Table 5 : The results of t-test analysis for MCT

Trained Mother			Non-Trained Mother		
N	Mean	SD	N	Mean	SD
40	1.82	1.08	40	1.35	.80

$p < .029$, $t = 2.23$

That is, children of the experimental group performed significantly better on MCT than children of the control group.

3. The Wechsler Analytical Triad (WAT) :

The comparison of the experimental and control groups on the Wechsler Analytical Triad indicated that there are significant differences between the groups for $p < .0001$ and $t = 6.40$. As table 6 indicates, the mean of the experimental group is 8.80 and of the control group is 6.22. Children of the experimental group achieved better scores than the control group as in the case for Simple and Multiple Classification Tasks.

Table 6 : The results of t-test analysis for the Wechsler Analytical Triad

Trained Mother			Non-Trained Mother		
N	Mean	SD	N	Mean	SD
40	8.80	1.72	40	6.22	1.87

$p < .0001$, $t = 6.40$

4. Vocabulary Subtest of the WISC-R (VO) :

As illustrated in table 7, the means of the two groups are different. The mean value for the experimental group is 8.42 and the mean value for the control group is 6.05 . Results indicated that this difference is significant at $p < .0001$ and $t = 3.66$. Higher mean value for the experimental group indicates better performance on Vocabulary subtest of the WISC-R for this group compared to the control group.

Table 7 : The results of t-test analysis for VO

Trained Mother			Non-Trained Mother		
N	Mean	SD	N	Mean	SD
40	8.42	3.19	40	6.05	2.57

$p < .0001, t = 3.66$

Comparison of experimental and control groups on the Wechsler Analytical Triad, Simple Classification Task, Multiple Classification Task and Vocabulary subtest of the WISC-R by means of t-test analysis showed that there were significant differences between the experimental and control groups on all measures utilized.

The hypothesis that children whose mothers attended the Mother Training Program / Cognitive Intervention Program (ZEP) would perform better on all assessments than the control group children was confirmed.

C. Results of the Analyses Carried Out Separately on Picture Arrangement, Block Design and Object Assembly Subtests of the WISC-R :

Further analyses were carried out by comparing experimental and control groups on separate subtests of Picture Arrangement, Block Design and Object Assembly of the WISC-R by means of t-test analysis. The aim was to see whether different results would be obtained if separate analyses were carried out for the three subtests instead of the Wechsler Analytical Triad score.

1. Picture Arrangement (PA) :

Picture Arrangement Subtest of the WISC-R in the experimental group was significantly different at $p < .0001$ level and for t value 6.89 than the control group (Table 8). Mean values obtained for the Picture Arrangement subtest indicated better scores for the experimental group compared to control group.

Table 8 : The results of t-test analysis for PA

Trained Mother			Non-Trained Mother		
N	Mean	SD	N	Mean	SD
40	8.95	2.20	40	5.52	2.24

$p < .0001$, $t = 6.89$

2. Block Design (BD) :

In line with the results obtained from the Picture Arrangement subtest, the results of Block Design also show significant differences between the experimental and control groups. The experimental group have higher scores on Block Design than control group with a t value of 3.96 at $p < .0001$ level (Table 9).

Table 9 : The results of t-test analysis for BD

Trained Mother			Non-Trained Mother		
N	Mean	SD	N	Mean	SD
40	9.15	2.07	40	6.97	2.78

$p < .0001, t = 3.96$

3. Object Assembly (OA) :

Results of analysis showed that there are significant differences between experimental and control groups at $p < .001$ level for $t = 3.49$ (Table 10).

Table 10 : The results of t-test analysis for OA

Trained Mother			Non-Trained Mother		
N	Mean	SD	N	Mean	SD
40	8.30	2.56	40	6.17	2.87

$p < .001, t = 3.49$

As the results indicate, experimental group achieved better on the Block Design than the control group.

Separate analyses which were carried out for the three subtests (PA, BD and OA) indicated that on all subtests experimental group had significant higher scores compared to the control group.

D. The Results of the Comparison of Experimental Groups :

The three experimental groups were compared with each other on all measures utilised in the study by means of analysis of variance (One-way ANOVA). It was hoped that these analyses would reflect the possible differences which may exist in the implementation of the program. The results indicated a significant difference only for the Multiple Classification Task (Table 11, 12).

Table 11 : Means and standard deviations for the three groups on MCT

Group	N	Mean	SD
Group 1	14	1.07	.82
Group 2	13	2.30	.94
Group 3	13	2.15	1.06

Table 12 : Results of analysis of variance on MCT

Source	D.F.	Sum of squares	Mean Squares	F Ratio
Bet/ grps	2	12.38	6.19	6.86
Within grps	37	33.39	.90	
Total	39	45.77		

$p < .0029$

Although non-significant results were obtained for Simple Classification Task, The Wechsler Analytical Triad and Vocabulary Subtest of the WISC-R, Group 2 was found to have higher and Group 1 was found to have lower means compared to the other groups when one examines the mean values for all subtests.

Moreover, separate analyses on the subtests of the Wechsler Analytical Triad also indicated non-significant differences between the three experimental groups. The analyses carried out among the experimental groups reflected the possible differences which may exist due to the process of the program. The only significant difference among the three experimental groups observed was for the Multiple Classification Task, since it was a hard task for the age group of children in the study.

IV. DISCUSSION

Research evidence from different fields like psychology, education, sociology and health indicate that early childhood education and development programs have positive effects on the overall development of children especially from disadvantaged backgrounds.

There are several models/approaches of these programs, some of them target the child's immediate

environment by focusing on family members, some focus directly on the child by attending to the immediate needs of children in centers, still others focus on working to change community conditions that may affect child development (Myers, 1992).

There is a common agreement that the child development occurs in an environment, but not in isolation (Hunt, 1961; Bloom, 1964; Weikart, 1967; Banet, 1976; Kağıtçıbaşı, 1979; Upshur, 1990). As it was stated in the introduction, there are a number of conceptualizations that stress the importance of the environment, especially family involvement, in early childhood development and education. The Transactional Model of child development reflects the importance of the environment: the development of the child is seen as a product of the dynamic interactions of the child and experience provided by his/her family and social context.

Another conceptual contribution which stresses the importance of the environment is Bronfenbrenner 's (1979) view of the family as one system which is embedded in an ecological framework of systems. He emphasizes that although the family is the principal context in which human development occurs, the processes that are operating in different settings in which children spend their time and their parents live also affect the development of children.

Similarly, Garbarino (1982) based on the ecology of human development, describes a systems approach to summarize the interplay of biological, psychological, social and cultural forces in early development. These forces include the individual family, child's school, the work place of the parent, and the presence of a national climate or policy. Hence, the experiences provided by the immediate environment are not viewed as independent of the child. The Transactional Model of child development suggested by Sameroff (1975), Bronfenbrenner's (1979) and Garbarino's (1982) view of the family as a system embedded in the larger ecological framework of systems promote family emphasis in the programs of early education.

The implication of these conceptualizations is that an intervention should have a systems orientation and assessment of intervention should consider different levels of these reciprocal effects involving the immediate family, the community and the society in which the family is situated. Furthermore, it is necessary to create awareness and demand in the society and most importantly among the policy makers to bring about changes in the other systems around the child rather than the family in order for these programs be more effective.

Both the evidence and theoretical contributions provided by different studies clearly indicate that nearly all early childhood education and development programs

should be developed by considering the several systems that may interact in the child's environment to affect his/her development (Sameroff, 1975; Bronfenbrenner, 1979; Simeonsson and Bailey, 1990).

The present study investigated the effects of the cognitive part of the Home-Based Early Enrichment Program which is an example of a contextual model with a

" whole child " approach and presents an alternative model to center based programs. As an example of a contextual model the program emphasizes the importance of the environment in the development of children and it targets the child's social environment, especially the family, by means of the Mother Training Program which aims to empower the mother to support the cognitive development of the child. Long lasting impact of early childhood development and education programs could be achieved with those programs that assign an active and preventive role to the mother in the development of the child (Bekman,1990; Kağıtçıbaşı, 1992).

During 25-week-period of training children were provided with activities which focused on cognitive tasks such as classification, seriation, language development and sensory-perceptual discriminatory skills. These activities are very important for 5-year-old age group since this period is the time of development of these skills and abilities. Hence, providing stimulation and

different experiences to support and extend children's emerging skills and potentials are the main purposes of the ZEP.

There is a rich research literature describing both the short and long term impact of intervention programs on children's cognitive development. Both short and long term results indicate that an intervention program which starts in early years and targets the child's immediate environment has positive effects on children's cognitive development, commitment to schooling and school achievement (Lazar and Darlington, 1982; Upshur, 1990; Berrueta-Clement, 1984).

In line with the results of the previous studies aimed at the cognitive development of children by means of home intervention programs, the results of the present study also illustrated that children whose mothers attended the Mother Training Program performed better in all assessments compared to children whose mothers did not attend any kind of program.

Assessments of children on several measures revealed that this program had an effect on the cognitive development of children. These assessments included Picture Arrangement, Block Design and Object Assembly subtests of the WISC-R which are known to assess analytical thinking of children. They basically were the

measures of non-verbal ability, requiring abilities for perceptual organization, spatial visualization, part whole relations, planning ability and anticipation.

Moreover, results illustrated that these children were also better in some Piagetian tasks which are stated to be important as indicators of intellectual performance at this age. That is, these children were better able to recognize different attributes of objects like size, form, color and number and classify the objects with respect to a certain attribute as compared to the control group children.

Furthermore, findings indicated that these children were also superior in vocabulary which is a test of word knowledge and involves many cognitive functions like learning ability, memory and concept formation. This test reflects children's ability to learn and accumulate information and as indicated by research evidence these abilities are important in later school achievement.

The follow-up study which investigated the long term effects of the Turkish Early Enrichment Program revealed positive effects on children's overall development including both cognitive and social domains. Initial effects of the program were illustrated by the improvements in the cognitive measures and its later effects were reflected in higher report card grades and

better school achievement scores. Moreover, there were significantly more children in school within the trained group compared to non-trained group. The results related to the effects of the program on school behavior and family relations showed better social integration for the trained group.

Similarly, longitudinal studies like the Perry Preschool Project which was designed to reveal the effects of early educational intervention on disadvantaged children, showed that these programs have an effect on children's cognitive development which was initially documented by increased intellectual performance. Moreover, these children later began to experience and demonstrate greater success in school by greater commitment to schooling, higher school achievement and reinforcement of a more success oriented role by teachers, parents, peers. They engaged in deviant behavior less frequently and had higher occupational aspirations (Schweinhart and Weikart, 1980).

Also empirical data which come from the review of 11 follow-up studies show that less need for special education, less grade retention and better achievement oriented attitudes are the long term effects of such programs (Lazar and Darlington, 1982) .

In sum evidence from research revealed that the

easily documented effect of early childhood education program on children's development is the improvement in the cognitive ability which has some impact on the long term effects of these programs which are social and emotional in nature such as lower rate of delinquency, higher rate of employment and lower rate of teenage pregnancies. Thus, the impact of early development and education programs can extend to adulthood.

Based on these results of the previous similar studies it might be expected that children of the present study who exhibited better cognitive development would show better commitment to schooling and school achievement in later years.

Weikart (1984) points out that early child education programs are effective because it raises intellectual competence. This improvement in the intellectual competence is hypothesized to influence initial transactions with teachers and school achievement leading to school commitment and better scholastic placement. He uses the term "causal chain" in explaining this interactive relation between the early childhood education programs, the child and the later experiences and relationships related to school. In sum, he suggests that early childhood programs raise intelligence which is recognized by teachers and reflected back to children in terms of expectations and rewards until children

themselves raise expectations for school success.

Schweinhart (1986) on the other hand, based on the comparison of curriculums of preschool education programs suggested that raised IQ at school entry does not start a "virtuous cycle" of school success for all children who attended early childhood education, but only for those who attended an active learning program.

Rutter in 1982 reviewed the literature on the effects of education on children's development and concluded that the long term educational benefits of the early childhood education programs do not stem from what children are specifically taught, but from effects on children's attitudes to learning, on their self-esteem and on their task orientation. Similarly, Dweck (1988) investigated how children acquire beliefs and attitudes relating to their own talents and skills. She suggests that differences in children's explanation for success and failure and aspirations for challenge influence their performance at school. They are independent of intelligence (Slyva, 1992).

As it is stated by Slyva (1992) communicational exchanges and the quality of early experiences between adults and children in the early learning setting may be the reason of some important attributes or characteristics like the autonomy, planfulness, persistence and high

aspirations seen by graduates of some early education programs.

Thus, both perspectives which are suggested either by Weikart or by Rutter and Dweck reach to the same conclusion that children who attended early childhood education and development programs were more successful in school and school related issues. Hence, the Cognitive Intervention Program as a family-based early intervention program reveals initially cognitive effects and is expected to show later effects related to better school performance.

As research evidence indicates investments in early child development and education programs also can help to modify inequalities rooted in poverty and discriminations since such programs provide equal opportunity for disadvantaged children in the start of school and bridge the gap between the children who come from less disadvantaged backgrounds by bringing them to an equal level with children from advantaged backgrounds. The present program is an example of such programs that is carried out in a country where there are children at risk and approximately % 5 of all children are provided with early childhood education services.

Such early intervention programs also carry a preventive role since they equip people with the physical

and mental skills in order to cope with the crisis situations throughout their life span. The programs reduce the need for welfare and remedial programs. However, these early childhood and education programs like the Cognitive Intervention Program are examples of secondary prevention programs since they target individuals whose characteristics place them at risk of developing further problems if some type of intervention is not undertaken. As Upshur (1990) points out, that these programs should be brought to a level of primary prevention programs so that they can serve larger groups and make the early detection of developmental problems of early childhood possible.

Although, the results of the further analyses which compared the three experimental sub-groups did not reveal any significant findings except for the Multiple Classification Task, non-significant results illustrated a difference among the three experimental groups on all the measures of the study as indicated by the mean values. This outcome tappers on a neglected issue in intervention research, that is, the process of intervention itself, since it implies the presence of differences among the groups due to the differences in the processes of application. As stated by different researchers, the quality of the implementation, staff training, supervision, parent involvement and administrative leadership contribute to the success of these programs

(Ramey, 1983; Berrueta-Clement, 1984; in Zigler and Weiss, 1985). Thus, there is a need to investigate the process in addition to the product of the intervention programs.

When we consider the age limit to acquire the necessary cognitive competence for the Multiple Classification Task, one should admit the importance of the significant finding obtained for this task among the experimental groups. It clearly illustrates the fact that when early intervention program is implemented well enough, it can overcome the age limits accepted for a certain task.

The positive results obtained related to the effects of the training program on the cognitive development of children showed that when the mothers with low education level are empowered they can be effective on the development of their children.

Although the cognitive scores reported above were believed to be the outcome of the cognitive program, one should not forget that the group discussions which aimed to improve children in social and personal domains and support the self-concept of mothers would have also influenced the cognitive development of children.

V. LIMITATIONS OF THE STUDY

In the present study post-test only control group design was utilised, but for the generalizability of the results it would be better if a pretest-post test control group design was utilized.

Due to practical reasons the sample of the present study included 80 children from the low SES areas of Istanbul. However, for a higher degree of generalizability of the results a more representative sample from different areas and with more subjects should have been included in the study.

The impossibility of a full randomization in the selection of the experimental sample was another limitation of the study. All of the mothers who attended the Mother Training Program had to be volunteers to have such a training and the mothers of the experimental group were chosen by random sampling from this volunteer pool. Similarly, mothers of the control group were chosen randomly, but also were volunteers since without the consent of the mothers the assessment of children would have been impossible .

Moreover, it can be suggested that the subsequent evaluations of the program should focus on the process evaluation in addition to the outcome measures in order to

decrease the difference between the (different) centers
where the Mother Training Program is given.



REFERENCES

- Banet, B. (1976). Toward a Developmentally Valid Preschool Curriculum. High/Scope Educational Research Foundation Report. 7-12
- Bee, H. (1989). Developing Child
- Bekman, S. (1982). Preschool Education in Turkey: A study of the Relationship of Children's Behaviour, the Aims of the Programme and the Sex and Social Class of the Child. Doctorate Thesis. University of London.
- Bekman, S. (1990). Different Models in Early Childhood Education. Proceedings of the Seminar. Unicef. Istanbul. Turkey
- Bekman, S. (1993). The Long Term Effects of the Turkish Home Based Early Enrichment Program. Boğaziçi University. Istanbul
- Bloom, B. (1964). Stability and Change in Human Characteristics. John Wiley and Sons, Inc. USA
- Berrueta-Clement, J.R., Scheweinart, L.J., Barnett, W. Epstein, A.S. and Weikart, D.P. (1984). Changed Lives: Perry Preschool Program on Youths Through

- Age 19. The High/Scope Press. Ypsilanti, Michigan.
- Cınar, F. (1990). Effects of Preschool Education on Children's Social Development. MA Thesis. Boğaziçi University.
- Dweck, C. and Leggett, E. (1988). A Social-Cognitive Approach to Motivation and Personality. Psychological Review. 95 (2). 256-273.
- Elibüyük, K. (1984). Effects of Education Oriented and Maintenance Oriented Preschools on the Cognitive Functioning of the Child. MA Thesis. Boğaziçi University.
- Garbarino, J. (1990). The Human Ecology of Early Risk. In Meisels, S.J. and Schonkoff, J. P. (Eds.). Handbook of Early Childhood Intervention. Cambridge University Press.
- Gray, S.W. and Wandersman, L. P. (1980). The Methodology of Home-Based Intervention Studies: Problems of Promising Strategies. Child Development. 51. 993-1009.
- Hauser-Cram, P. (1990). Designing Meaningful Evaluations of Early Intervention Services. In Meisels, S. J. and Schonkoff, J.P. (Eds.) Handbook of Early Childhood Intervention, Cambridge University

Press.

Kantarcioglu, S. (1974). Anaokulları Örgütü, ME Basımevi, Istanbul.

Kagıtçıbaşı, C. (1983). Early Childhood Education and Preschool Intervention: Experiences in the World and in Turkey. In K. King and R. Myers (Eds.). Preventing Preschool Failure: The Relationship Between Preschool and Primary Education. Ottawa: IDRC.

Kagıtçıbaşı, C. (1987). Comprehensive Preschool Education Project. Final Report. Istanbul. Turkey.

Kagıtçıbaşı, C. (1992). Human Development and Societal Development: Linking Theory and Application. Cross-Cultural Psychology Bulletin. Vol.26, no. 23.

Lazar, I. and Darlington, R. (1982). Lasting Effects of Early Education. A Report from The Consortium For Longitudinal Studies. Monographs of the Society for Research in Child Development, 47 (2-3, Serial no. 195)

Lombart, (1981). Success Begins at Home. Lexington and Toronto: Lexington Books D.C. Health & Co.

- Myers, R. (1992). The Twelve Who Survive, Strengthening Programmes of Early Child Development in the Third World. Routledge.
- Olmstead, P. P., Rubin, R., True, J. H., Revicki, D.A. (1980). Parent Education. Association for Childhood Education International. Washington.
- Palmer, F. H. and Andersen, L. W. (1981). Early Intervention Treatments That Have Tried, Documented and Assessed. In Begab, M. Haywood, H. C. and Ganber H. (Eds.). Psychological Influences in Retarded Performance. Vol 2: Strategies for Improving Competence, Universal Park Press.
- Provence, S., and Naylor, A. (1983). Working with Disadvantaged Parents and Their Children. New Haven: Yale University Press.
- Sameroff, A.J., Fiese, B.H. (1990). Transactional Regulation and Early Intervention. In Meisels, S.J., Shonkoff, J.P.(Eds.). Handbook of Early Childhood Intervention. Cambridge University Press.
- Schweinhart, L., Weikart, D. and Larner, M. (1986). Consequences of Three Preschool Curriculum Models Through Age 15. Early Educational Research

Quarterly. April.

- Simeonsson, R. J. and Bailey, D.B. (1990). Family Dimensions in Early Intervention. In Meisels, S.J., Schonkoff, J.P. (Eds.). Handbook of Early Childhood Intervention. Cambridge University Press.
- Schweinhart, L.J. and Weikart, D.P. (1980). Young Children Grow-up: The Effects of the Perry Preschool Program on Youths Through Age 15. Monographs of the High/Scope Educational Research Foundation. No. 7.
- Slyva, K. (1992). Culture, Language, and Child Development Paper presented at the Colston Symposium. England.
- Şahin, N. (1992). Susam Sokağı Dizisi'nin Genel Etkisi ve Genel Değerlendirme. ODTÜ Psikoloji Bölümü.
- Unesco Report (1977). National Commission of Turkey
- Upshur, C.C. (1990). Early Intervention as Preventive Intervention. In Meisels, J.S., Schonkoff, P.J. (Eds.). Handbook of Early Childhood Intervention. Cambridge University Press.

Weikart, D.P. (1967). Preschool Intervention: A Preliminary Report of the Perry Preschool Project.
Campus Publishers

Zigler, E.& Weiss, H. (1985). Family Support Systems: An Ecological Approach to child development. In Rapaport, R. (Eds.). Children, Youth and Families: The Action-Research Relationship.
Cambridge University Press.



APPENDIX

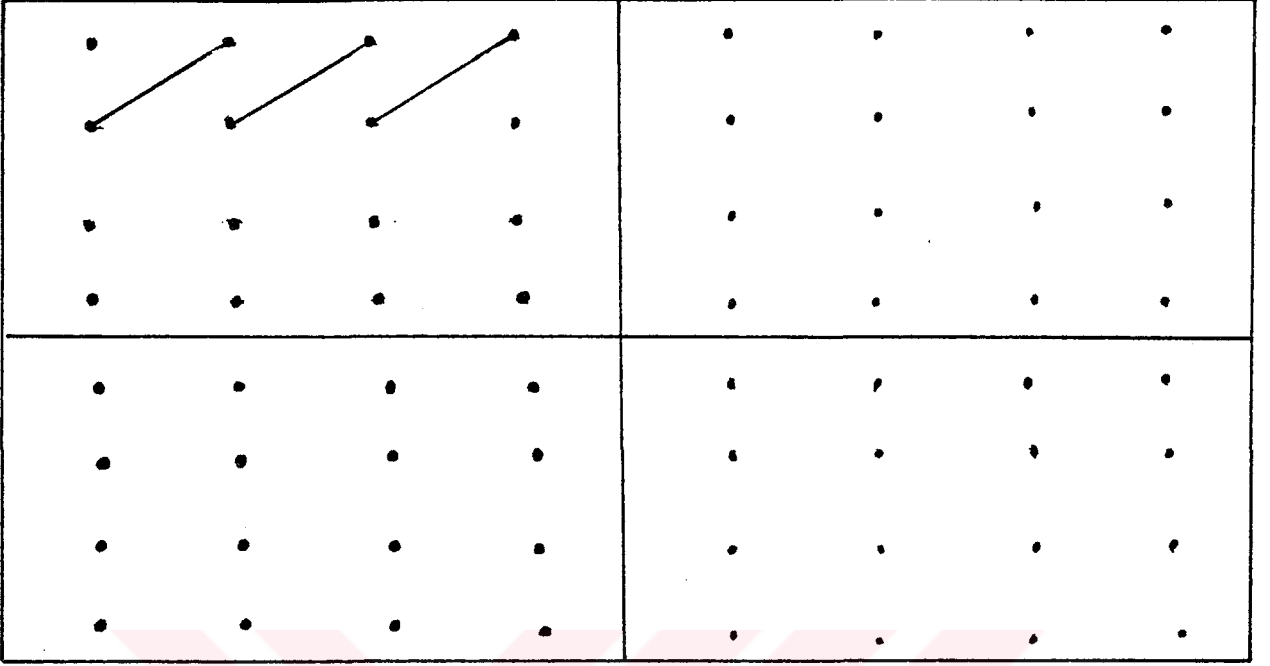
Pages from the Cognitive Development Program (ZEP)



ZEP

Hafta:15

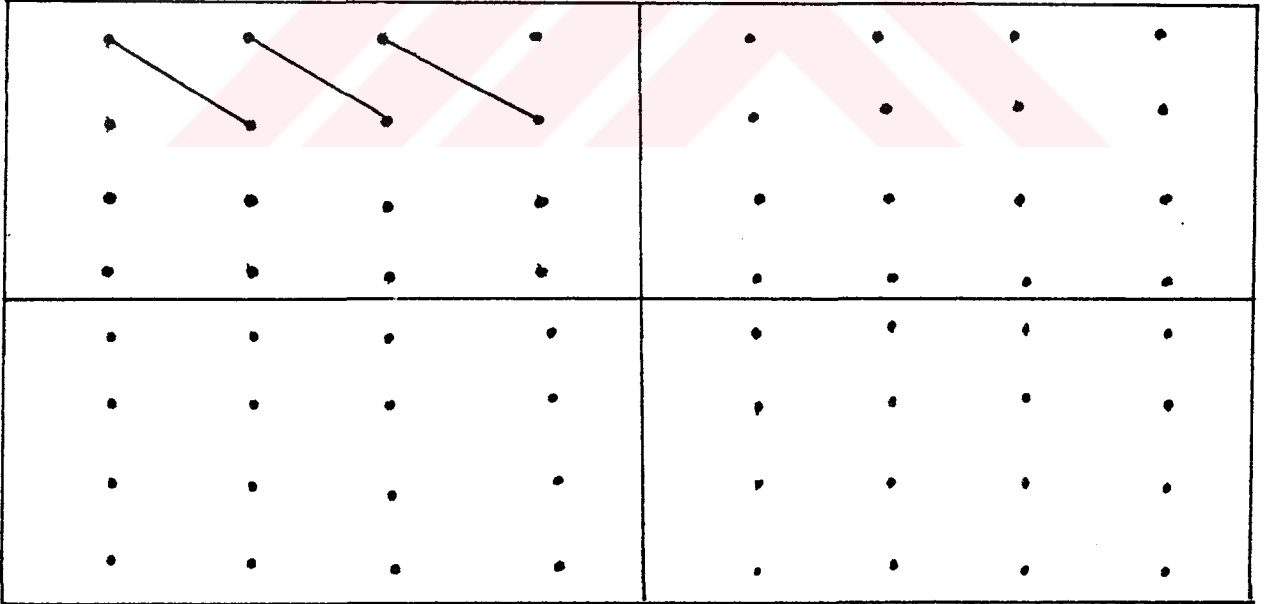
Etkinlik:Noktaları Birleştir



(Boş kutuları göstererek şöyle söyleyin)

KUTULARDAKİ NOKTALARI TIPKI ÖRNEKTEKİ GİBİ BİRLEŞTİR

NE ÇEŞİT ÇİZGİLER ÇİZDİN ? - Eğik çizgiler



(Boş kutuları göstererek şöyle söyleyin)

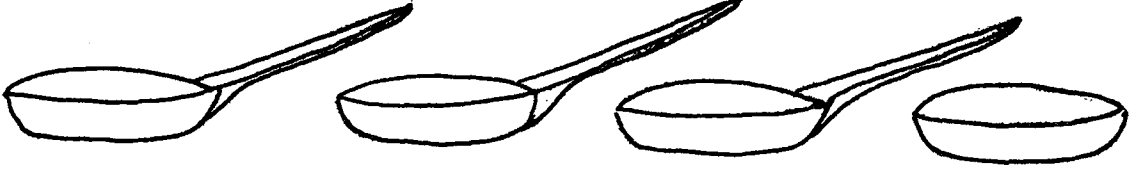
KUTULARDAKİ NOKTALARI TIPKI ÖRNEKTEKİ GİBİ BİRLEŞTİR

NE ÇEŞİT ÇİZGİLER ÇİZDİN ? - Eğik çizgiler

ZEP

Hafta:18

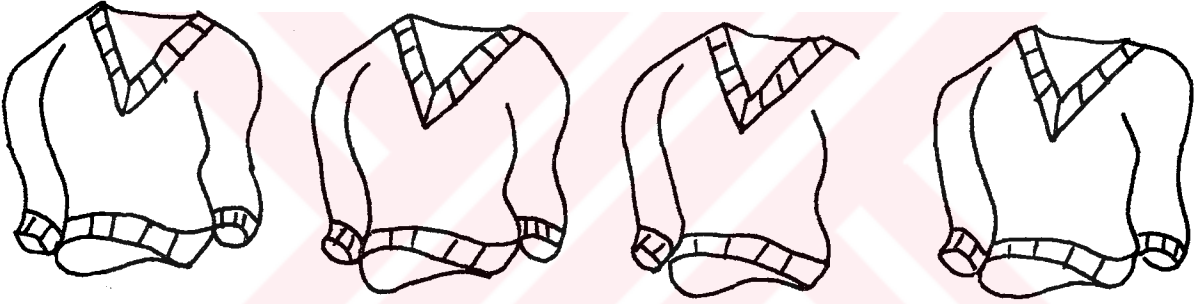
Etkinlik:Eksiği Bul



1.BU SIRADA EKSİK OLAN RESMİ BUL

NEYİ EKSİK ? - Tavanın sapı

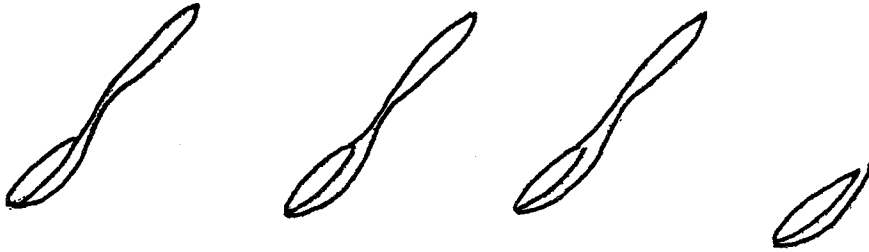
EKSİK OLAN RESMİ TAMAMLA



2.BU SIRADA EKSİK OLAN RESMİ BUL

NEYİ EKSİK ? - Kazağın kolu

EKSİK OLAN RESMİ TAMAMLA



3.BU SIRADA EKSİK OLAN RESMİ BUL

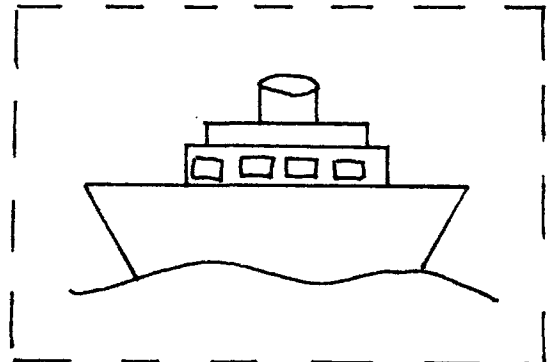
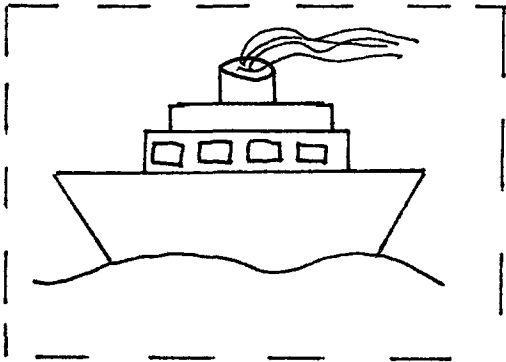
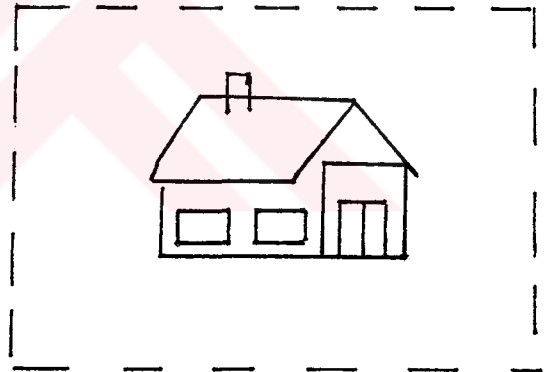
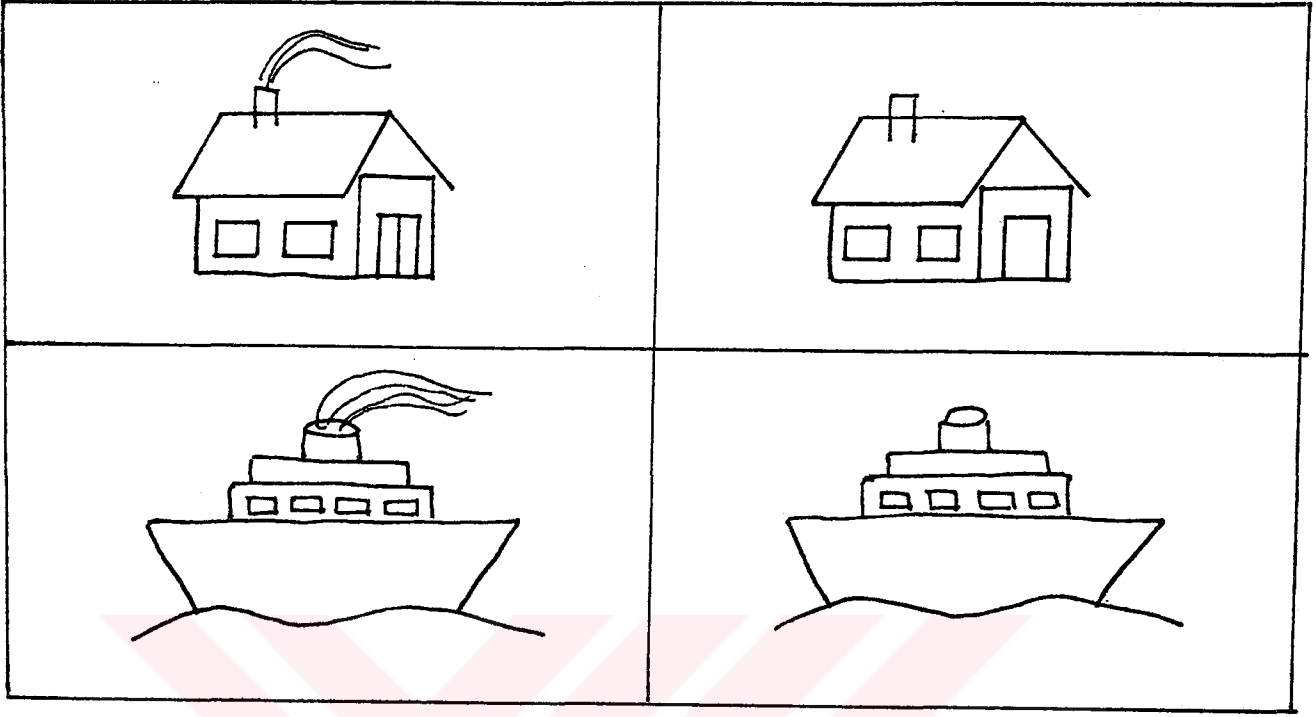
NEYİ EKSİK ? - Kaşığın sapı

EKSİK OLAN RESMİ TAMAMLA

ZEP

Hafta:18

Etkinlik:Matris



ZEP

Hafta:18

Etkinlik:Matris

1.(Çocuđunuzla masaya oturun.10. sayfadaki kesik çizgili resimleri kesin. Kartı ve kestiđiniz resimleri çocuđun önüne koyun)

2.(Üzerinden duman çıkan ev resmini alarak şöyle deyin)

BU NE RESMİ ? - Üzerinden duman çıkan ev

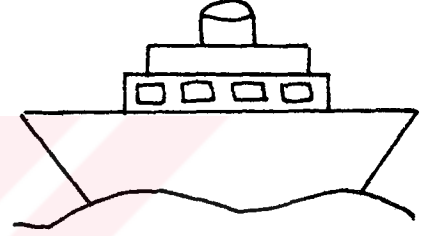
BU RESMİ TABLODAKİ EŞİNİN ÜZERİNE KOY



3.(Üzerinden duman çıkmayan gemi resmini gösterin)

BU NE RESMİ ? - Gemi

BU RESMİ TABLODAKİ EŞİNİN ÜZERİNE KOY



4.(Üzerinden duman çıkmayan ev resmini gösterin)

BU NE RESMİ ? - Ev

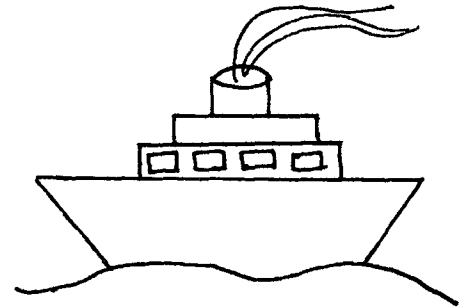
BU RESMİ TABLODAKİ EŞİNİN ÜZERİNE KOY



5.(Üzerinden duman çıkan gemi resmini gösterin)

BU NE RESMİ ? - Duman çıkan gemi

BU RESMİ TABLODAKİ EŞİNİN ÜZERİNE KOY



(Tablonun üstündeki resimleri kaldırın ve masaya yayın)

ŞİMDİ SEN BİR KART SEÇ, NE OLDUĐUNU SÖYLE VE TABLODA KOYMAN GEREKEN YERE KOY

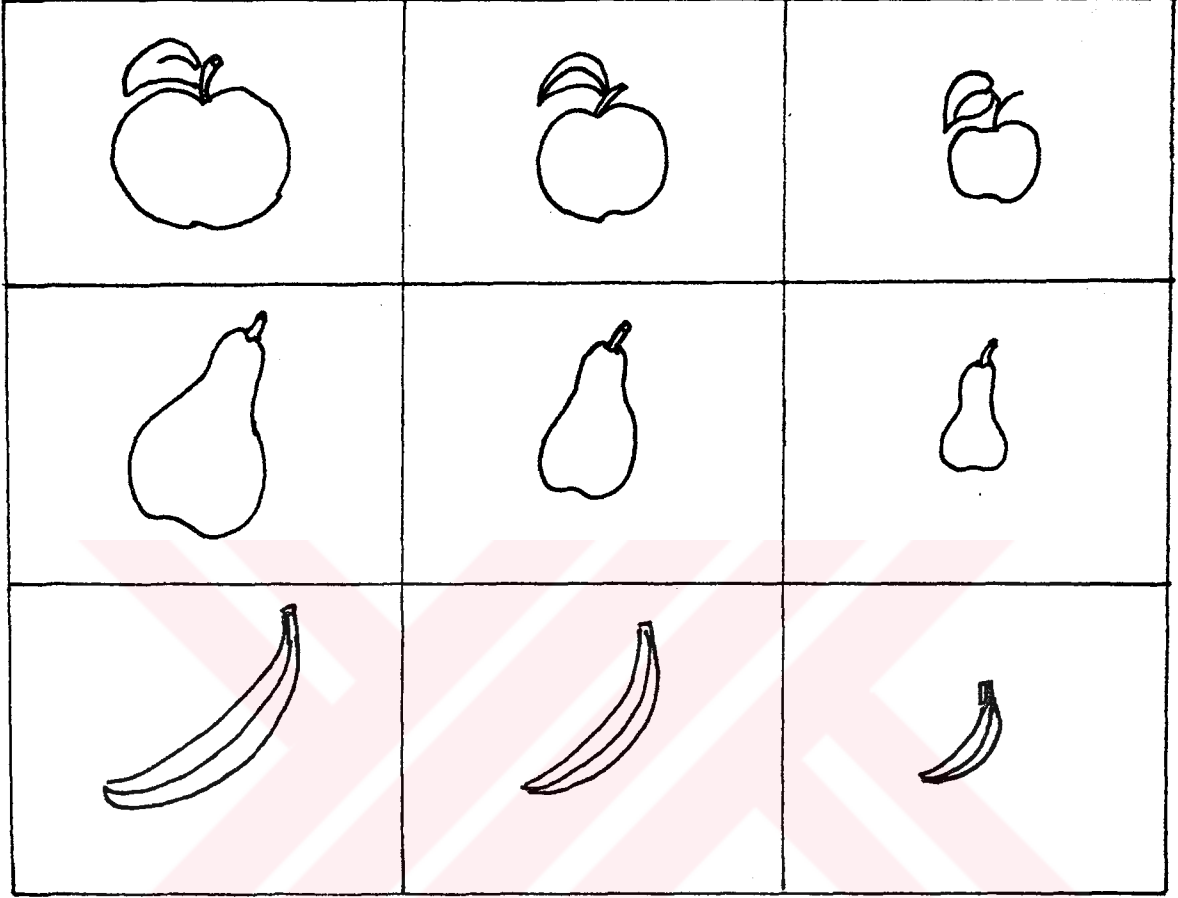
(Çocuđun resmi tarif etmesini sağlayın. Tüm kartlar bitene dek oyunu sürdürün)

ZEP

Hafta:18

Etkinlik:Matris

Malzeme: Mavi, sarı, yeşil kareler, üçgenler, daireler



1.(Elmaların olduğu sırayı göstererek)

BU SIRADA NELER VAR ? - Elmalar

ELMALARIN ÜZERİNE KARELERİ KOY

2.(Armutların olduğu sırayı gösterin)

BU SIRADA NELER VAR ? - Armutlar

ARMUTLARIN ÜZERİNE ÜÇGENLERİ KOY

3.(Muzların olduğu sırayı göstererek)

BU SIRADA NELER VAR ? - Muzlar

MUZLARIN ÜZERİNE DAİRELERİ KOY

4.(Şekilleri toplayın ve çocuğa verin)

BÜYÜK MEYVELER NEREDE ? ÜZERLERİNE MAVİ ŞEKİLLERİ KOY

KÜÇÜK MEYVELER NEREDE ? ÜZERLERİNE SARI ŞEKİLLERİ KOY

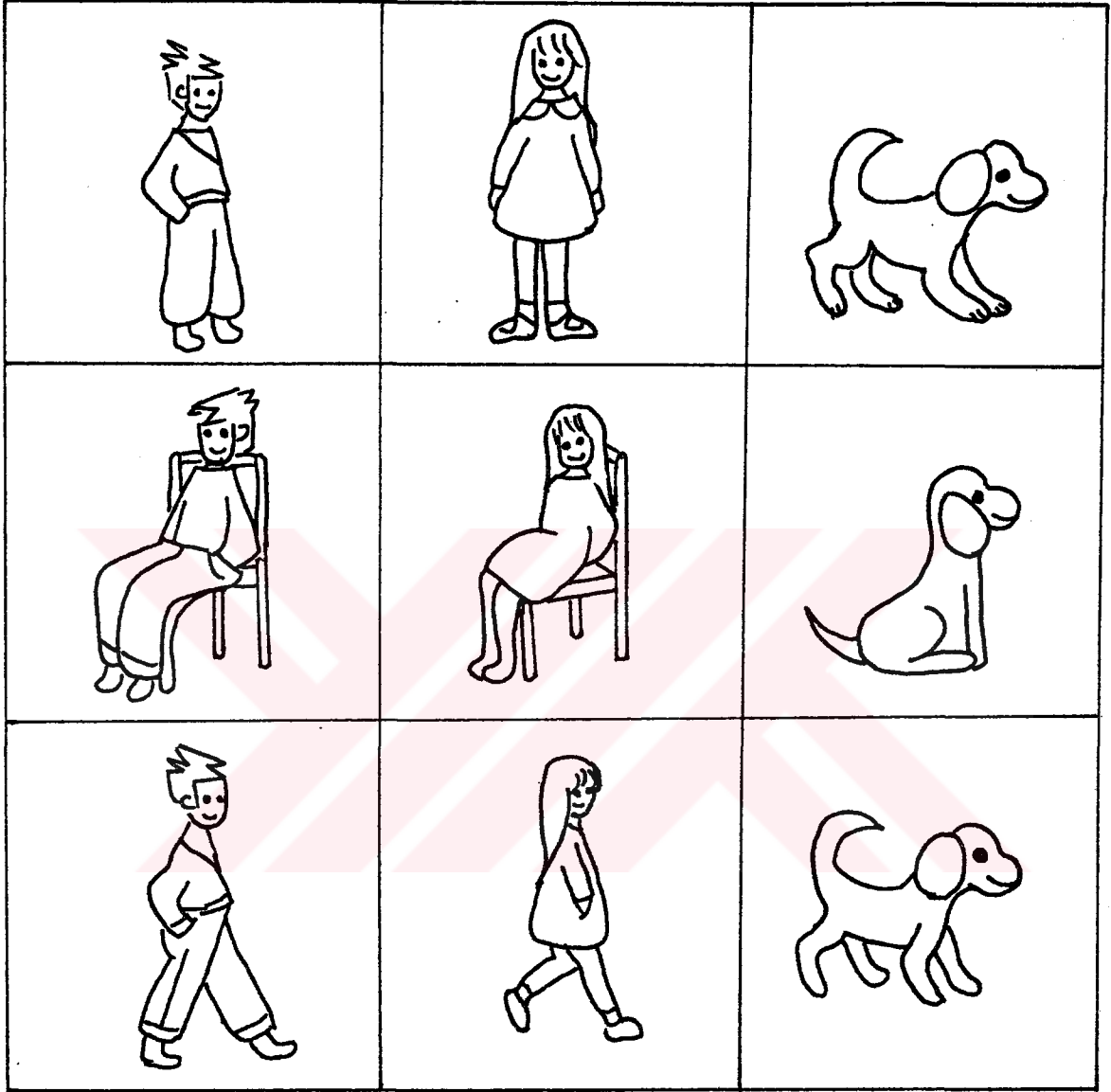
ORTA BOY MEYVELER NEREDE ? ÜZERLERİNE YEŞİL ŞEKİLLERİ KOY

ZEP

Hafta:19

Etkinlik:Matris

Malzeme: Geometrik şekiller



OĞLANLAR NEREDE ? ÜZERLERİNE KARELERİ KOY
KIZLAR NEREDE ? ÜZERLERİNE DAİRELERİ KOY
KÖPEKLER NEREDE ? ÜZERLERİNE YILDIZLARI KOY

(Şekilleri resimlerin üzerinden kaldırın)

AYAKTA DURANLAR NEREDE ? ÜZERLERİNE MAVİ ŞEKİLLERİ KOY
OTURANLAR NEREDE ? ÜZERLERİNE KIRMIZI ŞEKİLLERİ KOY
YÜRÜYENLER NEREDE ? ÜZERLERİNE SARI ŞEKİLLERİ KOY

ZEP

Hafta:21

Etkinlik:Kelođlan

(12., 13. ve 14. sayfaları ocuđa okuyun ve sorun)

KELOĐLAN OLMA YAN PARALARI ALIP NE YAPMIŐ ?

- Mendiline sarıp arŐıya gitmiŐ

ARŐIDA NELER YAPMIŐ ?

- Annesine ve kendisine ipekten, satenden giysiler almıŐ

GIYSİDEN BAŐKA NELER ALMIŐ ?

- Altınlı, elmaslı takılar almıŐ

HESAP ÖDEME ZAMANI GELİNCE KELOĐLAN NE YAPMIŐ ?

- Görünmeyen altınları saymaya baŐlamıŐ

SATICILAR NEDEN KIZMIŐLAR ?

- Ortada para yokmuŐ, satıcılar eŐyaların parasını alamamıŐlar

KIZGIN SATICILARA KELOĐLAN NE DİYORMUŐ ?

- Altınların kendisine padiŐahın verdiđini

ZEP

Hafta:21

Etkinlik:Kelođlan

HAYDİ BURAYA KELOĐLAN İLE KIZGIN SATICILARIN RESMİNİ ÇİZ VE BOYA

