

IMPACT OF ENVIRONMENTAL STIMULATION ON  
TEMPERAMENT AND LEARNING ABILITY  
OF PRESCHOOL CHILDREN

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by

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## **CERTIFICATE**

This is to certify that the thesis entitled "**The Impact of Environmental Stimulation on Temperament and Learning Ability of Preschool Children**" is an authentic record of the research work carried out by **Saritha T. S.** under my supervision and guidance in partial fulfilment of the requirements for the award of the degree of **Doctor of Philosophy** in Home Science under the Faculty of Science of Mahatma Gandhi University, Kottayam, Kerala. The work presented in this thesis has not been submitted for any other degree or diploma earlier.

December 2002

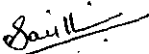


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## ***Declaration***

*I hereby declare that the thesis entitled “ **Impact of environmental stimulation on temperament and learning ability of preschool children**” is a bonafide record of the research work carried out by me under the supervision and guidance of **Dr. K.V. Indulekha**, Research Guide, Department of Home Science, St. Teresa’s College, Ernakulam, for the Ph.D. degree in Home Science. No part of this thesis has been presented for any other degree or diploma earlier.*

*December 2002*

  
*Saritha. T.S*

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## INTRODUCTION

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All development comes about through the interaction of organism and environment. Activity in response to environmental stimulation is an outcome of such interaction. Since changes in the level of one's functioning is basically a matter of responding to the stimuli, internal and external, that impinge upon one's sense receptors, the vital importance of stimulation, its quality and appropriateness as well as its adequacy becomes already apparent. A large number of children in preschool years growing up in developing countries seem to suffer a handicap in the form of a poor or impoverished environmental facility.

Environment is the major source of stimuli that either control or regulate behaviour. But the quality and amount of stimulation received by children in different environments vary greatly. The stimulation received especially during the preschool period will create a long lasting impact on later personality development, since this is the crucial period in every individual's life which has to be carved and moulded properly.

## **1.1 Background of the problem**

During the early childhood period, significant changes occur in the child in all the areas of development namely physical, social, emotional and intellectual areas. His cognitive development also expands during the period. He has increasingly larger vocabulary and more sophisticated language skills (Hurlock, 1973). Since any subject can be taught effectively in some intellectually honest way to any child at any stage of development, a carefully planned, well placed early education programme can give children the experiences they need for their cognitive development.

Learning is a complex process and the impulse to learn flows naturally from a child's curiosity about the world around him and from his desire to gain mastery over himself and his environment. The learning is fed by his steadily growing understanding of language and his interest in the magical power of words. In the class room, the child is actively engaged in exploring the environment and learning about the world and society around him. He is motivated by his own curiosity. Moreover he learns by active exploration and by involving himself in the process of development.

Autonomy flourishes as children explore a world outside the home and choose from among many activities tailored to their interest and abilities which let them experience many success that build confidence and self image. As mentioned by Papalia and Olds (1994), preschool is particularly vulnerable in helping children from one or two child families learn how to

get along with other children.

Children enter school with a broad range of home back grounds, These include the fortunate youngster who has his own books, parents who read to him and a wealth of enriching experiences as well as the child who has never seen any one read a book for enjoyment. The class room teacher has a responsibility for capturing and stumulating the interest of children in reading regardless of their home environments.

Favourable cognitive development and social development have been associated with predictability and regularity of home environments, that is with homes where things have their time and place where meals, bedtimes and other routines are regular and where the child has a place for her belongings, a safe place in which to play and a quiet place to study.

In the view of Stott (1974), a very bright and active preschool child in one sort of home situation with a particular set of parents, might become an effective and responsible school leader. The same child had been born into a very different family environment could become a domineering, hostile and emotionally disturbed person. The direction and extent of learning is a matter of great importance in relation to an individual's emotional adjustment and his total personality development. General adequacy of functioning in life is very largely a matter of learning in this broad sense.

The environmental influence may modify the expression of

temperament. A child with an initial pattern characterised by frequent negative reactions may shift to a more frequent expression of positive mood, if his life experiences are benign and favourable. A very adaptable child who is repeatedly faced with impossible demands and expectations may after a time become increasingly less adaptable in his behaviour.

The temperament of many children change over the course of the preschool years and this seems in part to be attributable to the responses of parents.

Thus a child is not an inert and malleable mass to be shaped by the environment, nor is he a rigid structure whose characteristics are fixed and unchangeable over time.

## **1.2 Scope of the study**

The first five years of life are important for emotional, intellectual and social development. This is a time when a child is developing more rapidly and is learning more than at any other time in his life. Children are more resilient and adaptable than previously thought and the development is a continuous interaction between a child's genetic make up and his constantly changing environment.

The environmental influences may modify the expression of temperament, the temperament of many children change over the course of preschool years and this seems in part to be attributable to the responses

of parents (Beckwith, 1979). The unspoiled nature of the child is free, spontaneous and creative. Each child is a unique individual like no other and is want to behave in relation to his surroundings in his own unique way. Hence the atmosphere of the school room in which the child finds himself is very important.

The arena of the impact of environmental stimulation on preschool children is still groping in the dark, conspicuous by the absence of any detailed study and research and even the average educated parents being unaware of the implications. The preschool stage, by all means the crucial period in early individuals's life is to be carved and moulded properly, even slight stimulations creating a long lasting impact on the future personality development. A scientific study based on environmental stimulations as a whole taking into consideration the home and school atmosphere, by means of proper facilities available, will be worth while. It will bring to lime light the more intricate problems in the field, thus enabling the parents and teachers to deal with their children in a proper and tactful way, thereby carving out healthy (both mentally and physically) individuals.

### **1.3 Aim**

The aim of the study is to find out the influence of environmental stumulation on the temperament and learning ability of preschool children.

### **1.4 Objectives**

The main objectives of the present investigation are as follows.



To find out the influence of home environment in the areas of

- (a) Temperament
- (b) Learning ability

To find out the influence of school environment in the areas of

- (a) Temperament
- (b) Learning ability

## **1.5 Concepts used**

### **1.5.1 Environmental Stimulation**

Devi (1998) defines environmental stimulation as both physical and non-physical stimuli available in the immediate surroundings in which the child lives and grows. In the present study, the term environmental stimulation means the stimulation given to the children in both the home and school environment. In the home environment, the stimulation given through exposure to objects and media, verbal and psychological interaction between parents and children and the time spent quantitative and qualitative in nature together by parents and children are considered. In the school, variety of stimulation given including the availability of equipment (toys and educational materials), time allotment for individual and group activities, teacher - pupil interaction and teaching methods have been considered.

### **1.5.2 Temperament**

Buss and Plomin (1975) have given four dimensions of temperament (1) activity (2) emotionality (3) sociability and (4) impulsivity.

In the present study, activity, emotionality and sociability are considered under temperament.

### **1.5.3 Learning ability**

Watkins et al (1992) defines learning ability as the ability in which an individual can learn a particular behaviour. In the present study, readiness to perform activities related to reading and writing are considered under learning ability.

### **1.5.4 Preschool children**

Preschool children in the study include both boys and girls of five years of age and who are attending upper kinder garten.

## **1.6 Hypothesis**

The hypothesis formulated for the present study are as follows.

**1.6.1** The home environment will influence the preschool children with regard to

- (a) Temperament
- (b) Learning ability

**1.6.2** The school environment will influence the preschool children with regard to

- (a) Temperament
- (b) Learning ability

**1.6.1.1.** Exposure to objects and media will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.1.2** Verbal interaction will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.1.3** Psychological interaction between the parents and children will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.1.4** Time spent (quantitative) together with parents and children will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.1.5** Time spent (qualitative) together with parents and children will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.2.1** Availability of equipment in the school will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.2.2** Time allotment for individual activities will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.2.3** Time allotment for group activities will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.2.4** Teacher - pupil interaction will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.2.5** Teaching methods will influence the preschool children with regard to

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**1.6.3** There will be significant difference among preschool children between Trivandrum, Kozhikode and Thrissur districts with regard to

- (a) Home environment
- (b) School environment
- (c) Temperament and
- (d) Learning ability

## **REVIEW OF RELATED LITERATURE**

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**I**n order to build up an adequate theoretical foundation, the scanned literature is arranged in the following sections.

- (1) Preschool children
- (2) Environmental stimulation
- (3) Temperament
- (4) Learning

At the end of each section, an evaluation of literature and position of the present study is included.

## **2.1 Preschool children**

### **2.1.1 Definitions**

According to Devadas and Jaya (1984), Clarke - Stewart and Friedman (1987), Craig (1989) and Chauhan (1996), a preschool child is a child between the age of two and six years.

Constable (1988) has called a three to five year old child a preschooler.

Singh (1997) defines preschool age as the age of the children before they enter into class first or primary education.

### **2.1.2 Importance of preschool years**

Many psychologists and educators have brought out the importance of preschool years. The preschool period is the most formative years on which rest the later years of the entire human life span (Shamsuddin, 1971), it is the period of flowering of self (Leeladevi, 1975). This period is the most crucial one in the life of an individual (Govilkar, 1979, Singh and Jain, 1982), is the most sensitive and vulnerable stage of physical, intellectual, emotional and social development and is a tender and impressionable period (Miller 1983). The foundation of personality trait is laid in this period as per Khan (1981).

Fontana (1986) has stated that the child's social life begins at home and his early social experiences play a dominant role in determining his/

her future social relationship and patterns of behaviour toward others.

To Papalia and Olds (1987), a child's pattern of growth and development and his personal and social adjustments during early childhood period strongly influence his later attitudes, interests, emotional reactions, behaviour patterns and interpersonal relationships.

It is during the early years that the child is susceptible and responsive to the positive environmental influences, which enhance or expand his/her development. As mentioned by Montessori (1988) it is this sensitive period, which enables him/her to assimilate images from his/her environment in a truly prodigious fashion.

The future of a nation depends on how children are educated during the formative period of their lives. Creative impulses must be nurtured in the earliest formative periods (Craig 1989) and that there is dramatic growth in the child's self control and social competence during the four important years of life from age two to age six.

During the early years the major development that is taking place is the control over the environment so as pointed out by Lombardi (1992), the early childhood environment should be based on developmentally appropriate practice.

Curiosity is often the only incentive a child needs to take him/her into new unfamiliar words and it is at peak in preschool period in the view of Nakra (2000 November)



### **2.1.3 Evaluation of literature and position of the present study**

Devadas and Jaya (1984), Clarke - Stewart and Friedman (1987), Craig (1989), Chauhan (1996), Constable (1988) and Singh (1977) have defined preschool children in different ways.

Importance of preschool years is given by Shamsuddin (1971), Leeladevi (1975), Singh and Jain (1982), Miller (1983), Khan (1981) and Montessori (1988). Fontana (1986) has given importance to early social experience on the child's future social relationship and behaviour patterns. Papalia and Olds (1987) have given importance of early personal and social adjustment to later personality, Lombardi (1992)

It can be seen that there are no studies giving a significant view to the stimulations offered from the home and school environment, for preschool children.

### **2.2. Environmental stimulation**

According to Baldwin (1967) in describing the environment of the child and its impact upon him, the first point to be consider is its effect upon maturation. He adds that the second and probably the most important impact of the child is the inculcation of social rules and social roles.

Thomas et al (1968) says that the objective surrounding and circumstances with which a child interacts depend among other things, upon the age of the child and social class to which he belongs.

A stimulating linguistic environment- one that offers good language models together with linguistic variety, novelty and rewards for verbal responses - enhances verbal ability, cognitive development and intelligence test scores. dull, unstimulating environment have the opposite effects (Russen et al, 1969),

In the words of Mc Kinney et al (1971), the restriction of early environmental stimulation and marked deviation from the normal developmental conditions of preschool children produce drastic and enduring effects on emotionality, learning ability, activity level and social behaviour.

According to Stott (1974), since changes in the level of one's functioning result directly from functioning and since functioning is basically a matter of responding to the stimuli, internal and external that impringe upon one's sense receptors, the vital importance of stimulation its quality and appropriativeness as well as its adequacy becomes already apparent.

In the view of Karlin (1975), the readiness for reading challenging materials can be promoted by relating children's experiences to the ideas they will be reading about and by teaching difficult words, classifying unknown concepts and setting reading purposes.

According to Freidrich - Cofer and Susman (1977) children in open environments have more varied social contacts, positive towards school

and show both self-reliant and co-operative behaviour in learning situations.

Bayles and Bates (1986) says that individual differences in children's language acquisition and progress are associated with variations in the language learning environment.

According to Watkins and Durant (1992), environment influences the people who live and work in them. Children are particularly vulnerable to these influences as they have fewer strategies for coping of responding to any negative impact from the space around them. He adds that in early childhood settings adults have a particular, responsibility to develop an awareness of the environments effects.

In the words of Lata (1998), the young child acquires his early language habits largely through imitation of the language patterns of those around him. According to him, educational objectives and teaching techniques also influences the child's language development.

Devi (1998) says that a child growing up in a poor environment lacks the richness of perceptual stimulation and experience available, to the child growing up in a relatively superior environment.

### **2.2.1. Environmental stimulation in the school environment**

Good (1959) defined educational environment as the sum of all physical, social, emotional and mental factors that contribute to the total teacher-learning situation.

Preschool children in institutions where they are neither highly motivated to speak nor rewarded frequently or consistently for their speech responses are also handicapped in many areas of language development - including speech sounds, intelligibility and level of language organization, (Mussen et al 1969).

To Sullivan (1974), educational environment consists of school climate as well as the teachers approach to teaching. They consider activities of teaching methods and institutional programmes as well as the school climate to be features of the educational environment.

According to Ebbeck and Ebbeck (1974), the school environment must allow each child the opportunity to grow and develop. It must be broad enough in scope to meet the individual child's needs and be stimulating enough to arouse in each child the desire to learn.

He adds that the school environment must be enriching so that it not only complements the home but allows the child to experience things which may in some important fields be far beyond what he is able to get at home.

Bhatnagar (1977) observes that, the unique quality of the environment largely, depends upon specific ways the pupil are treated in the school and class room.

Hetherington (1979) say that variations within the school setting have

an important impact on children's emotional and social adjustment as well as on their academic progress.

According to Singh (1997) the preschool education term has been used to refer to group setting for children between approximately three and five years old which are deliberately designed to stimulate and support their mental, physical, emotional, language, social development etc.

Devi (1998) defined educational environment as the conditions, process and psychological stimuli which affect the educational achievement of the child. It refers to those forces in the environment of the learner which have the potentiality to contribute to academic development of the learners. These forces may be a part of the school or college environment, the home environment or the environment of various other social organisations.

## **2.2.2. Factors involved in the stimulation of school atmosphere**

### ***2.2.2.1. Physical facilities & structures***

Rioux (1968) says that, the school size determines the extent of involvement in extra curricular activities. Both class size and the pupil's location in the class determine the extent to which he or she participates in classroom activities. While participation is higher in smaller class rooms, the child located in the front and center of the class, the action zone, participates more than children seated in other parts of the room.

Stott (1974) says that the unspoiled nature of the child is free,

spontaneous and creative. The atmosphere of the school room in which the child finds himself is very important. School should be a place where the child is encouraged on his own, but with guidance as needed, to acquire certain skills essential to effective functioning.

According to Freidrich et al (1977), children in open environments have more varied social contacts, positive attitudes toward school and show both self-reliant and co-operative behaviour in learning situations.

Sutherland et al (1977) says that physical facilities should be functional for the developmental level of the children and should be selected to allow for a wide range of abilities and growth pattern.

According to him, the early childhood physical environment must be or flexible one, making it possible for the site and space, as well as furniture and equipment to be free to expand, shrink., disappear completely or move outdoors if necessary. He adds that although physical facilities do not determine the environment, satisfactory facilities greatly assist in developing a challenging and satisfactory learning situation. Either the absence of adequate facilities and materials or the provision of quantities of inappropriate materials may curtail the effectiveness of learning.

In the words of Hetherington (1979), seating arrangements, class size, wall colour and ventilation affect the child's scholastic achievement, his attitude toward school or the degree to which he actively participates in class and extra curricular functions.

He says that variations within the school setting, have an important impact on children's emotional and social adjustment as well as on their academic progress.

According to Harris and Smith (1980) the class room environment must make it easy to read and the class room atmosphere must make it important to read. The selection of a suitable location for building a class room reading corner involves finding a quiet relatively isolated area, which influences learning.

In the view of Sylva and Hunt (1982), a variety of different activities and materials and separate corners and tables ensure that children work and play in manageable groups and are given the opportunity to interact each other. Provide the materials and the environment for the child to explore and let him then do the rest almost by himself, motivated to learn by his own country.

Watkins (1992) says that class rooms are places where the atmosphere can have a considerable impact on a child's behaviour and opportunities for learning. The atmosphere in a class room is created by the interactions of two complementary aspects of the environment. He adds that the outdoor environment offers many opportunities for physical activity, for exploring, discovering and learning.

According to Ayers and Francesca (1998), teachers should consider how the seating arrangements in their class rooms affect learning and

behaviour.

#### ***2.2.2.2. Availability of equipment, toys and educational materials***

Newson (1968) says that as with learning every other skill, there must be a preparatory period during which the child engages in activities which will prepare him for the task of learning to perform handwriting. During this period, the child must give opportunities to handle objects, to manipulate them and eventually to do so for particular purposes. These activities will include handling and manipulating toy cars, toy trains, dolls, doll's clothes, playing with constructional toys especially those involving the use of tools - playing with rods, blocks, counters or any other materials which can be handled and manipulated and handling clay and sand.

According to Hetherington (1979), children are influenced not only by their teachers and peers but also by reading material to which they are exposed. Many of the attitudes and cultural values that are slowly emerging during the early schools years are directly shaped by the content and themes of the text books and materials provided to the children.

According to Dallmann etal (1982), puppetry can be used as a means of motivation, for school work in various areas. It can provide opportunity for oral reading in a functional and interesting setting.

In the view of Clarke - Stewart (1990), the physical materials and equipment in turn may encourage more frequent intellectual activities.



Wagner et al (1994) say that one of the earliest things a child must learn, when starting to learn to read is to recognise that the different letters vary in shape and that the shape of each letter is invariable. This can be achieved in a variety of ways - alphabet books, matching alphabet books, playing with wooden letters, matching individual letter, tracing with the fore finger, letter made of velvet and tracing on a sand tray much of it incidental and unstressed as part of learning to read.

### **2.2.2.3. Curriculum**

Cable (1958) says that while planning preschool curriculum provision should be made for outdoor play that involves musical instruments, easel painting, clay modeling or even following a slow moving animal which influence learning.

According to Eysenck (1958); the instructional programme in the preschool should be so organized that for each desirable growths in basic reading skills and abilities are fostered.

Jefferson (1970) says that in the development of the curriculum there is no one formula or method that the teacher can use to plan an effective programme. This task calls for intelligence and understanding, imagination and flexibility rather than formulas. There is need for knowledge of research and the factors that influence children's learning. According to Jefferson, these includes what the children are like, how they learn, what the culture expects and academic content and skills.

Wakefield (1971) says that those involved in curriculum planning for the preschool children must define the broad goals of the programme and provide for a variety of developmental evaluation techniques.

Hymes (1974) says that, the children are the most significant consideration in planning the curriculum. The teacher will find it important to remember how young children learn, not just what they need to learn.

According to Ebbeck (1974) opportunities must be given during free activity periods for children to explore their new environment. It is essential that a variety of experience be available to the children and that they be allowed to experiment without unnecessary intervention or coercion from the teacher.

Karlin (1975) says that oral language experiences involving children in conversation, discussion, reporting, story telling and creative dramatics will help to develop language skills and possibly contribute to reading readiness.

According to Hurlock (1976) since learning to read is one of the principal components of the first grade curriculum, the child who is ready to read makes better adjustments to school than one who is not ready.

In the words of Rowen, Byrne & Winter (1980), the more the child is exposed to stories, poems, signs and other printed symbols, the sooner he is exposed to stories; poems, signs and other printed symbols.

In the words of Harris and Smith (1980) a combination of independence and sharing can be promoted by having two periods a week during which everyone in the class reads anything that appeals, to him, the teacher too.

While planning the curriculum for the preschool children, the programme should include activities which satisfy children's need for group activities and individual activities, Rowen et al (1980).

According to Dallmann et al (1982) an activity centered curriculum makes it somewhat easier to adapt reading instruction to individual differences.

According to Virginia (1987), the primary purpose of a preschool should not be to teach reading and writing, a well designed programme can enhance a child's already considerable language skills by providing ample opportunity for her to use reading and writing in her daily activities.

In the view of Singh (1997), preschool education programme, provides opportunities to children to play in groups. The pre- school education provides a new environment and new opportunities to come in contact, with the people of different age group and different social groups.

#### ***2.2.2.4. Teacher - pupil interaction***

According to Deutesch (1965), the manner in which the teacher interacts with the children under her charge has important implications

with their future social development.

In the words of Hawkes and Pease (1969), the interaction between child and teacher goes on at a fast clip because of the nature of the teacher's task. To facilitate learning, he must be in constant contact with as many pupils as possible.

According to Helms and Turner (1976), children need to communicate with others, either verbally or non verbally such as with a smile, a gesture, drawing, painting or through music activities. Since each in their own right, becomes a vital part of the communication process, they should be adult supported and encouraged.

Delamont (1976) says that the teacher strategically establishes her dominant position in the class room by imposing her definition of the situation on the pupils by talking, teaching and questioning them.

Purkin (1976) says that the quality of teacher-pupil relationship in the class is the major aspect of the class room climate.

Leeper et al (1984) says that before successful learning can take place children need to feel secure and good about themselves. Teachers can help children feel positive about themselves by creating a nurturing, supportive environment in which children feel loved, secure and safe. He adds that verbal encouragement is needed along with touching, smiling and sharing. It may also be important to examine the quality of interactions with children

rather than the number of contacts.

According to Avers & Gray (1998), the kinds of interaction between teachers and pupils will to a great extent determine learning and behaviours in class room.

#### **2.2.2.5. Teaching methods**

According to Warner (1962), when audio visual materials are used in connection with other activities of the class room, their effectiveness is increased. Audio visual aids may be used to motivate a project, to provide data and to summarize learnings.

He adds that facts learned from audio visual materials were retained for a significantly longer period of time.

Sutherland and Arbuthnot (1977), says that children look for illustrations that interpret the story. The content, mood and the feeling of the illustrations should be relevant and should match the plot and tone of the story.

Warbois (1978) says that the school environment has a significant influence on language growth. According to him, a set of flash cards with a letter of alphabet on one side and related picture on the other are the best to be used in the class room.

In the words of Rowen et al (1980), the more the child is exposed to stories, poems, signs and other printed symbols, the sooner he will display

an interest in trying to interpret them. To encourage verbal expression, it would be helpful if the teacher understood the primary language of the children in the class. one could respond with atleast a few words in the language spoken in the child's home.

Hetherington and Parke (1986) points out that films, slides, film strips and television programme can contribute to children's understanding when used for specific purposes. He adds that the most effective use occurs when the bulletin board reflects current interests of the group and when children are engaged in the activity. Such boards are called involvement bulletin boards.

### **2.2.3. Stimulation in the home environment**

Goldfab's (1943) classic investigation of institutionalized children showed that by preschool years, these children have language deficiency in speech sounds and intelligibility when compared with youngster reared in foster homes.

Lesser, Filter and Clark (1965) says that poverty may influence the process of development of cognitive functioning.

Baumrind (1971) found that an authoritarian parenting style in which parents stress obedience and respect for authority is associated with children who are less socially competent relative to children whose parents have an authoritarian parenting style.

Tripathi & Misra (1975,1976) reported that the prolonged deprivation has negative relationship with cognitive efficiency.

According to Bradley & Caldwell, (1976) favourable cognitive development and social development have been associated with predictability and regularity of home environments, that is with homes where things have their time and place, where meals bed times and other routines are regular and where the child has a place for the belonging to a safe place in which to play, and a quiet place to study.

Rao (1976) revealed that high socio economic status and high income help the development of cognitive competence. Sylva and Lunt (1982) says that the female head of the family is the most important factor determining the character and quality of the home environment as she performs her roles as a person, as a wife and particularly as a mother and child rearer.

Lupton (1984) found that parents of high achievers are often socially higher than parents of average achievers and they frequently provide richer learning environments and appear to exert subtle but effective pressure on their children.

According to Schaeffer and Bayley (1985)parents who have more progressive presenting styles and who view their children as being active and independent agents tend to have children who score higher in ability tests.

Stewenson and Baker (1987) found that the relation between parent education and school performance was mediated almost entirely by parents level of involvement.

Wentzel, Feldman and Weinberger (1991) investigated two non-intellectual factors (self restraint and emotional adjustment) which partly explain the relation between parenting and academic achievement in children. Their findings under score the contribution of social and emotional developments to academic and intellectual achievements and the key role of parent child relationships in influencing social development.

According to Singh (1997), no one specific member of the family is responsible for socializing the child. If the total environment of the family is conducive, the chances are that favourable social attitude will develop in children. He adds that the social behaviour and attitude of the children reflect the treatment they receive at home.

Devi (1998) says that child rearing attitudes, mother child relationships and parental behaviour are important factors involved in the home environment which influences learning.

Agnihotri (1998) states that preschool children's intelligence, language development, learning style and general competence are related to their mother's method of teaching them and guiding their daily lives.



## **2.2.4. Factors involved in the stimulation of home atmosphere**

### ***2.2.4.1. Exposure to objects and media***

According to Dallmann (1982) the child's background of experience can be extended by going on field trips, examining objects, looking at pictures, observing or participating in demonstrations and experiments and listening to stories.

Pictures serve as an important means of broadening the experience background of children. Mounted pictures, post cards and snap shots, will be a source of pleasure and of learning.

Harris and Smith (1980) says that field trip is a whole class activity that can benefit each child by broadening his background.

Mohanty (1998) says that books are an individual matter and the parent who wishes to encourage children to read should know something about books before beginning. The parents should provide a local book store or library for the children.

### ***2.2.4.2. Parent - child interaction***

Belson (1959) states that, two basic dimensions of parental behaviour in relation to the children are warmth, hostility and premissiveness control. The interaction of these two variables is associated with different clusters of behaviour in children. He adds that warm parents who are moderately restrictive and use consistent love oriented discipline practices such as

explanation, reasoning and withdrawal of affection, have children who exhibit many behaviours regarded as socially desirable such as adaptability, self-esteem, competence, self-control and popularity with peers.

According to Hess and Shipman (1965) children need to communicate with others, either verbally or non verbally such as with a smile, a gesture, drawing, painting or through music activities. Since each in their own right becomes a vital part of communication process, they should be adult supported and encouraged.

Landreth (1967) says that by responding to and encouraging young children's speech, parents can do a great deal in helping to facilitate over all language development. He also adds that adults become active stimulants when they offer novel verbal learning situations to the child such as singing and rhyming games, reading aloud or expanding upon their youngsters remark.

According to Kayan, Winiberger and Bobbitt(1969), the parent child transactions are determined by unique characteristics of the child as well as social cognition.

Kuppuswamy (1974) says that warmth, regardless of the specific reasons for satisfaction, if the parents finds his role gratifying he is basically an acceptant and warm parent. His motivation encourages him to spend time with the child, to find the necessary sacrifices not difficult ones to accept his responsibilities without too much conflict and to love the child.

Helms et al (1976) states,, that the time that parents spend verbally interacting with their children promotes language development. Investigations have revealed that upper class parents more than lower class parents, offer this type of stimulation to their children, obtaining positive results in the process. Those children receiving little or no stimulation at all exhibit retarded speech development.

Sandeep (1978) says that parent child interaction is a factor that plays a vital role in cognitive development. Low parental encouragement, low education, lower motivation, lack of identification and less interaction with adults result cognitive deficiencies.

Rollins & Thomas (1979) says that children having a positive relation with parents tend to do better in school.

Carew (1980), states that high levels of responsive maternal verbal and play stimulation are associated with relatively advanced cognitive and language skills.

Basic psychological needs like love, affection and feeling of security will be given through rewards, by giving more attention, by giving more chances to express their deeds and thoughts (Roberts 1989).

According to Lata (1998), parent child interaction is a major factor that plays a vital role in cognitive development.

#### ***2.2.4.3. Time spent with the parents and children***

Television increases the amount of time families spend together viewing TV but decreases the amount of time families spend in non TV related joint family activities with friends, relatives and neighbours . Although it has been reported that TV can increase family conversation by stimulating discussion about programmes and even commercials, it is often used in ways that intentionally reduce family interaction.

(Belson 1959, Lyle 1971, Maccoby 1951, Robinson 1971).

#### ***2.2.4.4. Evaluation of literature and position of the present study***

Goldfab (1943), Lesser, Filfee and Clark (1965), Baumrind (1971) Tripathi and Misra (1975), Bradley and Caldwell (1976), Rao (1976) Sylva and Lunt (1982), Lupton (1984), Schaeffer and Bayley (1985), Stevenson and Baker (1987), Wentzel, Feldman and Weinberger (1991), Singh (1997), Devi (1998) and Agnihotri (1998) have given the importance of stimulation in the home environment.

Good (1959), Sullivan (1974), Ebbeck and Ebbeck (1974), Bhatnagar (1977) Hetherington (1979), Singh 1997 and Devi (1998) have given the significance of school environment. Rioux (1968), Stott (1974), Freidrich(1977), Sutherland (1977), Hetherington (1979), Harris and Smith (1980), Sylva and Hunt (1982), Walkins (1992) and Ayers and Francesca (1998), Newson (1968), Hetherington (1979), Dallman (1982), Wagner

(1994), Cable (1958), Eysenck (1958), Jefferson (1970), Wakefield (1977), Hymes (1974), Ebbeck (1974), Karlin (1975), Hulock (1976), Harris and Smith (1980), Rowen (1980), Virginia (1987), Singh (1997) have given the factors in the school environment which influences learning.

It is found that no studies have been conducted giving a significant view on the stimulation given in the home and school environment and its impact on temperament and learning ability of preschool children.

## **2.2.5 Temperament**

### ***2.2.5.1. Definitions***

The Latin word temperare means to regulate to restrain one's self or to soften. Different theorists and researchers define the concept of temperament in a variety of ways.

Thomas et al (1963), (1977) define temperament as the characteristic tempo, energy expenditure, mood and rhythmicity typifying the behaviour of the individual infant.

Temperament according to Gardner (1964) is the more or less characteristic, persistent emotional disposition of an individual probably having a constitutional basis.

Temperament refers to the inherited personality traits that appear early in life (Buss and Plomin 1975).

In the view of McConnell (1977) one's temperament is the way one regulates oneself, that is, one's characteristic attitude or behaviour pattern.

Lansdown (1984) defined temperament as the child's persistent, prevailing mood, that which determines the characteristic adjustment to life.

According to Hetherington and Parke (1986) temperament is the biologically based difference among individuals in reaction to stimuli, in the expression of emotions, in arousal and in self-regulation.

Temperament may be considered as a subset of personality (Rutter 1988), or specific traits of personality (Buss 1989).

A child's general style of responding is called temperament as noted by Atkinson et al (1987).

In the words of Hall and Lindzey (1994) temperament is that disposition that is closely linked to biological or physiological determinants and that consequently show relatively little modification with development.

According to Hurlock (1998) temperament is that aspect of personality, which is revealed in the tendency to experience moods or mood changes in characteristic ways.

#### ***2.2.5.2. Dimensions/aspects of temperament***

Some of the earlier observations of temperament or behavioural profile in children were made by Fries (Fries and Lewi, 1938, Fries 1944, Fries

and Wolf 1953). Studying infants from birth to ten days of age under controlled conditions, she differentiated three activity types of infants, in terms of the amount of activity, differences in characteristic muscle tones and crying within the normal range. She labelled three types - the active, the moderately active and the quiet. Extremes beyond either end of the normal range were considered pathological.

A contemporary approach to the question of individual differences is found in the series of papers of various combinations of Thomas, Chess and Birch. (Thomas and Chess 1957, Chess, Thomas and Birch 1959, Thomas, Chess and Robins 1961, Thomas Chess and Hertzig 1962, Thomas, Chess and Birch (1972). These authors were involved in longitudinal study of 110 middle class children who had been followed systematically from the age of two or three months with interview and observations. They were able to identify nine categories of reactivity which persist through the first two years of life as activity level.

### **2.2.5.3 Theories of temperament**

#### ***2.2.5.3.1 . Psychoanalytic theory of Freud***

According to Freud (1924), personality consists of three major systems - the id, the ego and the superego. Id is the original personality system out of which the ego and the superego develop. It is unconscious and operates by pleasure principle and always tries to get pleasure and to avoid pain. The ego enables the organism to deal with reality and can be called the

executive of personality. The superego seeks perfection. Freud believes that these potent inner forces determine human behaviour.

#### **2.2.5.3.2. *Buss and Plomins theory (1975)***

They postulated four dimensions of temperament, emotionality, activity, sociability and impulsivity. To them these dimensions are heritable, stable, adaptable and predictive of adult's personality. This theory is interactive in three ways (1) the child elicits certain types of parental behaviours as a function of his or her temperament/ (2) the impact of such parental behaviours varies as a function of children's temperament and (3) the efficiency of modelling of parental behaviour is a function of temperamental similarity between the parent and the child.

#### **2.2.5.3.3. *Thomas and Chess theory (1977)***

This theory defines temperament as the behavioural style - how of the behaviour. They emphasised the interactive processes both between infant temperament and parental care giving style and between temperament motives and abilities within the individual for later development and mental health. They find the 'goodness of fit' between the individual and the environment as the central feature of the interaction. They also pointed out that the same trait might be manifested through different behaviours during developmental periods. They identified nine dimensions of temperament - activity level, rhythmicity, approach withdrawal, adaptability, threshold of responsiveness, quality of mood, vigour of reaction, distractibility and



attention span and persistence. Based on these temperamental traits they categorised the children into three groups having easy, difficult and slow-to-warm-up personality.

#### ***2.2.5.3.4. Rothbart and Derryberrys' theory (1982)***

They proposed a multilevel theory of temperament. The key concepts of this theory are the reactivity of the nervous system and the self-regulation of the reactivity. They specified somatic, endocrine and autonomic response systems through which reactivity and self-regulation are expressed. They postulate a connection between temperament and affect. They believe that the child's biological make up is influenced by heredity, maturation and experience. The child's reaction to the changes in the environment is reflected in the somatic, endocrine and automatic nervous system. They identified five dimensions of temperament-activity level, smiling and laughter, fear, distress to limitations and soothability.

#### ***2.2.5.4. Internal structure of temperament***

Various studies suggest that temperament may be relevant to mild behavioural disorders (Thomas and Chess 1977); early educational adjustment (Keogh 1982) negative reaction to the birth of a sibling, aggressiveness; helping behaviour and impulsive accidents (Huttenem)

#### ***2.2.5.5. Stability of temperament***

Findings of many studies provide support for the long-term stability

of temperament. According to Thomas, Chess and Birch (1977) the original characteristics of temperament tend to persist in most children over the years.

Escalona et al (1971) found that differences in the motor activity of an infant, particularly in characteristic level of activity, was a trait of stability.

According to Boss, Block and Block (1980) there is stability in activity level in infants measured from birth. There is also stability of irritability measured from birth (Worobey and Lewis 1988).

Some of the personality traits change under social impacts as noted by Chaube (1992).

#### ***2.2.5.6. Temperament/behavioural profile during preschool years***

Children differ in their temperament. One cries a lot and another very little. Some children are whiny and difficult and others are more easygoing and adaptable as per Hetherington and Parke (1986). Children show individual differences in the activity level, responsiveness to environment and irritability as denoted by Atkinson et al (1987). Some children seem to smile and laugh almost all the time while another reverses the pattern in the views of Papalia and Olds (1987) and some children are more placid while others are active.

#### ***2.2.5.7. Effects of temperament on adjustment***

About one third of the New York Longitudinal Study subjects

developed behaviour problems at the same time. No temperamental type was immune to problems. Even easy children had them when their lives held too many stresses. If a highly active child is confined to a small apartment and expected to sit still for long periods, if a slow-to-warm-up child is pushed to adjust to many new people and situation or if a persistent child is constantly taken away from absorbing projects, trouble may result.

The key to healthy adjustment is “goodness of fit” between children and demands made upon them as noted by Papalia and Olds (1994). Recognition of inborn temperament relieves parents of some heavy emotional baggage. They can focus on helping the child use his or her temperament as strength rather than seeing it as an impediment (Hetherington and Parke 1996).

#### ***2.2.5.8. Factors influencing the temperament***

In the views of Hilgard, Atkinson and Atkinson (1975), Joshy and Tiwari (1977), Ojha and Singh (1988) and Sperling (1990), genetic and environmental factors play a balancing role in the personality development of children. To Hetherington and Parke (1986) personality characteristics are the result of complex interaction between the genetic and environmental factors through three processes namely, range of reaction, canalisation and niche picking .

Thomas and Chess (1977), Korner (1973), Kimple, Garnezy and Zigler (1984), Hetherington and Parke (1986), Atkinson (1987), Papalia

and Olds (1987), and Clarke-Stewart and Friedman (1987) all have proved that the new born babies may look alike but they differ greatly in their temperament. Sameroff and Zax (1973) have suggested that temperament may be fashioned by physiological and chemical influences on brain before birth to Thomas, Chess and Birch (1971) the observed differences in temperament is due to heredity. In the views of Thomas and Chess (1977) genetic and pre-natal environmental origins that interact with caretaking differences in infancy produce differences in the child personality. According to Sostek and Wyatt (1981) biological differences may be at the root of temperamental diversity. In the words of Fontana (1982) the temperamental differences are far more likely be due to inheritance than to learning.

Salient environmental influences on temperament were reported by McDavid and Harari (1974). According to White (1972) the family form a social system within which the growth of personality takes place. The family (Ramaiah 1976, Parthasarathy and Rengnathan 1983) and the family relationships (Kiran and Singh 1982) have a crucial guiding influence on the child's personality development. Children from violent families have more behaviour problems and difficult temperament (Holden and Ritchie 1991) and those from rigid families are field dependant while children from flexible family environment are field independent (Paramo, Dosil and Finajero 1991). A study on the preschool children in Kerala (Thomas 1991) has revealed that pre-schoolers reared in the home have more easy

temperamental traits whereas those reared in orphanages have difficult temperament. Another study by George (1993) has reported that the temperament of infants in the SOS and intact families are similar in their reaction pattern but they differ in their intensity of reaction.

Beckwith (1979), Dunn (1980) and Hetherington and Parke (1986) have pointed out that the temperament of the preschool children changes depending on the responses of the parents. Early parent-child relationships leave its imprints on children's later behaviours (Kumar and Prasad 1987), parental attitudes and examples shape the attitudes and behaviours of the child (Pandy 1987) and early mutuality and signalling later blossom in a variety of behaviour (Craig 1989).

Parental approval and reinforcement make the children, cheerful (Schneider 1984), where as parental rejection fosters a distorted and devaluated self (Ramaiah 1976) and makes the child fearful, (Deepshikha 1982). It has been noted down that children having excess parental love are incapable of living (Nandy and Kakar 1980) and children from family with higher parental structure have fewer aggressive coping strategies (Hardy, Power and Jaedicke 1993).

It has been proved that children having affectionate father and attentive mother are emotionally stable, secure, and confident (Joshr and Tiwari 1977) and children of supportive mothers have greater task oriented persistence and competence during play (Frody, Bridges and Grolnick

1985).

The social system in which the child lives influence the child's personality. Children having experiences with different care-givers accept strangers with less anxiety (Maccoby and Feldman 1972) and make easy adjustments (Jacobson and Willie 1986) A study by Mathew (1992) has revealed that play school attending pre-schoolers base more easy temperamental traits and those staying at home have difficult temperamental traits. Crow and Crow (1956) and Banerji (1963) have suggested that the Guru can transform the student's personality.

An attempt by Lee (1990) has found children engaged in solitary play as less active, less intense, less distractable and with less will to approach new stimuli, those interested in group play as more active, more intense, more distractable, less persistent and moody and those engaged in constructive play as children with good mood, more persistence and higher threshold of responsiveness.

Kundu (1990) has pointed out that one's culture influences every aspect of his or her personality Studies by Friedman (1974 and 1979) and Gupta and Arora (1984) have found significant cross-cultural differences in the temperament of children whereas a study by Bruneau (1985) has found no overall significant difference in the primary self- concept scores of Native-American and Anglo-American preschoolers. Meanwhile Escalona and Corman (1971) have reported that Negro child far exceed

the Caucasian child in attention span and persistence.

The child himself is a factor influencing his own temperament. The child's body build (Mc Connell 1977 and Mussen 1988). Popularity (Mohan, Schgal and Bhandan 1982, Chaube 1986) language skills (Brodsky 1984), conscious thinking (Brody 1988), the child's expectations about others (Harris et al. 1990) and the child's achievement (Kumar 1983 and Khurshid and Fatima 1984) all influence his or her own personality.

#### ***2.2.5.9. Evaluation of literature and position of the present study***

The review of literature on behavioural profile has focused the definitions given by Thomas et al (1977) McConnell (1977), Landsdown (1984) Hetherington and Parke (1986), Buss (1989), Rutter (1988), Hall and Lindzey (1994) and Hurlock (1998). Dimensions of temperament given by Fries et al (1938), (1953), Thomas et al (1971), Birch et al (1962), Cattell (1966), Schmidt (1966), Kagan (1971), Buss and Plomin (1975) and the categorisation of these dimensions based on Induleka (1977) is also discussed. A comparison of the models of temperament given by Thomas and Chess (1977) and Rothbart and Derryberry (1981) is presented.

Theories of temperament given in the review include psychoanalytic theory (1924), Buss and Plomin's (1975) theory, Thomas and Chess' (1977) theory, and Rothbart and Derryberry's (1982), theory.

Ausbel (1958), Eisenberg (1966), Korner (1969), Fontana (1986), Berk (1991), have given their views on individual differences in children.

Behavioural profile as predictors of behaviour is discussed by Thomas et al (1977), Segal and Yahres (1978), Freedman (1979), Reid et al (1981), Helms and Turner (1981), Bee (1985), Fontana (1986), Dunn and Plomin (1990), Berk (1991). According to Thomas et al (1977), original characteristics of temperament persist over years. Stability of activity level is discussed by Escalona et al (1971), Boss et al (1980). Stability of the temperament traits in preschool years is given by Korner (1973), Hetherington and Parke (1986), Atkinson (1987).

The factors influencing the temperament were given by Hilgard Atkinson and Aktinson (1975) Joshy and Tiwari (1977), Ojha and Singh (1988), Sperling (1990), Hetheington and Parke (1986), Thomas and Chess (1977), Papalia and Olds (1987), Clarke - Stewart and Friedman (1987). Thomas Chess and Birch (1971), So sostek and Wyatt (1981) and Fontana (1982) have given the genetic influences on learning. Beckwith (1979), Dunn (1980), Hetherington and Parke (1986), Pandy (1987) and Craig (1989) have also given the factors influencing temperament.

From the review, it was evident that very few studies have been conducted in Indian context regarding temperment of preschool children. Hence an attempt has been made here to study the impact of environmental stimulation on the temperamental traits of preschool children.

#### ***2.2.6. Learning - definitions***

Allport (1963) defines learning as the modification of psychological



characteristics resulting from experience.

Marx(1970) defines learning as more or less permanent changes in behaviour attributable either to reinforcement or to classical conditioning.

Earnest (1972) defined learning as the process by which an activity originates or is changed through reacting to an encountered situation, provided that the characteristics of the change in activity cannot be explained on the basis of native response tendencies, maturation, or temporary states of the organism.

Hurlock (1973) defines learning as the development which is brought about partly by a cause which results from the activities of the child himself.

Shepperd and Willoughby (1975) defines learning as the process by which changes in behaviour occurs as function of an organisms interaction with the environment, excluding such short term changes that results from such factors as fatigue, drugs, altered psychological states etc.

According to Faw (1989), learning is typically inferred process in which one observes a change in behaviour that does not result from the physical maturation or deterioration of the organism, states of fatigue or arousal or other transient physical states of the organism.

Morgan et al (1996) defines learning as any relatively permanent change in behaviour that occurs as a result of practice or experience.

### ***2.2.6.1 Determinants of learning***

Ebbeck & Ebbeck (1974), says that if we are encouraging learning by discovering, then the atmosphere should be one which promotes the seeking of new knowledge and the exploring of new and interesting situations. It should be an environment full of opportunities for experiences which lead to good learning.

According to Stott (1974) since the child is constantly doing something, he is constantly learning something. The conditions about him, the events that happen to him or about him the attitudes and behaviours of others towards him and many other aspects of his daily milieu, all conspire to determine what he learns. But subjective or inner factors play a vital role as conditions of learning.

Karlin (1975) says that children learn best when they are relieved of undue pressure to compete and when they feel reasonably confident that they can accomplish what is expected of them and they learn best when their efforts are appreciated by their teacher and their classmates. According to him, learning opportunities are richer for children when they are not restricted to the things the teacher knows.

Mac ginitie (1976) says that the amount of actual writing will depend on the child's experiences and interest as well as intellectual, physical and emotional maturity.

According to Hurlock (1976) since learning to read is one of the principal components, of the first grade curriculum the child who is ready to read makes better adjustments to school than one who is not ready . He adds that reading readiness is greatly enhanced by good family relationships and by a home environment that shows a respect for and an interest in the printed word.

In the words of Ollila (1980), the amount of actual writing will depend on the child's experiences and interest as well as intellectual, physical and emotional maturity. Formal writing instruction is not included in nursery school and is not usually undertaken in kindergarten.

#### **2.2.6.2. Family**

Helen (1972) says that through play, children develop motor co-ordination and intellectual skills, and thus sibling play is an important mode of learning.

Stott(1974) says that since the child is constantly doing something, he is constantly learning something. The conditions about him, the attitudes and behaviours of others towards him especially family members and many other aspects of his daily milieu all conspire to determine what he learns. But subjective or inner factors play a vital role as conditions of learning.

According to Helms & Turner (1976) the type of family setting that the child is brought up in, particularly its socio economic level is thought to have considerable emphasis on language growth.

Smart and Smart (1986) states that preschool children's intelligence, language development, learning style and general competence are related to their mother's method of teaching them and guiding their daily lives.

According to Stevenson & Barber (1987), parental involvement is a key mediator between background factors such as parent education and academic achievement.

#### **2.2.6.3. Peers**

Peer interaction occurs more in open or unstructured programmes with fewer teacher directed activities like lessons (Miller and Dyer 1975)

Smith (1982) says that peers can form attachments to one another, but more importantly they provide stimulation to each other and shared interests at a similar cognitive level.

Children's competence in Chicago study by Clarke - Steward (1984) was however correlated with the number of different children with whom they interacted with in the centre care setting.

According to Denham and Holt (1993) the child's relationship his peer group is likely to influence his self concept and therefore have an effect upon his achievement in school.

#### **2.2.6.4. Mass media**

The mass media of communication, especially television are extremely popular with children. The relation between television and reading appears

to depend to a considerable extent, on the nature of the programme. Teavelogues, science programmes and biographical and historical presentations probably serve to encourage some children to read more widely. (Rouch et al 1976).

With younger children it is effective to have story telling period with a make believe microphone. Such stimulated 'broad casts' may serve to encourage the A shy child who normally would hesitate to speak before a group. Visits to local radio studios will furnish ideas for procedures and physical settings. (Dallmann et al 1978).

The opportunity to present a discussion of childrens books on radio or television can serve as powerful motivation for children to r ead many books.

According to Cohen and Manion (1985) radio, television, video recorder, record player, tape recorder, cassette tape recorder, microphone, loud speaker, movie projector, skip projector etc. will facilitates learning.

By about 2½ years of age, a child shows real interest in radio listening. His interest in learning increases every year. It helps to increase child's knowledge about history, geography etc. It improves his vocabulary and grammer . (Pettit et al 1988).

Learning clear pronounciation and the sense of rhythm are advantages of TV viewing. He will able to develop better social outlook( Goswami 1991)

#### **2.2.6.5. Intelligence**

In the words of Watson, (1969), intelligence is related to learning. According to him, one learns more and faster because of more efficient intellectual functioning . He adds that, intellectual development and learning are inextricably intertwined intellectual development results in gaining knowledge, and this is a result of learning.

According to Harris (1972), the most important single factor in learning is general intelligence, which being an average of many phases of mental growth is significantly belated to most of the other factors.

In the words of Hurlock (1973) the relationship between intelligence and speech has been found to be so marked that it is frequently claimed that the child's speech is the best single indicator of his intellectual level, which in turn influences learning. This holds true not only for the onset of speech and intelligibility at early ages but also for the size of vocabulary at different ages throughout childhood.

Karlin (1975) says that intelligence is a major factor in learning to read. However, the possession of high intelligence is no guarantee of reading success., and furthermore, high mental age does not assure success in beginning reading.

According to Dallmann et al (1979) intelligence is the rate at which an individual is able to learn, and the rate of growth in reading is affected by intelligence. If intelligence is thought of as an inherited ability, the role

of the school and the teacher is to provide an environment that will help the child function up to his ability.

#### **2.2.6.6. Constraints on learning**

According to Mussen et al (1969) children from bilingual homes, in general, have greater difficulty than those from monolingual homes in learning. However if the child is taught in school, the potentially deleterious effects bilingual atmosphere are likely to be reduced.

Earnest (1972) says that, the teacher as a parent figure may arouse false expectations or reinstate continuing battles, some symbols used in teaching may be so freightened with personal meanings as to be defended against conflicts over authority may result in non reading or in spelling handicaps, for no subject matter is clothed more with arbitrary authority than English pronunciation and spelling.

Bradley and Caldwell (1976) says that high levels of noise and stimulation from which the child cannot escape adversely affect cognitive development. If the home is noisy, small and over crowded with the TV on most of the time and with too much stimulation from the family members or visitors, the cognitive level of the child may be depressed.

According to Dallmann et al (1979), fear of loss of parental love or fear of punishment and satisfaction from approval and love are powerful motivating forces in learning at all ages, especially in childhood.

#### ***2.2.6.7. Role of rewards and punishment in learning***

Learning in a punishment situation is considerably different from what has commonly been supposed. Punishment can have quite varied and apparently unpredictable effects upon behaviour. It surely is not the case that punishment just weakens the response upon which the punishing stimulus is made contingent. There are situations in which punishing a response appears to strengthen it (Miller 1963) .

Reward normally considered by learning theorists to be effective in modifying responses alone is shown possibly to be effective in modifying even fundamental preceptions. (Marx 1972)

According to Kundu (1989), punishment if too severe, or inflicted when the reason for punishment is not clear and acknowledged, may breed resentment, antagonism, and desire to avoid the form of learning to which it is attached.

A sense of accomplishment may sometimes be included by an artificial or even unjustified reward, but it is far better grounded if based on the pupils awareness of real success in learning. The rewarding nature of felt progress helps to explain the stimulating effects of progress charts and similar evidence of educational achievement and there is a close relationship between awards and the next form of extrinsic motivation, namely, knowledge of progress.



According to Feldman, (1977), the major mechanism underlying learning is reinforcement, the process by which a stimulus increases the probability that a preceding behaviour will be repeated. Primary reinforcers involve rewards that are naturally effective without prior exposure because they satisfy a biological need. Secondary reinforcers in contrast begin to act as if they were primary reinforcers through frequent pairings with a primary reinforcers.

#### **2.2.6.8 Theories of learning**

##### **2.2.6.8.1. *Hull's Theory***

Hull's theory is avowedly mechanistic and studiously avoids reference to consciousness. Its central concept is habit and it derives most of its information about habit from experiments with conditioned responses. He has adopted Thorndike's law of effect. Hull substitutes a positive programme of trying to explain purposes, insights and other phenomena difficult for a behaviourism to encompass. One of Hull's principal theoretical contributions is a definite and workable conceptualisation of the distinction between learning and performance - more specifically, of the contributions of learning and motivational conditions to the determination of behaviour at any time. The effects of prior learning are represented in the concept of habit, including inhibition which may be viewed as a sort of negative habit. Behaviour at any time is taken to be a joint function of habit and drive.

#### ***2.2.6.8.2. Stimulus - Response Theories***

Stimulus Response theories include those of Thorndike, Hull, Guthrie, Spence and Skinner. The basic account of learning by the SR theorist is in terms of responses to stimuli. Thus for the SR theorist what is learned is a system of habits, each habit involves a specific response to a specific stimulus or situation, with complex habits being “built up” as a compounding of simple habits.

Practice, according to the SR theorist result in an assembly of habits which, if they are appropriate to the solution of a new problem, will bring it about. If not, the learner engages in trial and error behaviour until a solution is reached. The solution when attained, establishes a new habit, and so forth. Thus the SR theorist believes that complex problem solving and cognitive activity may be deduced from the principles of habit formation.

#### ***2.2.6.8.3. Ethological theory***

It was proposed by Bowlby in 1969. According to this theory, infants are born with a set of behaviours that elicit parent care and so increase the infants chances of survival. These attachment facilitating behaviours include sucking, clinging, crying, smiling, gazing of the care giver’s face and crawling after the care giver. As infants emit these behaviours, they elicit attention and caring behaviour from adults. This in turn forms the foundations for the development of the reciprocal bonds of attachment.

#### ***2.2.6.8.4. Vygotsky's socio cultural theory***

According to Vygotsky, infants are endowed with basic perceptual, attentional and memory capacities that are shared with other animals. These undergo a natural course of development during the first 2 years through simple and direct contact with the environment. But once children became capable of mental representation especially through language, their ability to participate in social dialogues is enhanced. Soon young children start to communicate with themselves in much the same way that they converse with others. As a result, basic mental capacities are transformed into uniquely human higher cognitive process.

#### ***2.2.6.9. Evaluation of literature and position of the present study***

All port (1963), Marx (1970), Earnest (1972) Hurlock (1973), Shepperd and Willoughby (1975), Faw (1989) and Morgan (1996) have defined learning in different ways.

Ebbeck and Ebbeck (1974), Stott (1974), Karlin (1975), Macginitie (1976), Hurlock (1976) and Ollila (1980) have explained about the determinants of learning. Helen (1972), Stott (1974), Helms and Turner (1976), Smart and Smart (1986) and Stevenson and Barber (1987) have given the importance of family in learning. Smith (1982), Denham and Holt (1993), Miller and Dyer (1975), Clarke - Stewart (1984) have stressed the role of peers in cognition Rouch (1976), Dallmann (1978), Cohen and Manion (1985), and Goswami (1991) have stated the significance of mass media in learning.

Watson (1969), Harris (1972), Hurlock (1973) Karlin (1975), and Dallmann (1979) have given the importance of intelligence in learning. Constraints on learning was stated by Mussen (1969), Earnest (1972) and Caldwell (1976).

Hence it can be seen that there are no studies giving a significant view about the stimulations offered from the home and school environment and its influence on learning.

## **METHODS OF INVESTIGATION**

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The present study brings to limelight the impact of environmental stimulation on temperament and learning ability of preschool children.

Walker (1985) states that methodology should specify method but only in order to justify their use for defined purposes in specified situations and circumstances.

### **3.1. Nature of the study**

The present study is basically correlative in nature, giving due and equal emphasis to the relevant and pertinent aspects pertaining to the arena of temperament and learning ability of preschool children. According to Gupta (1988), correlation is an analysis of the covariation between two or more variables.

The factors which arose for consideration in this study are (a) temperament which comprises factors activity, emotionality and sociability and (b) learning ability.

For the present study, the correlation of home environment and school environment with temperament and learning ability are analysed.

ANOVA was applied to find out the variations of temperament and learning ability among districts.

### **3.2. Design of study**

The methods used to test the hypotheses in connection with the present study are discussed under six sections namely (1) the sample (2) the tools (3) description of the tools (4) pilot study (5) data collection / main study procedure and (6) statistical technique.

#### **3.2.1. The sample**

Pillai (1989) says that sampling are devices for learning about large

masses by observing a few individuals. The course of investigation in the present study was set rolling by selecting 50 subjects from the upper kindergarten each from Trivandrum, Thrissur and Kozhikode districts since these are the Southern Central and Northern regions of Kerala.

The proper age group which was found most congenial and appropriate for the study was of five years since the rate of growth and development is fast at this stage, and any stimulation will have its maximum effect during the early childhood.

As the tests were time consuming, the sample size was reduced to 150. The subjects were collected from a cross section of the preschool group selected from different schools at Trivandrum, Thrissur and Kozhikode districts. It was decided to select five urban, co-education schools from each district and ten children were taken from each school.

For the present investigation the investigator, had to administer the tests directly with the children for measuring learning ability and since these tests were time consuming, those schools who were co-operative with the study were considered.

Selecton of sample from each school was done using the technique of random sampling. In the view of Potti (1991) random sampling can be done by two methods, (a) lottery method (b) from the table of random numbers. For the present investigation, lottery method was used.

**Table 3.1****Distribution of the sample in Trivandrum district**

Sl.No.	Name of School	Type of School	Number of children	
			Boys	Girls
1	Good Shepherd	Co-education	5	5
2.	Hari Sree	”	5	5
3.	Nirmala Bhavan	”	5	5
4.	Tiny Tots	”	5	5
5.	Trinity School	”	5	5

**Table 3.2****Distribution of the sample in Thrissur district**

Sl.No.	Name of School	Type of School	Number of children	
			Boys	Girls
1	Sacred Heart	Co-education	5	5
2.	Holy Family	”	5	5
3.	Nirmala Matha	”	5	5
4.	Hari Sree	”	5	5
5.	Don Bosco	”	5	5



**Table 3.3**

**Distribution of the sample in Kozhikode district**

Sl.No.	Name of School	Type of School	Number of children	
			Boys	Girls
1	St. Pauls	Co-education	5	5
2.	Vimala School	”	5	5
3.	Sucha Nilayam	”	5	5
4.	Chempaka	”	5	5
5.	Islahia	”	5	5

Five co-education schools each from Trivandrum, Thrissur and Kozhikode districts were selected for the study. Equal number of boys and girls were selected from each school. A total number of 10 subjects have been considered from each school.

### **3.2.2. The tools**

Selection of an appropriate tool is the most important part of conducting a research. The various tools used for the present study are as follows.

- a) Questionnaire to measure the stimulation in the home environment for the parents developed by the investigator.
- b) Questionnaire for the teachers to assess the stimulation in the school environment developed by the investigator.
- c) Behavioural Style questionnaire developed by Mc Devitt and Care (1978) for assessing temperament.
- d) Tests constructed by the investigator for measuring learning ability.

#### ***3.2.2.1. Construction of tools***

No educationalist/psychologist is so far known to have developed a tool which includes the factors that had been considered in the present study for measuring the stimulation in the home and school environment.

It was decided to construct the tools for the present study. It includes two process (1) Preliminary processing (2) Secondary processing.

##### ***3.2.2.1.1 Preliminary Processing***

It consists of three processes. (a) series of informal talk with the parents and the teachers of preschool children. (b) collecting information from the

available literature and (c) discussion with the experts in the field.

Considering the views of Agnihotri (1998) and Devi (1998), the factors which arise for consideration under home environment are exposure to objects and media, verbal and psychological interaction between the parents and children and the time spent together with the parents and children.

The questionnaire for measuring the school environment has been developed based on the views of Sylva and Lunt (1982). It comprises the factors availability of equipment in the school environment, time allotment for individual and group activities, teacher - pupil interaction and teaching methods.

Tests for learning ability have been developed taking into account the views of Hart and Milbreath (1982) which states that readiness tests to assess reading and writing should measure the ability to discriminate between alphabets, words, between objects, pictures and should also include the activities for drawing and colouring and others which help in the development of finer motor skills.

The Behavioural Style questionnaire developed by Mc Devitt and Care (1978) was used for measuring temperament.

#### ***3.2.2.1.2. Secondary processing***

A pre - pilot study was conducted among fifteen preschool children in order to know the areas which had to be included for the learning ability

tests. The tests given included the identification and matching of letters and words, identifying pictures, ability to trace shapes, to build structures using blocks, to make objects using colour papers, to thread the beads and to identify the missing letter of the words given. As children could not find out the missing letters of the words given, those questions were excluded from the tests constructed for learning ability. The questionnaire for the parents and teachers were also subjected to pre-pilot study and no modification was made in them.

### **3.2.3. Pilot study**

A pilot study was undertaken immediately after formulating the tools for the present investigation. The pilot study was conducted among fifty preschool children with equal number of boys and girls. Questionnaire for the parents and teachers were also subjected to pilot study.

### **3.2.4. Reliability**

Test - re test method was applied to find out the reliability of the learning ability tests. The reliability coefficients were calculated for the questionnaires given for the parents and teachers, using split half method applying Spearman Brown Prophecy formulae.

The reliability coefficients obtained for the tests constructed by the investigator using a sample of 50 children are shown in the following table.

**Table 3.4**

**Reliability coefficients**

<b>Test</b>	<b>Method</b>	<b>Co-efficient obtained</b>
Learning ability	Test re test	0.92
Questionnaire for measuring stimulation in the home environment	Split Half	0.86
Questionnaire for measuring stimulation in the school environment	Split Half	0.90

A study of table (3.4) indicates that the reliability coefficient for all the tests constructed are significant. From this it is clear that all the tests used are highly reliable.

**3.2.5. Validity**

The questionnaires and the learning ability tests constructed by the investigator were prepared after a through review of literature on related topics. A first hand knowledge about the problem was acquired by the investigator by making informal interviews with the parents and teachers of the preschool children. The investigator discussed the various aspects of the problems with the experts in the field. Therefore content validity was taken into account in the present study as all the relevant content areas

were adequately represented in the questionnaires constructed.

### **3.2.6. Description of tools**

#### ***3.2.6.1. To assess stimulation in the home environment***

The stimulation in the home environment was measured using the questionnaire developed by the investigator. It consists of questions which elicit information regarding the stimulation given through the following factors.

- (1) Exposure to objects and media
- (2) Verbal interaction
- (3) Psychological interaction
- (4) Time spent (quantitative) among parents and children.
- (5) Time spent (qualitative) among parents and children.

There were a total number of twenty five questions spreading five questions under each factor of home environment. The question numbers and the number of questions coming under each category are given in details in appendix I.

#### **Scoring pattern**

The questionnaire for measuring the stimulation in the home environment consists of twenty five questions. Each questions is scored on a 3 point rating scale. The alternatives being most of the time, at times or rarely. The maximum score a child can get is 75 and the minimum score

is 25. The parents were instructed to tick the alternative which suits them most. Accordingly scores were awarded. The scores for each alternative are shown below.

Most of the time	-	3
At times	-	2
Rarely	-	1

For each aspect of home environment, the maximum score a child can be obtained is 15 and the minimum score is 5. The higher the scores obtained, the more will be the stimulation received.

#### ***3.2.6.2. To assess the stimulation in the school environment.***

Questionnaire was developed by the investigator for measuring the stimulation in the school environment. It includes questions which elicit information regarding the stimulation given through

- (1) the availability of equipment (toys and educational materials)
- (2) time allotment for individual activities
- (3) time allotment for group activities
- (4) teacher - pupil interaction and
- (5) teaching methods

The questionnaire consists of a total number of twenty five questions out of which each five questions were to determine the five factors of school environment (vide appendix II).

### **Scoring pattern**

The questionnaire to elicit information regarding the stimulation in the school environment consists of twenty five questions. Each question is scored on a 3 point rating scale, the alternatives being most of the time, at times or rarely. The maximum score a child can be obtained is 75 and the minimum score is 25. The teachers were instructed to tick the alternative which suits them most. The scores for each alternative are as follows.

Most of the time	-	3
At times	-	2
Rarely	-	1

The maximum score that each child can score for each aspects of school environment is 15 and the minimum score is 5. The higher the scores obtained, the more will be the stimulation received.

#### **3.2.6.3. To assess the temperament**

The Behavioural Style Questionnaire developed by Mc Devitt and Care (1978) was used for measuring temperament. It comprises of questions which elicit information regarding the (1) activity (2) emotionality and (3) sociability of children.

There were a total number of thirty questions scattering ten questions under each factor (Appendix IV).

The measurement of activity includes to assess whether the child



remains active or passive at different situations. Emotionality has been measured in terms of the frequency in which the child change his emotions and the intensity of the emotions expressed. Sociability in the present study includes the tendency to form friendships and associations, to cooperate and converse socially with others and to join groups. Temperament is measured in terms of higher activity, higher sociability and emotional stability.

### **Scoring pattern**

The questionnaire for measuring temperament consists of thirty questions. Each questions is scored on a 6 point rating scale, the alternative being almost never, rarely, usually does not, usually does, frequently and almost always. The parents were instructed to cross the alternative that is best suited for their child. Accordingly scores were awarded to the children. For a positive behaviour, almost always get 6 and almost never gets one and the vice versa for the negative bahaviour. For activity, emotionality and sociability the maximum score a child can be obtained is 60 each and minimum score is 10 each.

Thus a child can score a maximum of 180 scores and a minimum of 30 scores as a whole for all the three factors. The higher the score indicate higher activity level, higher sociability and higher emotional stability.

#### ***3.2.6.4. For measuring learning ability***

Learning ability was measured using the tests developed by the

investigator. It includes fifteen items which determine the readiness of the children to perform activities related to reading and writing. The test comprises of the following aspects (vide Appendix III)

- (1) Identification of letters and words
- (2) Identification of objects and pictures
- (3) Tracing shapes
- (4) Building structures using blocks
- (5) Making objects using colour paper
- (6) Threading the beads
- (7) Colouring pictures
- (8) Matching letters and words

Children are to be called individually and the materials for administering the tests are to be given one by one.

### **Scoring pattern**

For the first three questions which involves the identification of letters and words, a maximum score of 6 and a minimum of zero are given. The fourth question to identify the odd one has given a maximum score of one and a minimum score of zero. Matching the letters in the fifth question has given one mark for each right answer, thus giving a maximum score of 10 and a minimum score of zero. The sixth and seventh question has given a maximum score of three and the minimum of zero. For finding out the lengthy word in the eighth question, a maximum score of three and a minimum score of zero is given. The maximum and minimum scores that

can be obtained for the ninth question are three and zero. For the tenth question, four and zero are given for the maximum and minimum scores respectively. For the 11th, 12th, 14th and 15th questions, a maximum score of three and a minimum score of zero are given. A maximum of 6 marks and a minimum of zero is given for the 13th question.

The higher the score obtained the better will be the ability to learn.

### **3.2.7. Data collection procedure**

#### ***3.2.7.1. Main study***

The main study was conducted after establishing the reliability and validity of the tools. The temperament and learning ability of 150 preschool children of five schools each from Trivandrum, Thrissur and Kozhikode districts were assessed using the respective tools. Permission to carry out the studies in the schools were sought in advance from the school authorities. The time was also fixed to conduct the investigation in each school.

As all the tests were individuals, it was decided to conduct them in a separate room near the class room. For this purpose all necessary arrangements were done and children were called individually and after developing a rapport with them, tests were administered. After that, questionnaires for the teachers and parents were given. The questionnaire for the parents were handed over to them by the respective teachers. They were collected back after three days. The study was completed in a time frame of six months.

### 3.2.8. Statistical technique

The data collected were compiled and analysed statistically. The important statistical techniques used in the present investigation to facilitate the analysis and interpretation of data are

1. Anova
2. 't' test
3. Correlation

ANOVA was administered to find out whether there is any significant difference in the total scores obtained among districts with regard to dependent and independent variables.

't' test was used for comparing the scores obtained for each factors among districts. The formula used for calculation of 't' is

$$t = \frac{x_1 - x_2}{\sqrt{\frac{S_1}{n_1} + \frac{S_2}{n_2}}}$$

Pearson's coefficient of correlation was used to find out the correlation of each factors of home and school environment with the study variables. The fomula employed for calculation of Pearson's co-efficient of correlation was

$$r = \frac{N\sum xy - \sum x \times \sum y}{\sqrt{(N\sum x^2) - (\sum x)^2 (N\sum y^2) - (\sum y)^2}}$$

Where 'N' is the total numbr of samples.

## RESULTS

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To facilitate better understanding and to provide clarity and distinctiveness, the collected data were analysed statistically.

For ease of understanding and for convenience, the results are presented as follows.

*Part I* - Correlation analysis which analyse the correlation of home environment and school environment including its aspects with the factors of temperament and learning ability.

*Part II* - ANOVA to find out the difference of dependent and independent variables among districts.

*Part III* - 't' test to compare the difference of home environment and school environment and temperament and learning ability among districts.

## **PART I**

### **Section I**

Section I deals with the influence of home environment and school environment in general with the temperament and learning ability of preschool children.

**Table 4.1**

#### **Correlation of home environment with temperament**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Home environment Temperament	150	0.892	0.01

The results obtained from Table 4.1, clearly depict that there is a significant correlation between home environment and temperament of preschool children. Hence the hypotheses (1.6.1.a) which states that the home environment will influence the preschool children with regard to temperament can be favourably accepted.

**Table 4.2**

#### **Correlation of home environment with learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Home environment Learning ability	150	0.912	0.01

The results obtained (vide, Table 4.2, 'r' = 0.912 p<0.01) show that there is a significant correlation between home environment and learning ability of preschool children. Thus the hypotheses 1.6.1.b which states that the home environment will influence the preschool children with regard to learning ability can be accepted.

**Table 4.3**

**Correlation of school environment with temperament**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
School environment Temperament	150	0.74	0.01

The results obtained (vide, Table 4.3, 'r' = 0.74, P<0.01) reveal that there is a significant correlation between school environment and temperament of preschool children. Hence the hypothesis 1.6.2.a which states that the school environment will influence the preschool children with regard to temperament is accepted.

**Table 4.4**

**Correlation of school environment with learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
School environment Learning Ability	150	0.73	0.01

The results indicate a significant correlation between school environment and the learning ability of preschool children (vide Table 4.4, 'r' = 0.73 P <0.01) Hence the hypotheses 1.6.2. b stating that the school environment will influence the preschool children with regard to learning ability is accepted.

## Secton II

Section II deals with the influence of the factors of home environment with the factors of temperament and learning ability. The results obtained are presented in the following tables.

For reducing the number of tables, the factors of temperament are compiled together in one table with every aspect of home environment.

**Table 4.5**

**Correlation of exposure to objects and media on activity,  
emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Exposure to objects and media			
Activity	150	0.415	0.01
Emotionality		0.432	0.01
Sociability		0.502	0.01



The results from Table 4.5 shows that there is a correlation between exposure to objects and media and activity, emotionality and sociability of preschool children. Thus the hypotheses 1.6.1.1.a.b.c which states that exposure to objects and media will influence the preschool children with regard to activity, emotionality and sociability are accepted.

**Table 4.6**

**Correlation of exposure to objects and media on learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Exposure to objects and media Learning ability	150	0.562	0.01

The results obtained from Table 4.6 indicate a correlation between exposure to objects and media and learning ability. Thus the hypotheses 1.6.1.1.d which states that exposure to objects and media will influence the preschool children with regard to learning ability is accepted.

**Table 4.7**

**Correlation of verbal interaction with activity,  
emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Verbal interaction	150		
Activity		0.639	0.01
Emotionality		0.654	0.01
Sociability		0.646	0.01

The results indicate a correlation between verbal interaction and activity, emotionality and sociability of preschool children. Thus the hypotheses 1.6.1.2. a.b.c. which states that verbal interaction will influence the preschool children with regard to activity, emotionality, and sociability are accepted.

**Table 4.8**

**Correlation of verbal interaction with learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Verbal interaction	150		
Learning ability		0.692	0.01

Table 4.8 clearly depict that there is a correlation between verbal interaction and learning ability of preschool children. Hence the hypotheses 1.6.1.2.d which states that verbal interaction will influence the preschool children with regard to learning ability is accepted.

**Table 4.9**

**Correlation of psychological interaction with activity,  
emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
psychological interaction	150		
Activity		0.613	0.01
Emotionality		0.678	0.01
Sociability		0.648	0.01

The results obtained from Table 4.9. reveal that there is a correlation between psychological interaction and activity, emotionality and sociability of preschool children. Thus the hypothesis 1.6.1.3. a.b.c. which states that the psychological interaction between the parents and children will influence the preschool children with regard to activity, emotionality and sociability are accepted.

**Table 4.10**

**Correlation of psychological interaction with learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Psychological interaction Learning ability	150	0.722	0.01

The table 4.10 clearly depict that there is a correlation between psychological interaction among parents and children with learning ability. Hence the hypotheses 1.6.1.3.d. which states that the psychological interaction between the parents and children will influence the preschool children with regard to learning ability is accepted.

**Table 4.11**

**Correlation of time spent (quantitative) with parents and children on activity emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of Significance</b>
Time spent (Quantitative) Activity	150	0.621	0.01
Emotionality		0.687	0.01
Sociability		0.687	0.01

The results obtained from Table 4.11 shows that there is a correlation between time spent (quantitative) with parents and children and activity, emotionality and sociability of preschool children. Hence the hypotheses which states that time spent (quantitative) together with parents and children will influence the preschool children with regard to activity (1.6.1. 4.a) emotionality (1.6.1.4.b) and sociability (1.6.1.4.c) are accepted.

**Table 4.12**

**Correlation of time spent (quantitative) with parents and children on learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of Significance</b>
Time spent (Quantitative) Learning ability	150	0.784	0.01

From the Table 4.12, it is clear that there is a correlation between time spent (quantitative) among parents and children and learning ability. Thus the hypotheses 1.6.1.4.d. which states the time spent (quantitative) together with parents and children will influence the preschool children with regard to learning ability is accepted.

**Table 4.13**

**Correlation of time spent (qualitative) among parents and children on activity, emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Time spent (Qualitative)	150		
Activity		0.425	0.01
Emotionality		0.430	0.01
Sociability		0.493	0.01

The results obtained from Table 4.13 clearly depict that there is a correlation between time spent (qualitative) among parents and children and activity, emotionality and sociability of preschool children. Thus the hypotheses which states that the time spent (qualitative) with parents and children will influence the preschool children with regard to activity (1.6.1. 5. a), emotionality (1.6.1.5.b) and sociability (1.6.1.5.c) are accepted.

**Table 4.14**

**Correlation of time spent (qualitative) among parents and children on learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Time spent (qualitative)	150		
Learning ability		0.523	0.01

The table 4.14 shows that there is a correlation between time spent (qualitative) among parents and children and learning ability of preschool children. Thus the hypotheses 1.6.1.5.d which states that the time spent (qualitative) with parents and children will influence the preschool children with regard to learning ability is accepted.

### **Secton III**

This section deals with the influence of the factors of school environment with the factors of temperament and learning ability.

For facilitating better presentation and to reduce the number of tables, the factors of temperament are presented together in one table with every factor of school environment.

**Table 4.15**

#### **Correlation of availability of equipment with activity, emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Availability of equipment	150		0.01
Activity		0.254	
Emotionality		0.211	
Sociability		0.286	

From table 4.15, it is clear that there is a correlation between the availability of equipment in the school environment with activity, emotionality and sociability of preschool children. Thus the hypotheses which states that the availability of equipment in the school environment will influence the preschool children with regard to activity (1.6.2.1.a), emotionality (1.6.2.1.b) and sociability (1.6.2.1.c) are accepted.

**Table 4.16**

**Correlation of availability of equipment with learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Availability of equipment Learning ability	150	0.292	0.01

From the table 4.16, it can be concluded that there is a correlation between the availability of equipment in the school environment and learning ability of preschool children. Hence the hypothesis 1.6.2.1.d which states that the availability of equipment in the school will influence the preschool children with regard to learning ability is accepted.



**Table 4.17**

**Correlation of time allotment for individual activities with activity, emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Time allotment for individual activities	150		0.01
Activity		0.247	
Emotionality		0.303	
Sociability	0.355		

The results obtained from Table 4.17 reveal that there is a correlation between time allotment for individual activities and activity, emotionality and sociability. Thus the hypotheses which states that individual activities will influence the preschool children with regard to activity (1.6.2.2.a) emotionality (1.6.2.2.b) and sociability (1.6.2.2.c.) are accepted.

**Table 4.18**

**Correlation of time allotment for individual activities on learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Time allotment for individual activities Learning ability	150	0.433	0.01

From the Table 4.18 it is clear that there is a correlation between time allotment for individual activities and learning ability. Hence the hypotheses (1.6.2.2.d) which states that time allotment for individual activities will influence the preschool children with regard to learning ability is accepted.

**Table 4.19**

**Correlation of time allotment for group activities with  
activity, emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Time allotment for Group activities	150		
Activity		0.342	0.01
Emotionality		-0.092	N.S.
Sociability		0.592	0.01

The results obtained from Table 4.19 clearly depict that there is a correlation between time allotment for group activities and activity and sociability. Emotionality of the preschool children is seen not influenced by the time allotment for group activities ( $r' = -0.092, P > 0.01$ ).

Hence the hypotheses which states that the time allotment for group activities will influence the preschool children with regard to activity (1.6.2.3.a) and sociability (1.6.2.3.c) are accepted. The hypotheses which states that the time allotment for group activities will influence the preschool children with regard to emotionality (1.6.2.3.b) is rejected.

**Table 4.20****Correlation of time allotment for group activities on learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Time allotment for group activities Learning ability	150	-0.096	N.S.

It can be inferred from Table 4.20 that there is no correlation between time allotment for group activities and learning ability. Thus the hypotheses (1.6.2.3. d) which states that time allotment for group activities will influence the preschool children with regard to learning ability is rejected.

**Table 4.21**

**Correlation of teacher - pupil interaction on  
activity, emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Teacher - pupil interaction	150		
Activity		0.22	0.01
Emotionality		0.311	0.01
Sociability		0.275	0.01

The results from Table 4.21 indicate a correlation between teacher - pupil - interaction and activity, emotionality and sociability. Hence the hypotheses which states that teacher -pupil interaction will influence the preschool children with regard to activity (1.6.2.4.a) emotionality (1.6.2.4.b) and sociability (1.6.2.4.c) are accepted.

**Table 4.22**  
**Correlation of teacher - pupil interaction on learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Teacher - pupil interaction			
Learning ability	150	-0.27	0.01

The results obtained from 4.22 reveal that there is a correlation between teacher-pupil interaction and learning ability. Hence the hypotheses 1.6.2.4.d which states that teacher-pupil interaction will influence the preschool children with regard to learning ability is accepted.

**Table 4.23**

**Correlation between teaching methods and activity, emotionality and sociability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Teaching methods	150		
Activity		0.234	0.01
Emotionality		0.280	0.01
Sociability		0.314	0.01

The table 4.23, clearly inferred that there is a correlation between teaching methods and activity, emotionality and sociability. Thus the hypotheses which states that teaching methods will influence the preschool children with regard to activity (1.6.2.5. a) emotionality (1.6.2.5.b) and sociability (1.6.2.5. c) are accepted.

**Table 4.24**

**Correlation of teaching methods and learning ability**

<b>Variables</b>	<b>N</b>	<b>Coefficient of correlation</b>	<b>Level of significance</b>
Teaching methods	150	0.314	0.01
Learning ability			

It is clear from from Table 4.24 that there is a correlation between teaching methods and learning ability. Hence the hypotheses (1.6.2.5.d) which states that teaching methods will influence the preschool children with regard to learning ability is accepted.

## PART II

**Table 4.25**

### **ANOVA : Difference among districts in general**

N= 150					
Sources of variation	df	Sum of squares	Mean square	F	Level of Significance
Among the means of conditions	2	3352.253	1676.27	15.74	0.01
Within conditions	147	15652.440	106.479		
Total	149				

Table 25 shows that the 'F' value is significant at 0.01 level. To make the picture more clear, 't' value was computed to find out the difference of home environment and school environment between Trivandrum, Kozhikode and Thrissur district. Temperament and learning ability were also found out using 't' test.

### PART III

**Table 4.26**

**Comparison of the scores obtained for home environment in general among districts**

Category	Group	N	Mean value	S.D.	t value	level of significance
Home environment	Trivandrum	50	44.52	10.138	1.920	N.S
	Kozhikode	50	42.60	8.866		
Home environment	Thrissur	50	52.58	6.940	8.060	0.01
	Trivandrum	50	44.52	10.138		
Home environment	Kozhikode	50	42.60	8.866	9.980	0.01
	Thrissur	50	52.58	6.940		

The table 4.26 and figure 4.1 shows that there are differences in the home environment of preschool children among Thrissur and Trivandrum district and between Kozhikode and Thrissur districts. But there is no difference between Trivandrum and Kozhikode district.

Thus the hypotheses 1.6.3.a which states that there will be significant difference in preschool children among Trivandrum, Kozhikode & Thrissur district with regard to home environment is accepted other than between Trivandrum & Kozhikode.

The mean scores obtained reveal that the highest stimulation in the home environment is provided by the Thrissur district.

**Table 4.27**

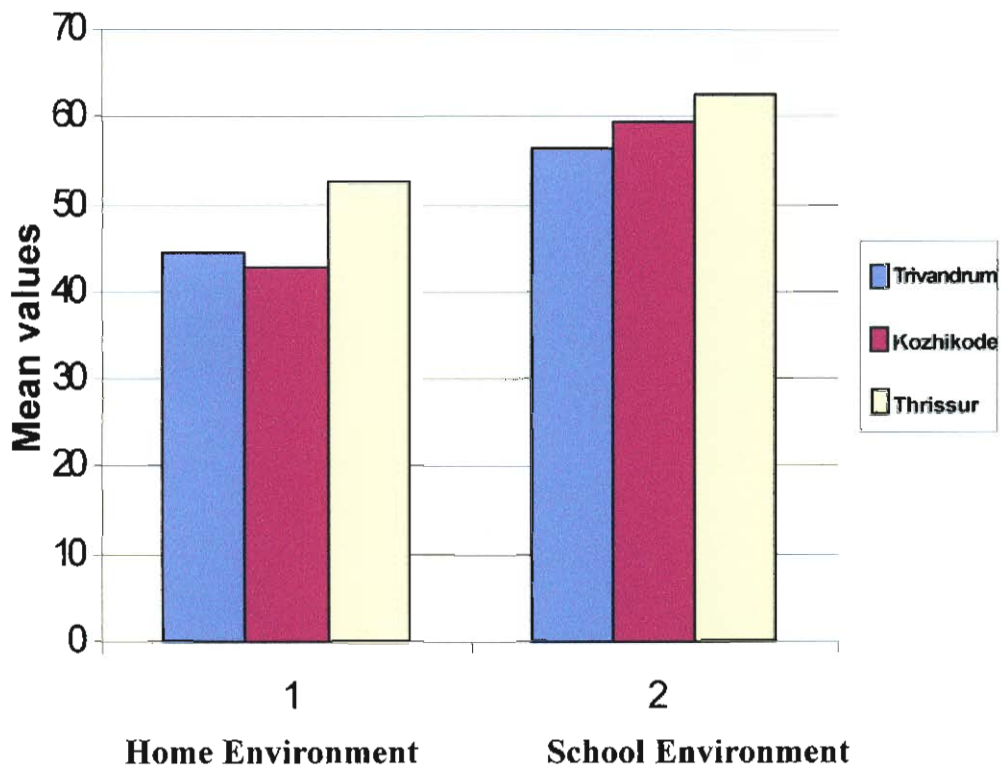
**Comparison of the scores obtained for school environment in general among districts**

Category	Group	N	Mean value	S.D.	t value	level of significance
Schoolenvironment	Trivandrum	50	56.20	8.340	3.200	0.01
	Kozhikode	50	59.40	3.969		
Schoolenvironment	Thrissur	50	62.60	3.476	6.400	0.01
	Trivandrum	50	56.20	8.340		
Schoolenvironment	Kozhikode	50	59.40	3.969	3.200	0.01
	Thrissur	50	62.60	3.476		



It is clear from Table 4.27 and Figure 4.1, that there are differences in the school environment of preschool children among Trivandrum and Kozhikode district and between Thrissur and Trivandrum district and between Kozhikode and Thrissur district.

Thus the hypotheses 1.6.3.b which states that there will be significant difference among preschool children between Trivandrum, Kozhikode & Thrissur district with regard to school environment is accepted. The mean values obtained show that, Thrissur district is providing higher stimulation in the school environment.



**Figure 4.1**  
**Comparison of the home and school environment among districts**

**Table 4.28**

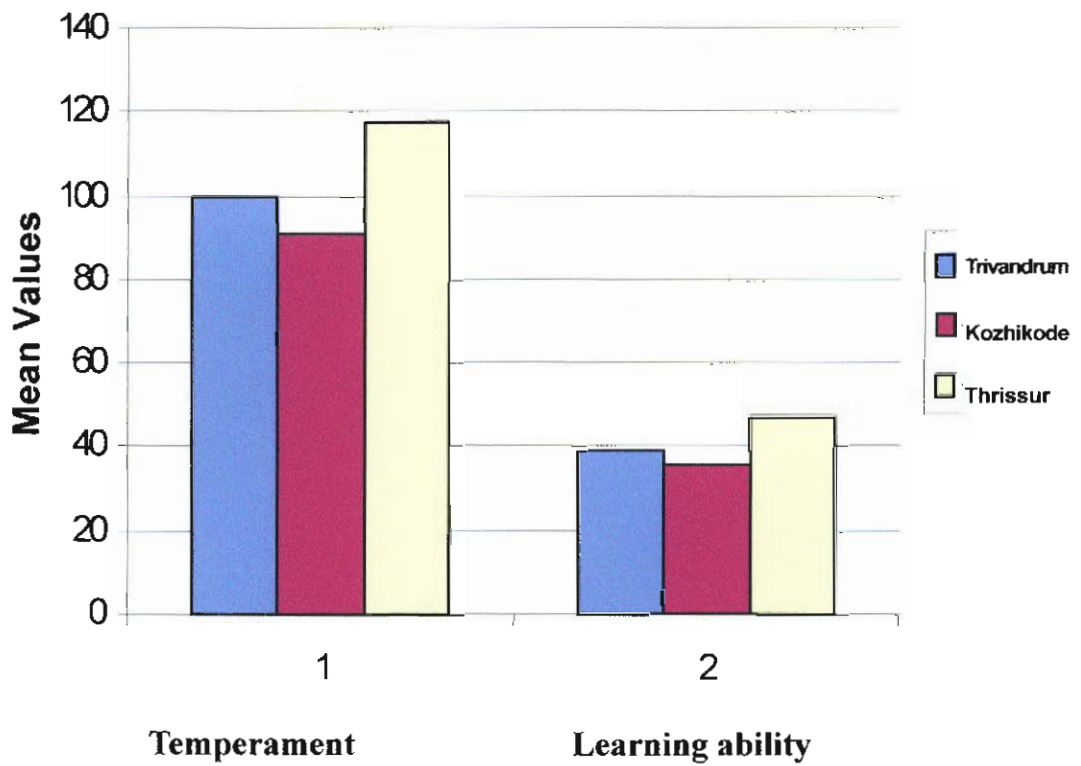
**Comparison of the scores obtained for temperament in general among districts**

Category	Group	N	Mean value	S.D.	t value	level of significance
Temperament	Trivandrum	50	99.540	26.024	8.940	0.01
	Kozhikode	50	90.600	22.736		
Temperament	Thrissur	50	117.180	21.716	17.640	0.01
	Trivandrum	50	99.540	26.024		
Temperament	Kozhikode	50	90.600	22.736	26.580	0.01
	Thrissur	50	117.180	21.716		

It is clear from table 4.28 and Figure 4.2 that there are differences in the temperamental traits of preschool children among Trivandrum and Kozhikode district, Thrissur and Trivandrum district and Kozhikode and Thrissur district.

Thus the hypotheses (1.6.3.c) which states that there will be significant difference among preschool children between Trivandrum, Kozhikode and Thrissur districts with regard to temperament is accepted.

The mean values obtained shows that, children from Thrissur district are showing better temperamental traits.



**Figure 4.2**  
**Comparison of the Temperament and learning ability of children among districts**

**Table 4.29**

**Comparison of the scores obtained for learning ability of children among districts**

<b>Category</b>	<b>Group</b>	<b>N</b>	<b>Mean value</b>	<b>S.D.</b>	<b>t value</b>	<b>level of significance</b>
Learning ability	Trivandrum	50	39.220	10.914	3.640	0.01
	Kozhikode	50	35.580	10.230		
Learning ability	Thrissur	50	46.920	9.781	7.700	0.01
	Trivandrum	50	39.220	10.914		
Learning ability	Kozhikode	50	35.580	10.230	11.340	0.01
	Thrissur	50	46.920	9.781		

It is evident from Table 4.29 and figure 4.2 that there are significant differences among the learning ability of preschool children among Trivandrum and Kozhikode district, Thrissur and Trivandrum district and between Kozhikode and Thrissur district.

Thus the hypotheses (1.6.3.d) which states that there will be significant differences among preschool children between Trivandrum, Kozhikode and Thrissur district with regard to learning ability is accepted.

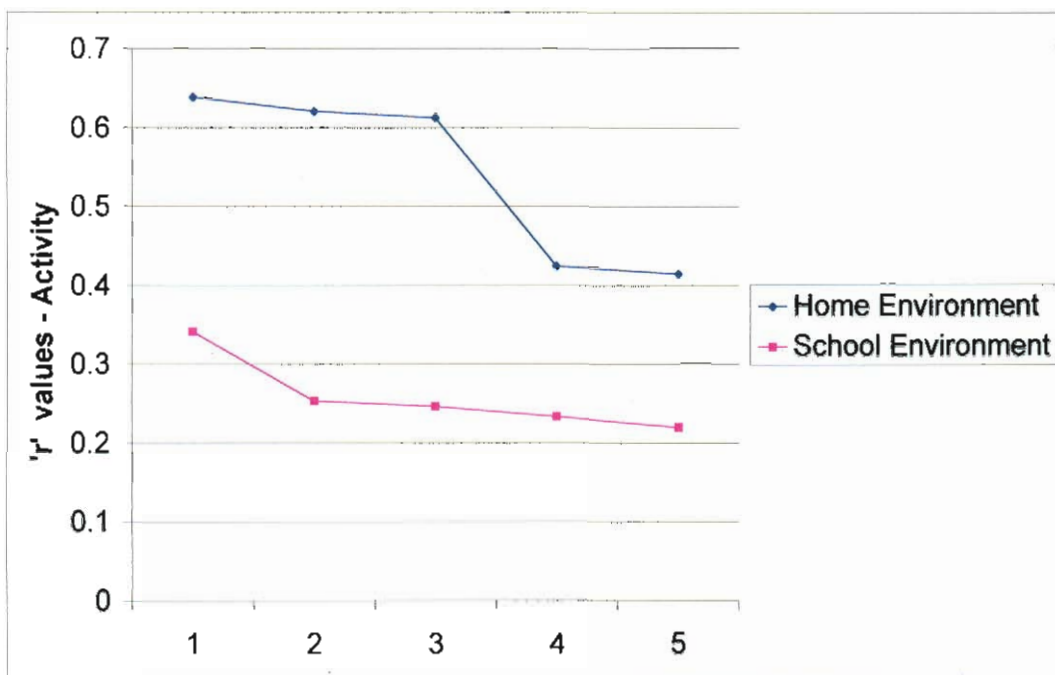
**Table 4.30**

**Pattern of influence of home and school environment on activity in terms of correlation values.**

Pattern of influence is studies based on correlation values. Higher the correlation more the influence of independent variable on dependent variable.

<b>Aspect</b>	<b>Variable</b>	<b>Corelation value</b>
Home Environment	Verbal interaction	0.639
	Time spent quantitatively	0.621
	Psychological interaction	0.613
	Time spent qualitatively	0.425
	Exposure to objects and media	0.415
School Environment	Group activities	0.342
	Availability of equipment	0.254
	Individual activities	0.247
	Teaching methods	0.234
	Teacher -pupil interaction	0.22

Table 4.30 and figure 4.3 shows the influence of each factor of home and school environment on activity. The results indicate that in the home environment, verbal interaction has got higher influence on activity. In the school environment activity is seen mostly influenced by the factor group activities.



***Figure 4.3. Pattern of influence of home and school environment on activity in terms of correlation values***

***Home Environment***

***School Environment***

(1) Exposure to objects and media

(1) Availability of equipment

(2) Verbal interaction

(2) Individual activities

(3) Psychological interaction

(3) Group activities

(4) Time spent quantitative

(4) Teacher pupil interaction

(5) Time spent qualitative

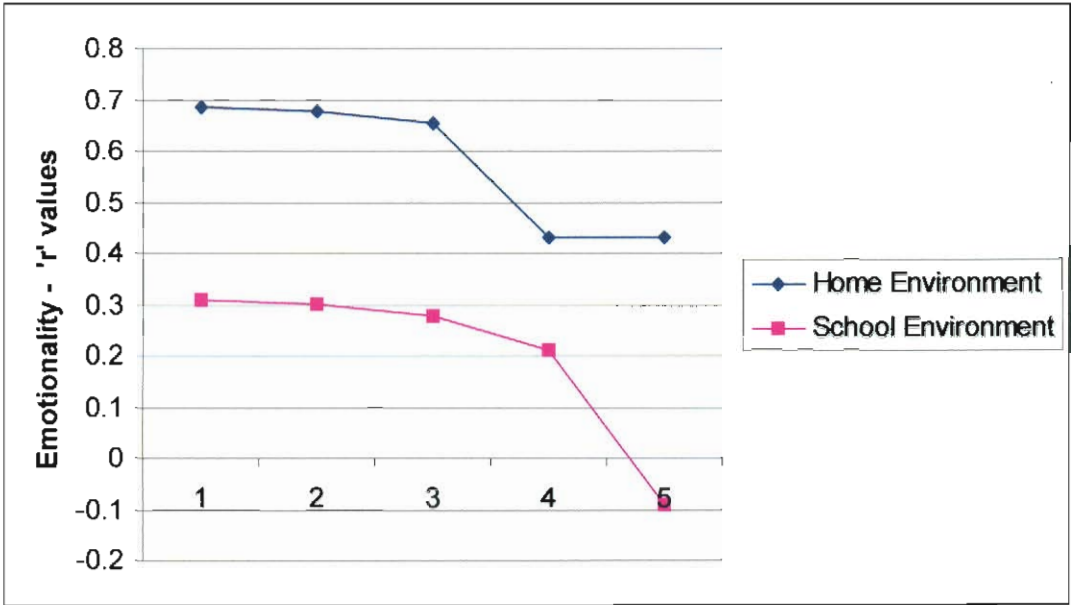
(5) Teaching methods

**Table 4.31****Pattern of influence of home and school environment on emotionality in terms of correlation values.**

<b>Aspect</b>	<b>Variable</b>	<b>Corelation value</b>
Home Environment	Time spent quantitatively	0.687
	Psychological interaction	0.678
	Verbal interaction	0.654
	Exposure to objects and media	0.432
	Time spent qualitatively	0.430
School Environment	Teacher - pupil interaction	0.311
	Individual activities	0.303
	Teaching methods	0.280
	Availability of equipment	0.211
	Group activities	-0.092

Table 4.31 and figure 4.4 shows the influence of each factor of home and school environment on emotionality.. It is clear that in the home environment, time spend quantitatively with parents and children is the most influencing factor of emotionality. In the school environment emotionality is seen mostly influenced by the teacher - pupil interaction.





**Figure 4.4. Pattern of influence of home and school environment on emotionality in terms of correlation values**

***Home Environment***

***School Environment***

- (1) Exposure to objects and media
- (2) Verbal interaction
- (3) Psychological interaction
- (4) Time spent quantitative
- (5) Time spent qualitative

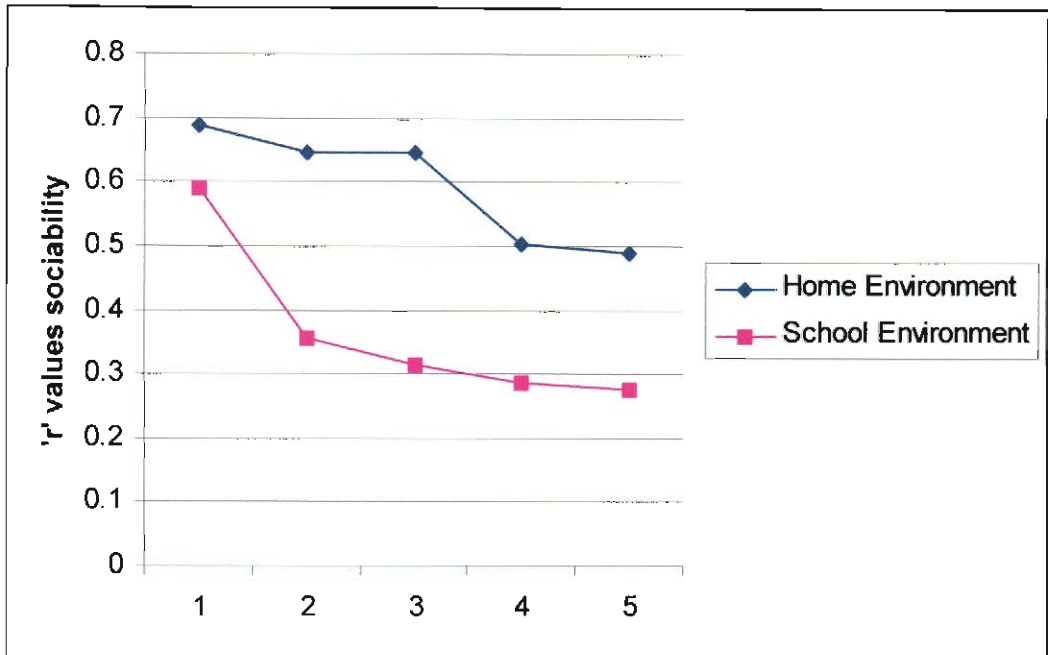
- (1) Availability of equipment
- (2) Individual activities
- (3) Group activities
- (4) Teacher pupil interaction
- (5) Teaching methods

**Table 4.32**

**Pattern of influence of home and school environment on sociability in terms of correlation values.**

<b>Aspect</b>	<b>Variable</b>	<b>Correlation value</b>
Home Environment	Time spent quantitatively	0.687
	Psychological interaction	0.648
	Verbal interaction	0.646
	Exposure to objects and media	0.502
	Time spent qualitatively	0.49
School Environment	Group activities	0.592
	Individual activities	0.355
	Teaching methods	0.314
	Availability of equipment	0.286
	Teacher - pupil interaction	0.275

The results from table 4.32 figure 4.5 indicate that in the home environment, sociability is mostly influenced by the time spent quantitatively between the parents and children. Group activity is seen influenced more on sociability in the school environment.



***Figure 4.5. Pattern of influence of home and school environment on sociability in terms of correlation values***

***Home Environment***

***School Environment***

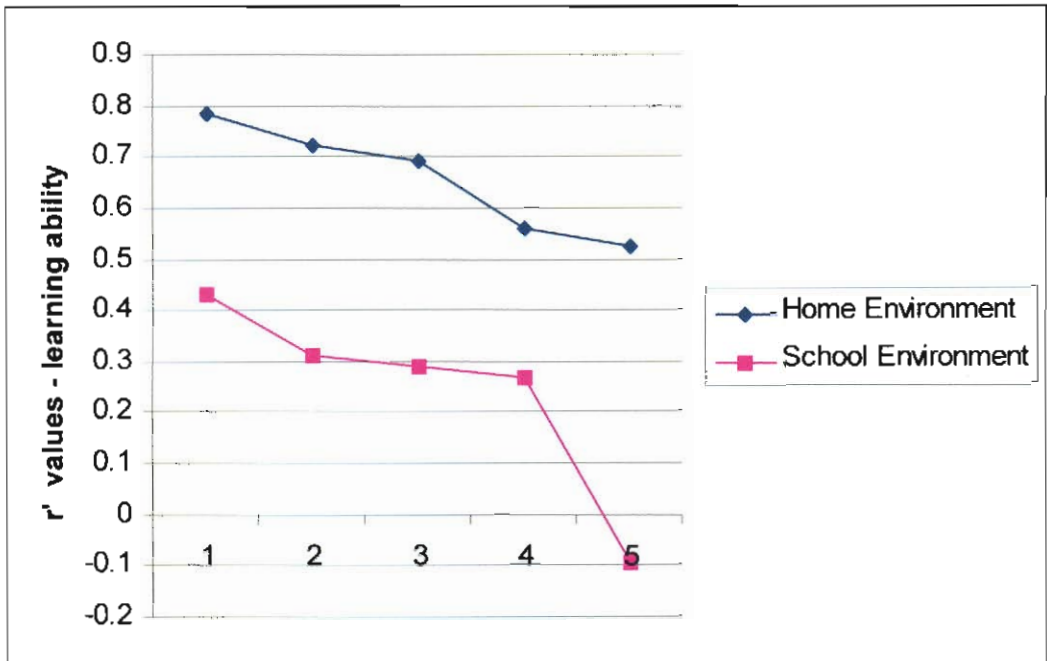
- |                                   |                               |
|-----------------------------------|-------------------------------|
| (1) Exposure to objects and media | (1) Availability of equipment |
| (2) Verbal interaction            | (2) Individual activities     |
| (3) Psychological interaction     | (3) Group activities          |
| (4) Time spent quantitative       | (4) Teacher pupil interaction |
| (5) Time spent qualitative        | (5) Teaching methods          |

**Table 4.33**

**Pattern of influence of home and school environment on learning ability in terms of correlation values.**

<b>Aspect</b>	<b>Variable</b>	<b>Correlation value</b>
Home Environment	Time spent quantitatively	0.789
	Psychological interaction	0.722
	Verbal interaction	0.692
	Exposure to objects and media	0.562
	Time spent qualitatively	0.523
School Environment	Individual activities	0.433
	Teaching methods	0.314
	Availability of equipment	0.292
	Teacher - pupil interaction	0.27
	Group activities	-0.096

The results from table 4.33 and figure 4.6 reveal that in the home environment, learning ability is seen mostly influenced by the factor time spent quantitatively between the parents and children and in the school environment, individual activities is the most influenced factor of sociability.



**Figure 4.6. Pattern of influence of home and school environment on learning ability in terms of correlation values**

***Home Environment***

***School Environment***

- |                                   |                               |
|-----------------------------------|-------------------------------|
| (1) Exposure to objects and media | (1) Availability of equipment |
| (2) Verbal interaction            | (2) Individual activities     |
| (3) Psychological interaction     | (3) Group activities          |
| (4) Time spent quantitative       | (4) Teacher pupil interaction |
| (5) Time spent qualitative        | (5) Teaching methods          |

## **DISCUSSION**

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**T**he results of the study are discussed in this section. The impact of stimulation in the home environment and school environment on temperament and learning ability are discussed in the same order of the presentation of results

## **PART I**

**Section I :-** Deals with the influence of home environment and school environment in general with the temperament and learning ability of preschool children.

### **5.1 Correlation of home environment with temperament**

Table 4.1 shows that there is a significant correlation between home environment and temperament ( $r = 0.892$ ,  $P < 0.01$ ). The results indicate that the home environment will influence the preschool children with regard to temperament.

The child's behaviour can be influenced by the kind of home and other surroundings in which he grows up (Veiner, 1972). Children who are more exposed to objects and who are spending more time with the parents with verbal and psychological interactions are getting chances to explore and compete in various situations. For children who are confined to a non stimulating home environment, the chances for obtaining challenging and stimulating experiences are limited.

If children have affectionate attending and rewarding parents, they will be emotionally stable, secure and confident showing easy temperamental traits.

Thus the home environment in which the child has got a significant influence in moulding a child's temperamental characteristics.

## 5.2 Correlation of home environment on learning ability

From table 4.2, it is clear that, there is a correlation between home environment and learning ability of preschool children. ( $r' = 0.912$ ,  $P < 0.01$ ). The results indicate that the home environment will influence the preschool children with regard to learning ability.

Ebbeck and Ebbeck (1974) say that, if we are encouraging learning by discovering, then the atmosphere should be one which promotes the seeking of new knowledge and the exploring of new and interesting situations. It should be an environment full of opportunities for experiences which lead to good learning.

Since learning in children requires a lot of reinforcement from parents through interaction with them, children who are obtaining the opportunity to interact verbally and psychologically show better in learning. Children who are reared at home, who presumably have more exposure to objects and medias and who got rewards for good deed are getting more chances to learn.

A stimulating linguistic environment with variety of materials offers good language models through exploring and manipulating them. Variety of satisfactory facilities greatly assist in developing a challenging learning situation. Children who are not exposed to different materials are not getting a chance to open up their ideas and thinking. Thus there is a correlation exist between home environment and learning ability.



### 5.3 Correlation of school environment on temperament

Table 4.3 shows that there is a correlation between school environment and temperament of preschool children ( $r = 0.74, P < 0.01$ )

According to Hetherington (1979), the variations within the school setting have an important impact on children's emotional and social adjustment as well as on their academic progress.

Preschool with more time, space and freedom of activities through variety of resources and teaching methods offer the child an opportunity to learn socially acceptable forms of behaviour. A healthy teacher-pupil interactions with rewards and appreciations inspire the child to have easy temperamental traits and a well planned curriculum in the preschool which offers importance for both individual and group activities give chances for the child to behave in varying situations in an acceptable way. Those children are accustomed to show a more adaptable behaviour which adds the quality of their temperamental traits.

In the present study, children from stimulating school environment are found to be more active, sociable and emotionally stable. They are found to be active in various situations, less frequently change their emotions and form friendships easily and co-operate and converse socially with others. This may be due to the fact that these children are exposed to various stimulations, providing chances to express their ideas and feelings which helps them to cultivate positive emotions which offers easy temperamental traits.

#### **5.4 Correlation of school environment on learning ability**

Table 4.4 shows that there is a correlation between school environment and learning ability of preschool children ( $r = 0.73$   $P < 0.01$ ). The results indicate that the school environment will influence the preschool children with regard to learning ability.

Children from schools who are provided with different types of toys and educational materials with well planned curriculum having variety of teaching aids and healthy teacher - pupil interaction are found to have higher scores in learning ability. Thus the result goes in line with the studies of Newson (1968) and Leeper et al (1984). A non stimulating school environment with less facilities to explore and manipulate things with unhealthy teacher - pupil interaction inhibits the children's motivation to learn. Since readiness to perform skills related to reading and writing requires variety of stimulation, those preschoolers who are occupied in schools which use appropriate teaching aid for teaching are much benefitted than others.

Children who are coming from school atmosphere where appropriate teaching aid are used to introduce alphabets are found to have scored higher in tests related with alphabets and words. Healthy teacher - pupil interaction with rewards and encouragement are found to have a positive influence on learning ability.

Since preschool children spent most of their day in the school, the

peers, the teachers and the resources and the materials they are exposed with have got a significant influence on their learning ability.

**Section II :** This section deals with the correlation of the aspects of home environment with temperament and learning ability.

### **5.5. Correlation of exposure to objects and media on activity, emotionality and sociability**

Table 4.5 shows a correlation between exposure to objects and media on activity, emotionality and sociability of preschool children. The results indicate that exposure to objects and media will influence the activity, emotionality and sociability of preschool children.

Children who are exposed to variety of toys and educational materials and who are getting chances to watch children's programmes and exhibitions are found more active, emotionally stable and more sociable. They prefer activities which keep them lively and active and found engaged in activities, rather than simply sitting. This may be due to the fact that when they are exposed to various objects and medias, the chances to explore things are more, which makes them sportive. If the chances for exposure are limited, they will lose their vigour and spirit and get boredom making them inactive. These children are found to have preferred active outdoor play.

These children who are having more exposure are found to have

changed their emotions less frequently and have produced less intense emotions. Through different exposure, children learn to control their emotions and to show only moderate emotions. It is seen that these children never reacts (cries or complains) strongly to a disappointment or failure. If children are not getting enough exposure, frustration will set in which leads to intense emotions.

In the present study, children who are exposed to an enriching environment are found to have more sociability. These children are found to have used to new situations easily and make more friends. Children who are not exposed to objects and medias are found less sociable. This may be due to the fact that, the parents when they are busy with their own work, the child is pushed to isolation with lack of exposure and is likely to hamper the chances of the child to be sociable.

Thus the results obtained goes in line with the studies of Wentzeb, Feldman and Weinberger(1991) which states that the children who are exposed with different materials show easy temperamental traits.

#### **5. 6. Correlation of exposure to objects and media on learning ability.**

The table 4.6 shows that there is a correlation between exposure to objects and media and learning ability ( $r = 0.562$ ,  $P < 0.01$ )

Thus the results obtained are in support of the views of Ebbeck and Ebbeck (1974) which say that, if we are encouraging learning by discovering, then the atmosphere should be one which promotes the

seeking of new knowledge and the exploring of new and interesting situations.

Children who are exposed with reading and writing materials are found to have scored higher in learning ability tests. In the home, when the children are provided with colouring materials, they are getting chances to colour pictures as their own without any restrictions. This helps in the development of finer motor skills which make them attaining the readiness for writing skills. Since children are constantly learning something, the constant interaction with and manipulation of different toys facilitate their learning abilities. The child's background of experiences are getting extended by examining objects or by participating in children's exhibitions and programmes, in turn will create a pleasure in them which adds their learning ability.

#### ***5.7 Correlation of verbal interaction with activity, emotionality and sociability:***

It can be observed from table 4.7 that there is a correlation between verbal interaction among parents and children and activity, emotionality and sociability. The results indicate that verbal interaction among parents and children will influence the preschool children with regard to activity, emotionality and sociability of preschool children.

In the present study, children of, those parents who are answering their children's questions verbally and who converse with the child during

various activities are found to have scored higher in activity and sociability. They are also seen produced less intense emotions. These children are found active, when they explore new places and runs ahead while walking with the parents. They in seldom laugh hard or cries intensely, and are found making more friends.

The child's first teachers are his parents. Through constantly interacting with the parents, they become active and learn to stabilize their emotions. Since parents are answering their questions verbally, they develop a tendency to ask more and more questions which help them to create a better social outlook which in turn makes them more sociable.

### **5.8 Correlation of verbal interaction with learning ability**

It can be inferred from Table 4.8 that verbal interaction among parents and children will influence the preschool children with regard to learning ability ('r' = 0.692, P<0.01)

Children who are having more verbal interaction with the parents by talking stories and discussing things and objects around them are found to have scored higher in learning ability tests. Those children are found better in identifying the letters and words and in matching them.

When parents verbally interact with the child, they get the opportunity to talk about various things which caters to the basic learning skills of the child. Through verbal interaction, children are getting more freedom to express their view and ideas so that the parents can correct the child

whenever necessary, whereas a child who is not having enough verbal interaction with the parents are not getting chances to open up their ideas and views which will hamper their ability to learn. Thus the result obtained goes in line with the views of Norman-Jackson (1982) which states that more frequent verbal interactions at home have been related to positive school outcome, specifically in language development and reading achievement.

### **5.9 Correlation of psychological interaction with activity, emotionality and sociability**

It can be observed from Table 4.9 that there is a correlation between psychological interaction and activity, emotionality and sociability of preschool children. Thus the results indicated that psychological interaction will influence the preschool children with regard to activity, emotionality and sociability.

In the present study, children who have given, psychological needs through rewards, and attention and who have given chances to express their deeds are found more active, emotionally stable and more sociable. These children are found to have enjoyed games that involve running or jumping and never become upset over minor falls. They are found to have no difficulty in getting used to the new situations. The results indicate that children who are deprived of psychological interaction are found less active, emotionally unstable and less sociable.

If children are not satisfied with their psychological needs, they will develop less vitality, less curiosity and become less explorative which makes him less active. Children who are not getting enough attention and security become frustrated leading to irritation which brings down the quality of general emotionality. Children can be sociable, only if they are active and sportive. Thus children who are deprived of psychological needs are found less sociable.

#### **5.10 Correlation of psychological interaction with learning ability.**

The table 4.10 shows that there is a correlation between psychological interaction among parents and children and learning ability ( $r = 0.722$ ,  $P < 0.01$ ). The results indicate that psychological interaction among parents and children will influence the preschool children with regard to learning ability.

Children who are getting chances to express their experiences and are given rewards are found to have higher scores in the tests for learning ability. If a child's basic psychological needs are met through interaction with the parents, he is able to develop the vigour and spirit of learning and thus he became mentally fit to acquire the skills of learning.

A child who has got an insecure feeling develops frustration and restlessness. Thus he is not able to concentrate or to develop the skills for academic performance. The results obtained support the view of Carew (1980) which say that high level of maternal verbal and psychological



stimulation are associated with relatively advance cognitive and language skills.

### **5.11 Correlation of time spent (quantitative ) with parents and children on activity, emotionality and sociability**

It can be observed from table 4.11 that there is a correlation between time spent ( quantitative) with parents and children on activity, emotionality and sociability. The results indicate that time spent (quantitative) with parents and children influence the preschool children with regard to activity, emotionality and sociability.

It is seen from the responses that the parents spend time with the child when he takes food and while watching TV programmes. The children of those parents prefer activities rather than simply sitting and never cries intensely when hurt. It is seen that they are more sociable by approaching children of his own age that he doesn't know.

When the parents spend more time with the child, they become more confident and feel secure which makes them emotionally stable. Their vigour and spirit will be increased which makes them lively and active. By spending more time with the parents, children are getting chances to interact constantly which makes them sociable.

### **5.12 Correlation of time spent (quantitative ) with parents and children on learning ability**

It can be inferred from table 5.12 that the time spent (quantitative) with parents and children will influence the preschool children with regard to learning ability ('r' = 0.784, P< 0.01)

The children who spent more time with the parents are found to have scored higher in learning ability tests. When the parents spent time with their children, they feel more secure and confident in their activities and able to concentrate, since somebody is supervising them. the feeling of parental presence and availability make them interested in their work which help them to improve their learning skills. Thus the results of the present study is in line with the findings of Bee(1978) which states that parents have children with high IQ levels if they were involved with their child, spend time with the child.

### **5.13 Correlation of time spent (qualitative) on activity, emotionality and sociability**

It can be observed from table 4.13 that there is a correlation between time spent (qualitative) together with parents and children on activity, emotionality and sociability. The results indicate that the time spent (qualitative) together with parents and children will influence the preschool children with regard to activity, emotionality and sociability.

The children of those parents who spent time with the child encouraging his good behaviours, participating in child's indoor games are found more active, emotionally stable and more sociable. These children are found active while watching TV or listening to music. They never avoid new guests or visitors and not get angry with their playmates. When the parents spent time with the child appreciating their deeds and by participating in child's activities, the child is able to develop more vitality, since somebody is there to give him a companionship. The participation of the parents in their activities make them feel secure which helps in improving their general emotionality. Since children are getting constant interaction and attention, they learn desirable social behaviours which make them more sociable.

#### **5.14 Correlation of time spent (qualitative ) on learning ability**

The table 4.14 shows that there is a correlation between time spent (qualitative) among parents and children on learning ability. ( $r = 0.523$ ,  $P < 0.01$ ). The results indicate that the time spent (qualitative) among parents and children will influence the preschool children with regard to learning ability.

The parents who spent more time with the child singing rhymes for him and helping him in his studies are found to have scored higher in the tests for learning ability. They have scored higher in discriminating objects and in matching letters and words.

Parents are the child's first teachers. When they utilize their time with the children giving views in doing various activities and by encouraging and appreciating their abilities, the child is able to develop an interest in learning and thus he is able to bring out his full potentials in an appropriate way which facilitates in learning ability.

**Section III:** This section deals with the correlation of each aspect of school environment with the factors of temperament and learning ability.

### **5.15 Correlation of availability of equipment with activity, emotionality and sociability**

It can be inferred from table 4.15 that the availability of equipment in the school environment will influence the preschool children with regard to activity, emotionality and sociability.

Children who are exposed to video games and variety of indoor play equipment are found more active, emotionally stable and more sociable. Through exposure from variety of equipment, children are getting enough opportunities to explore the things around them which will enhance their motor co-ordination which in turn makes them active. This exposure offers an outlet for the child to express his emotions. Thus he becomes stable in his emotions. The environment in the school with variety of equipment provides an opportunity for socialization, through indoor games with peers the child learns to be sociable.

Thus the result obtained is in line with the findings of Hetherington

(1979) which say that many of the attitude and behaviours that are slowly emerging during the early school years are directly shaped by the content and themes of the text books and materials provided to the children.

#### **5.16 Correlation of availability of equipment with learning ability**

The table 4.16 shows that there is a correlation between availability of equipment and learning ability ( $r = 0.292$   $P < 0.01$ ). The results indicate that the availability of equipment in the school environment will influence the preschool children with regard to learning ability.

Children who are provided with picture books and colouring materials and who are exposed to video games are found to have scored higher in colouring pictures and in building structures having symmetry and design using blocks.

Exposure with variety of equipment helps children learn, practise and develop new skills all the time. It teaches them to use their hands and co-ordinate them with their eyes. Thus the results obtained goes in line with the studies of Devadas and Jaya (1991) which states that equipment and materials which are challenging and stimulating foster new interests through opportunities to explore, investigate and experiment which help to develop intellectually.

### **5.17. Correlation of time allotment for individual activities with activity, emotionality and sociability**

It can be inferred from table 4.17 that time allotment for individual activities will influence the preschool children with regard to activity, emotionality and sociability

In the present study, children are given chances to draw pictures based on their individual interest and for colouring and to engage in solitary play. These children are found active, emotionally stable and more sociable. Through performing individual activities, they themselves become active. They become determined and motivated, when engaged in individual activities, which make them active. The child develop a sense of trust and accomplishment which make them to show positive and stable emotions. By accomplishing tasks through individual activities children develop a confidence with themselves which help them to build up the quality of sociability.

Thus the children who are engaged in individual activities are found playing actively with toys and he never get easily excited by praise and he settle arguments with the playmates with in a few minutes.

### **5.18 Correlation of time allotment for individual activities on learning ability**

The Table 4.18 shows that there is a correlation between time allotment for individual activities and learning ability. The results indicate

that the fine allotment for individual activities will influence the preschool children with regard to learning ability.

Children who are getting chances to draw pictures based on their individual interest and for colouring pictures are found to have coloured perfectly and have scored higher in copying geometric forms. Since children are getting individual attention through individual activities, they can build up a confidence in accomplishing their tasks and thereby they can develop an independent thinking. Through performing individual activities, the children can investigate and experiment and can learn to think independently. Thus they can improve their skills for learning. As far as preschool children are concerned, individual attention is needed for achievement in learning. Thus time allotment for individual activities has got an influence on learning ability.

#### **5. 19. Correlation of time allotment for group activities on activity, emotionality and sociability**

The table 4.19 reveal that the time allotment for group activities will influence the preschool children with regard to activity, ( $r' = 0.342$ ,  $P < 0.01$ ) and sociability ( $r' = 0.592$ ,  $P < 0.01$ ) whereas emotionality ( $r' = -0.092$ ,  $P > 0.01$ ) of the preschool children is not seen influenced.

Children who are getting chances to have story discussion in groups and to indulge in group play are found more active and sociable. But they are found producing more intense emotions, reacting strongly to

disappointment and failure and laugh hard while watching television cartoons.

Group participation provide the child with ample opportunities to interact with the peers which make them active and sociable. The child is not able to achieve the sense of accomplishment through group activities which he get through performing individual activities. Thus the feeling of accomplishment which is promoted by the appreciation of the teacher which helps in cultivating positive emotions are not achieved when he engage in individual activities. More than that, the child may not get the feeling of security and acceptance through group activities. Thus the child develops a tendency to produce intense emotions and to change his emotions frequently.

#### **5.20 Correlation of time allotment for group activities on learning ability**

The table 4.20 shows that there is no correlation between time allotment for group activities and learning ability ( $r = -0.96, P < 0.01$ ). Thus the results indicate that the time allotment for group activities will not influence the preschool children with regard to learning ability.

Children who are getting chances to engage in group activities are found to have scored lower in identifying alphabets and words and in colouring pictures. Since the foundation of learning skills are laid during the preschool period, the children need individual attention and individual



activities to develop learning skills. They need acceptance and approval for learning which they are not able to get through group activities. Thus the children are found to have scored lower in learning ability tests.

### **5.21. Correlation of teacher-pupil interaction on activity , emotionality and sociability**

It is clear from table 4.21 that there is a correlation between teacher-pupil interaction and activity, emotionality and sociability. The results indicate that teacher -pupil interaction will influence the preschool children with regard to activity ( $r= 0.22$ ,  $P<0.01$ ) emotionality ( $r=0.311$ ,  $P<0.01$ ) and sociability ( $r=0.275$ ,  $P<0.01$ )

Children who are getting rewards, encouragement, attention and appreciation for good deeds through the interaction with teachers are found more active , emotionally stable and sociable. This may be due to the fact that children will feel loved, secure and safe become active. If they have a supportive encouragement, they tend to become lively and energetic which make them active. Since the children feel positive about themselves by being loved, they become more confident and feel secure, which makes them emotionally stable. The happiness that the child received through healthy teacher-pupil interaction make him extend to others also so that he become more sociable. The results obtained support the view of Ayers and Gray (1998) which states that the kinds of interaction between teachers and pupils will to a great extent affect the child's behaviours.

### **5.22. Correlation of teacher - pupil interaction on learning ability**

It is clear from table 4.22 that there is a correlation between teacher - pupil interaction and learning ability ( $r = 0.27$ ,  $p < 0.01$ ). The results indicate that teacher - pupil interaction will influence the preschool children with regard to learning ability.

Thus the results obtained support the views of Hawkes and Pease (1969) which states that teacher - pupil interaction facilitates learning.

Children who are getting encouragement and rewards for their performances and who are getting attention and care are found to have scored higher in alphabets and word tests and in matching letters. This may be due to the fact that for learning anything, the first and foremost requirement is a nurturing, supportive environment in which children feel loved, secure and safe. Children learn best when they feel reasonably confident and when their efforts are appreciated by their teacher.

### **5.23 Correlation of teaching methods with activity, emotionality and sociability**

The table 4.23 shows that teaching methods will influence the preschool children with regard to activity, emotionality and sociability.

Children who are taught stories and alphabets by way of appropriate teaching aid and who are exposed to record player to facilitate learning are found moving actively they they explore new places and never get angry

with the playmates and are found making friends easily.

When the teacher narrate stories using appropriate teaching aid, the children become lively and energetic. The attractive teaching aids make the child active giving him pleasure in listening to them. By providing the opportunity to learn through teaching aids the teacher can help the children to develop emotional maturity by guiding the child to express, understand, accept and control his feelings and emotions. When the children learn through appropriate teaching aids, they are able to interact with the teacher and the peers which makes them more sociable.

#### **5.24 Correlation of teaching methods with learning ability**

The table 4.24 shows that there is a correlation between teaching methods and learning ability ( $r = 0.314, P < 0.01$ ). Thus the results indicate that the teaching methods will influence the preschool children with regard to learning ability.

Children who are taught using appropriate teaching aids are found to have scored higher in identifying alphabets and words. They are also found to have scored better in drawing and colouring. This may be due to the fact that variety of teaching aids provide a challenging and stimulating opportunity for the children to learn and the facts learned through teaching aids are retained for a significantly longer period of time. (Devadas and Jaya, 1991).

## **PART II**

### **ANOVA - Districts**

The table 4.25 clearly depict that there is significant difference among preschool children in general between Trivandurm, Kozhikode and Thrissur districts.

## **PART III**

### **5.26.Comparison of the scores obtained for home environment in general among districts,**

The results obtained from table 4.26 and fgure 4.1 reveal that there is difference between the stimulation offered by the home environment among Thrissur and Trivandrum and Kozhikode and Thrissur districts and no significant difference is seen between Trivandrum and Kozhikode districts. Thrissur district is found to have the highest mean score which shows that higher stimulation is provided.

Being more urbanized, the parents of children in Trivandrum and Kozhikode districts may be working, engaging in one or other job. Hence these districts provide an almost similar type of stimulation to their children. Thus it is found to have no significant difference between these two districts.

On scrutiny of the tabulated scores of the home environment, it is found that Thrissur district is offering more stimulation by spending more time with their children. On analyzing the general information obtained

through the questionnaires, the mothers of the Thrissur district are mostly not working and hence they can offer different type of stimulation in the home environment on the right track. Thus Thrissur district has got the highest score.

#### **5.27. Comparison of the score obtained for school environment in general among districts.**

The results from Table 4.27 reveal that there is difference between stimulation offered in the school environment among Trivandrum, Kozhikode and Thrissur districts, and Thrissur district is found to have the highest mean score.

On analysing the tabulated value of the scores, it is seen that Thrissur district has offered more stimulation though utilizing more time to engage children in individual activities.

Being more urbanized, the schools at Trivandrum and Kozhikode districts, teach the students mostly in the capsule form without having much exposure for stimulation through various activities. Being not that much modernized as Trivandrum & Kozhikode the schools at Thrissur district offer opportunities for stimulation through various activities and they get highest mean value for the stimulation in the school environment.

### **5.28. Comparison of the scores obtained for temperament in general among districts**

The results from Table 4.28 and figure 4.2 reveal that there is difference in the temperamental traits of preschool children among three districts and the Thrissur district is found to have the highest mean score.

On examining, table 4.25 and 4.26, it can be found that the Thrissur district has got the highest score in the stimulation given to the home and school environment.

Since the results clearly reveal that there is a correlation between home environment and school environment on temperament. The Thrissur district which is providing higher stimulation in the home and school environment is naturally found to have higher temperamental values.

### **5.29. Comparison of the scores obtained for learning ability among districts.**

The results from table 4.29 and figure 4.2 reveal that there is difference in the learning abilities of preschool children among three districts and the Thrissur district is found to have the highest mean score.

Table 4.26 and 4.27 clearly reveal that the Thrissur district is providing the highest stimulation to their children through home and school environment. Since the stimulation given to the children in the environment is highly correlated to the learning ability we can say that Thrissur district

which has provided higher stimulation through the home and school environment has naturally got children who have got higher learning abilities.

### **5.30. Pattern of influence of home and school environment on activity**

The table 4.30 shows that activity is highly influenced by the variable verbal interactions, followed by time spent quantitatively between parents and children, psychological interaction between the parents and children, time spent qualitatively and finally exposure to objects and media.

Through verbally interacting with the parents, children feel positive and good about themselves. Children always need opportunity to express their views and ideas and this can be achieved through verbal interaction with the parent which make the children happy and lively, which in turn make them active. Thus verbal interaction became the most influenced factor.

Children also need the presence of their parent to develop vigour and vitality which makes them active. This can be achieved through spending time with the parents. Thus the second influencing factor is time spent quantitatively with the parents and children. Then only comes the factors psychological interaction, time spent qualitatively and exposure to objects and media.

In the school environment, activity is found to have influenced highest

by the factor group activities, followed by availability of equipment, individual activities, teaching methods and then teacher - pupil interaction.

When children engage in group activities, they are able to have more contacts with the peers which mostly the children like and is not able to achieve it through other activities. Thus the chances to mingle with the peers make them more active. Thus group activity is found to have the highest correlation with activity.

The second influencing factor is availability of equipment which give chances for the child to explore things, which make them active.

The third and fourth influencing factors are individual activities and teaching methods and the least influenced one is teacher - pupil interaction.

### **5.31. Pattern of influence of home and school environment on emotionality**

The table 4.31 shows that emotionality is highly influenced by the factor time spent quantitatively with the parents and children, followed by psychological interaction, verbal interaction, exposure to objects and media and finally time spent qualitatively.

When the parents spent more time with their children, they feel more confident and secure which they need most and thus children produce stable and less intense emotions. Thus the time spent quantitatively is found to have highest influence on activity than any other factors.



The next influencing factor is psychological interaction through which the child attain the feeling of love, affection and security. The next influencing factors come in the order verbal interaction, exposure to objects and media and finally time spent qualitatively.

In the school environment, emotionality is found to have influenced highest by the factor teacher pupil interaction, followed by individual activities, teaching methods and availability of equipment.

When the teacher interact with their children giving them encouragement and supportiveness, the children feel positive about themselves, making them more confident which helps to cultivate positive emotions in them. Children are not able to derive confidence through other aspects of school environment except individual activities which is the second influencing factor. The third and fourth factors are teaching methods and availability of equipment respectively. Emotionality is seen not influenced by the factor group activity.

### **5.32 Pattern of influence of home and school environment with sociability**

The table 4.32 shows that sociability is highly influenced by the factor time spent quantitatively with the parents and children in the home environment followed by psychological interaction, verbal interaction, exposure to objects and media, verbal interaction and time spent qualitatively.

The presence of the parents make the children supportive and thus they become more happy which make them lively and in turn become more sociable. As children need supportiveness for their activities, by the presence of parents, the time spent quantitatively has influenced more on sociability.

Then comes the factor psychological interaction. The third and fourth influences are shown by verbal interaction and exposure to objects and media and finally time spent qualitatively, which has got the least influence.

In the school environment, group activity is found to have the highest influence on sociability followed by individual activities, teaching methods, availability of equipment and teacher-pupil interaction.

Group participation provide the child with ample opportunities to interact with the peers, which they are not able to get through other activities make them active and sociable. The children may not get this much interaction with the peers from no other factors of school environment. From peers, the children learn socially approved behaviours and thus group activities are found to have the highest influence on sociability.

The next influencing factor is individual activities. Through performing individual activities children develop confidence within themselves which help them to build up sociability. Then comes teaching methods and availability of equipment. Teacher - pupil interaction is the least influenced factor.

### **5.33. Pattern of influence of home and school environment with learning ability**

The table 4.33 shows that learning ability is highly influenced by the factor time spent quantitatively with the parents and children in the home environment followed by psychological interaction, verbal interaction, exposure to objects and media and time spent quantitatively.

During the early years, children mostly need the presence of parents than any other for the overall development, and they also prefer their parents to be with them. The feeling of parental presence and availability make them interested in their work which help them to improve their learning skills, which they may not be able to derive that much from the other factors of school environment.

The psychological interaction with the parents make the children secure which helps in learning and this comes as the second influencing factor. From this it can be inferred that they need interaction through love and affection than verbal communication which stands as third influencing factor. Exposure to objects and media and time spent qualitatively are the least influencing factors.

In the school environment, individual activities is seen highly influenced for learning ability followed by teaching methods, availability of equipment, teacher - pupil interaction.

From the result, it can be inferred that children need individual attention and therefore individual activities are needed for developing learning skills. Then comes teaching methods which provide challenging and stimulating opportunity for the children to learn. The next influencing factors are availability of equipment and teacher - pupil interaction. Group activity is seen not influenced on learning ability.

The pattern of influence of the factors of school environment on dependent variables show that, not a single factor alone has influenced higher on activity, emotionality, sociability and learning ability. But in the home environment, all the dependent variables have influenced more by the factor time spent quantitatively together by parents and children, except the variable activity. From this it can be inferred that, the children need the supportive presence of their parents for doing various activities.

## **SUMMARY AND CONCLUSION**

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**T**he child is a growing organism. He grows in a family which belong to a group. Thus the child starts with a biological foundation and grows up in a social environment. Since the child lives and grows in a social context, the people in his environment, particularly the parents and other members of the family in the early years and the teachers and the fellow pupils in the school in the later years are very significant in determining the way in which the child develops, The child is also a learning organism. Children need lots of positive attention and stimulation from parents and adults in order of actualise their maximum potential.

Since the beginning of a school career is a radical departure from the child's established pattern of life, the stimulation received by the preschool children from the home and school environment has got due importance in learning and social skills.

## **6.1 The problem for investigation**

The impact of environmental stimulation on temperament and learning ability of preschool children.

## **6.2 Objectives**

The present study has set up different objectives and the main objectives of the present investigation are as follows.

### ***6.2.1 To find out the influence of home environment in the areas of***

- (a) Temperament
- (b) Learning ability

### ***6.2.2 To find out the influence of school environment in the areas of***

- (a) Temperament
- (b) Learning ability

## **6.3 Hypotheses**

The hypotheses formulated for the present study are as follows.

### ***6.3.1 The home environment will influence the preschool children with regard to***

- (a) Temperament
- (b) Learning ability

**6.3.2 The school environment will influence the preschool children with regard to**

- (a) Temperament
- (b) Learning ability

**6.3.1.1 Exposure to objects and media will influence the preschool children with regard to**

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**6.3.1.2 Verbal interaction will influence the preschool children with regard to**

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**6.3.1.3 Psychological interaction between the parents and children will influence the preschool children with regard to**

- (a) Activity

- (b) Emotionality
- (c) Sociability
- (d) Learning ability

***6.3.1.4 The time spent (quantitatively) together with parents and children will influence the preschool children with regard to***

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

***6.3.1.5 The time spent (qualitative) together with parents and children will influence the preschool children with regard to***

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

***6.3.2.1 Availability of equipment in the school will influence the preschool children with regard to***

- (a) Activity
- (b) Emotionality



- (c) Sociability
- (d) Learning ability

**6.3.2.2 *The time allotment for individual activities will influence the preschool children with regard to***

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**6.3.2.3 *The time allotment for group activities will influence the preschool children with regard to***

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**6.3.2.4 *Teacher - pupil interaction will influence the preschool children with regard to***

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**6.3.2.5 Teaching methods will influence the preschool children with regard to**

- (a) Activity
- (b) Emotionality
- (c) Sociability
- (d) Learning ability

**6.3.3 There will be significant difference among preschool children between Trivandrum, Kozhikode and Thirssur districts with regard to**

- (a) Home environment
- (b) School environment
- (c) Temperament and
- (d) Learning ability

**6.4. Definition of concepts**

**6.4.1. Environmental stimulation**

In the present study, environmental stimulation means the stimulation given to the children in both the home and school environment. In the home environment, the stimulation given through exposure to objects and media, verbal and psychological interaction between parents and children and the time spent (quantitatively and qualitatively) together by parents

and children are considered. In the school, variety of stimulation given including the availability of equipment (toys and educational materials), time allotment for individual and group activities, teacher - pupil interaction in terms of encouragement, warmth and supportiveness and teaching methods have been considered.

#### **6.4.2. Temperament**

Activity, emotionality and sociability are considered under temperament.

#### **6.4.3. Learning ability**

Learning ability is measured in terms of the readiness to perform activities related to reading and writing.

#### **6.4.4. Preschool children**

In the present study, preschool children include both boys and girls of five years of age and who are attending upper kinder garten class.

#### **6.5. Sample**

The course of investigation was set rolling by selecting 50 subjects each from Trivandrum, Thrissur and Kozhikode districts since these are the Southern, Central and Northern regions. As the tests were time consuming, the sample size was reduced to 150. Selection of schools was

done through purposive sampling means selecting who were co-operative with the study. Selection of children from each school was done through random sampling method, by applying the lottery method. Five urban co-education schools from each district and ten children from each school with equal number of boys and girls were taken for the study.

## **6.6 Tools**

The tools used to test the variables under study are

**6.6.1.** To measure the stimulation in the home environment and school environments, questionnaires developed by the investigator was used. It includes questions which elicit information regarding the stimulation given through exposure to objects and media, verbal and psychological interaction between parents and children and the time spent (quantitatively and qualitatively) together by the parents and children.

**6.6.2.** In order to measure the stimulation in school environment, questionnaire developed by the investigator was used, which includes questions which elicit information regarding the availability of equipment in the school environment, time allotment for individual and group activities, teacher - pupil interaction and teaching methods.

**6.6.3.** For measuring the temperamental factors, Behavioral Style questionnaire developed by Mc Devitt and Care (1978) was used. It includes

questions for measuring activity, emotionality and sociability of preschool children.

**6.6.4.** To measure learning ability, tests developed by the investigator includes identification of alphabets, words, ability to discriminate pictures and ability to perform skills associated with drawing and colouring.

### **6.7. Collection of data**

The data collection was carried out in the upper kinder garten classes of the selected nursery schools by the investigator. The questionnaire for measuring the stimulation in the home environment was given through the children and the questionnaire for measuring the stimulation in the school environment was given to the teachers. The questionnaires were collected back after three days. The tests for measuring learning ability was administered to the children directly by the investigator. The study was completed in a time frame of six months.

### **6.8. Treatment of data**

The data was consolidated and statistically analysed. Subjecting the consolidated data to statistical analysis, Pearson's coefficient of correlation 'r' was used to find out the influence of each aspects of home environment and school environment with learning ability. 't' value was computed to find out the difference of stimulation provided by the home and school

environments and also to find out the difference of temperament and learning ability among them.

## **6.9 Results**

### ***6.9.1. There is a correlation between home environment in general with the following factors***

- (a) Temperament ('r' = 0.892, P < 0.01)
- (b) Learning ability ('r' = 0.912, P < 0.01)

### ***6.9.2. There is a correlation between school environment in general with the following factors***

- (a) Temperament ('r' = 0.74, P < 0.01)
- (b) Learning ability ('r' = 0.73, P < 0.01)

The correlation obtained for the factors of home environment with the factors of temperament and learning ability are as follows.

#### ***6.9.1.1. The correlation values obtained for exposure to objects and media with***

- (a) Activity ('r' = 0.415, P < 0.01)
- (b) Emotionality ('r' = 0.432, P < 0.01)
- (c) Sociability ('r' = 0.502, P < 0.01)
- (d) Learning ability ('r' = 0.562, P < 0.01)

**6.9.1.2. The correlation values obtained for verbal interaction with**

- (a) Activity ('r' = 0.639, P < 0.01)
- (b) Emotionality ('r' = 0.654, P < 0.01)
- (c) Sociability ('r' = 0.646, P < 0.01)
- (d) Learning ability ('r' = 0.692, P < 0.01)

**6.9.1.3. The correlation values obtained for psychological interaction with**

- (a) Activity ('r' = 0.613, P < 0.01)
- (b) Emotionality ('r' = 0.678, P < 0.01)
- (c) Sociability ('r' = 0.648, P < 0.01)
- (d) Learning ability ('r' = 0.722, P < 0.01)

**6.9.1.4. The correlation values obtained for time spent (quantitative) with**

- (a) Activity ('r' = 0.621, P < 0.01)
- (b) Emotionality ('r' = 0.687, P < 0.01)
- (c) Sociability ('r' = 0.687, P < 0.01)
- (d) Learning ability ('r' = 0.784, P < 0.01)

**6.9.1.5. The correlation values obtained for time spent (qualitative) with**

- (a) Activity ('r' = 0.425, P < 0.01)
- (b) Emotionality ('r' = 0.430, P < 0.01)

- (c) Sociability ('r' = 0.493, P < 0.01)
- (d) Learning ability ('r' = 0.523, P < 0.01)

The correlation obtained for the factors of school environment with the factors of temperament and learning ability are as follows.

**6.9.2.1. The correlation values obtained for availability of equipment with**

- (a) Activity ('r' = 0.254, P < 0.01)
- (b) Emotionality ('r' = 0.211, P < 0.01)
- (c) Sociability ('r' = 0.286, P < 0.01)
- (d) Learning ability ('r' = 0.292, P < 0.01)

**6.9.2.2. The correlation values obtained for time allotment for individual activities with**

- (a) Activity ('r' = 0.247, P < 0.01)
- (b) Emotionality ('r' = 0.303, P < 0.01)
- (c) Sociability ('r' = 0.355, P < 0.01)
- (d) Learning ability ('r' = 0.433, P < 0.01)

**6.9.2.3. The correlation values obtained for time allotment for group activities with**

- (a) Activity ('r' = 0.342, P < 0.01)



- (b) Emotionality ('r' = -0.092, P > 0.01)
- (c) Sociability ('r' = 0.592, P < 0.01)
- (d) Learning ability ('r' = -0.096, P > 0.01)

**6.9.2.4. The correlation values obtained for teaching methods with**

- (a) Activity ('r' = 0.234, P < 0.01)
- (b) Emotionality ('r' = 0.280, P < 0.01)
- (c) Sociability ('r' = 0.293, P < 0.01)
- (d) Learning ability ('r' = 0.314, P < 0.01)

**6.10 Conclusion**

6.10.1 The stimulation from the home environment in general influence the temperament and learning ability of preschool children.

6.10.2 The stimulation from the school in general influence the temperament and learning ability of preschool children.

6.10.3. The factors of school environment namely exposure to objects and media, verbal and psychological interaction, time spent quantitatively and qualitatively together with parents and children influence activity, emotionality and sociability and learning ability of preschool children.

6.10.4. The factors of school environment namely availability of equipment, time allotment for individual activities, teacher-pupil

interaction and teaching methods influence activity, emotionality, sociability and learning ability of preschool children.

6.10.5. The time allotment for group activities in the school environment does not influence emotionality and learning ability of preschool children.

6.10.6. The Trivandrum, Kozhikode and Thrissur districts differ in their school environment and home environment other than between Trivandrum and Kozhikode which does not differ significantly in their home environment.

6.10.7. The preschool children from Trivandrum, Kozhikode and Thrissur districts differ in their temperament and learning ability.

### **6.11. Problems and limitations**

One of the major problems, the investigator had to encounter was to get permission from the nursery schools for conducting the study. As the tests were time consuming, most of the schools approached were reluctant to grant permission for conducting the study. Yet another problem was the delay in receiving the questionnaire duly filled in. As it was difficult to get permission to conduct the tests in nursery schools, it was not possible for the investigator to select samples from the different socio - economic strata.

### **6.12. Suggestions for further research**

The present study can be undertaken considering the stimulation given through the peers and siblings. Other crucial areas of child's development like intelligence level and academic achievement can also be measured. Children belonging to different socio-economic strata can also be studied.

### **6.13. Implications of the study**

Children are the most important natural resources and they lay the foundation of the world's future. To equip the citizen of tomorrow with a sense of freedom, intelligence and physical skill, the foundation must be laid in the preschool period for which necessary stimulation from the home and school environment has to be provided. Even though the society has become modernized, even the educated parents are unaware of the significance of the stimulations that has to provided for their children. But there has been no serious research work done channelising the aspects of home and school environment with its impact on child's temperamental traits and learning ability. So the present investigation is an attempt to find out the influence of environmental stimulation on the temperament and learning ability of preschool children and the result reveal the need to provide necessary stimulaiton for the preschool children in the modern environment.

Even those parents who are aware of the significance of stimulation are sometimes not able to provide them because of their busy schedule. Now as the schools are becoming result oriented, they may not provide the environment which has to given for their child to mould his behaviour. Thus the study is highly relevant as it aims to find out the influence of several aspects of home and school environment which the parents and teachers have to concentrate.

The results of the study indicate that the more appropriate the stimulation provided in the environment, the better the child's behaviour and learning ability.

It will be a valuable message for the parents and teachers enabling them to deal with their children in a proper and tactful way thereby carving out healthy individuals.

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**QUESTIONNAIRE TO ELICIT INFORMATION REGARDING  
THE STIMULATION GIVEN IN THE HOME ATMOSPHERE**

There are a few statements which help the investigator in understanding the various stimulations which you are providing for your children. Tick the applicable. The information obtained from the questionnaire will be used strictly for academic purpose. There are no right and wrong answers. The parents, father, and mother mentioned in the following statements in various situations can either be the father, mother or both of them.

**Basic Information**

1. Child's name :
2. Date of birth :
3. Sex :
4. Mother tongue :
5. Address :
6. Type of family :      Nuclear               Joint

Name	Educational Qualification	Occupation	Monthly Income
Father			
Mother			

7. Number of brothers and sisters :
  8. Ordinal position of the child : (1) eldest (2) youngest (3) middle
  9. Monthly income of the family :
- 
-

## **I. Exposure to objects and media**

1. The child is provided with picture books  
(a) Most of the time      (b) At times      (c) Rarely
2. Crayons or colour pencils are given for colouring  
(a) Most of the time      (b) At times      (c) Rarely
3. Allowed to watch children's programme in the television  
(a) Most of the time      (b) At times      (c) Rarely
4. The child is provided with different types of toys  
(a) Most of the time      (b) At times      (c) Rarely
5. The child is taken out to watch children's exhibition  
(a) Most of the time      (b) At times      (c) Rarely

## **II. Verbal interaction**

1. During the time of outing, parents talk about the things and objects around them with the child.  
(a) Most of the time      (b) At times      (c) Rarely
2. The activities performed by the child in the class are discuss with him, which he come back  
(a) Most of the time      (b) At times      (c) Rarely

3. Parents respond verbally to the child.  
(a) Most of the time      (b) At times      (c) Rarely
4. The parents discuss with the child, the new item that has been purchased in the house.  
(a) Most of the time      (b) At times      (c) Rarely
5. The parents request the child verbally to share the crayons with his cousin, when he visits the child.  
(a) Most of the time      (b) At times      (c) Rarely

### **III. Psychological interaction**

1. Mother holds the child close, when he cries  
(a) Most of the time      (b) At times      (c) Rarely
  2. If the child performs first in the class test, the parents give the child some rewards.  
(a) Most of the time      (b) At times      (c) Rarely
  3. Give chances for the child to express his experience with friends.  
(a) Most of the time      (b) At times      (c) Rarely
  4. Ensure the child a feeling of security by sitting near to him, when he is ill.  
(a) Most of the time      (b) At times      (c) Rarely
-



5. Give instructions to the child in a positive tone.
- (a) Most of the time      (b) At times      (c) Rarely

**IV. Time spent (quantitative) with parents & children**

1. During the time of colouring pictures, parents spend time with the child, until he/she finishes colouring.
- (a) Most of the time      (b) At times      (c) Rarely
2. Sit alongside with the child, while watching TV Programme.
- (a) Most of the time      (b) At times      (c) Rarely
3. The child is taken to the school by the parents
- (a) Most of the time      (b) At times      (c) Rarely
4. Parents sit together with the child, while he takes food.
- (a) Most of the time      (b) At times      (c) Rarely
5. Take the child along with the parents, while visiting relatives.
- (a) Most of the time      (b) At times      (c) Rarely

**V. Time spent (qualitative) with parents & children**

1. Sit together with the child, while doing homework and help him, if any doubt arise in between
- (a) Most of the time      (b) At times      (c) Rarely
2. Parents narrate stories for their child.
- (a) Most of the time      (b) At times      (c) Rarely
-

3. Give ideas for the child to make unique structures using the building blocks, while child play with them.
- (a) Most of the time      (b) At times      (c) Rarely
4. During leisure time, parents spend time with the child singing rhymes for him.
- (a) Most of the time      (b) At times      (c) Rarely
5. Parents explain the pictures in the picture book which they bought for their child.
- (a) Most of the time      (b) At times      (c) Rarely
-

*Appendix - II*

**QUESTIONNAIRE TO MEASURE THE STIMULATION IN THE  
SCHOOL ATMOSPHERE**

**I. Availability of equipment**

1. Regarding indoor games, variety of materials are provided for the children  
(a) Most of the time      (b) At times      (c) Rarely
2. Children are given picture books to facilitate learning  
(a) Most of the time      (b) At times      (c) Rarely
3. Video games are shown to children  
(a) Most of the time      (b) At times      (c) Rarely
4. Colour pencils or crayons are provided for colouring  
(a) Most of the time      (b) At times      (c) Rarely
5. Children are permitted to play with out door play equipments  
(a) Most of the time      (b) At times      (c) Rarely

**II. Individual activities**

1. Teacher ask children to explain the picture they have drawn individually  
(a) Most of the time      (b) At times      (c) Rarely

2. Give chances for every child to sing songs  
(a) Most of the time      (b) At times      (c) Rarely
3. During the free play period, children are free to choose any individual play they like  
(a) Most of the time      (b) At times      (c) Rarely
4. Children are encouraged to draw pictures based on their individual interest  
(a) Most of the time      (b) At times      (c) Rarely
5. Every child is provided with crayons or colour pencils which permits the children to colour the pictures individually  
(a) Most of the time      (b) At times      (c) Rarely

### **III. Group activities**

1. If the teacher finds that a child indulges in solitary play, then she tries to bring him gradually to a group activity  
(a) Most of the time      (b) At times      (c) Rarely
  2. Set aside time for dramatizing the stories by the children in groups  
(a) Most of the time      (b) At times      (c) Rarely
  3. Permits to label objects in the class room involving group participation  
(a) Most of the time      (b) At times      (c) Rarely
- 
-

4. Classify the children into groups and provide opportunities for discussion about the stories read by the teacher  
(a) Most of the time      (b) At times      (c) Rarely
5. For encouraging group participation, picture books are provided among the children in groups  
(a) Most of the time      (b) At times      (c) Rarely

#### **IV. Teacher - pupil interaction**

1. If a child performs first in the class test, the teacher encourage the child by giving rewards.  
(a) Most of the time      (b) At times      (c) Rarely
  2. Teacher encourages the children to tell stories that have learned or experienced or made up  
(a) Most of the time      (b) At times      (c) Rarely
  3. Teacher find time to talk personally to children who are always found to be moody  
(a) Most of the time      (b) At times      (c) Rarely
  4. Teacher appreciates the child's good deeds.  
(a) Most of the time      (b) At times      (c) Rarely
  5. If the child feels uneasiness in the class due to fever or other physical illness, then the teacher find time to sit aside and console the child.
- 
-

(a) Most of the time      (b) At times      (c) Rarely

**V. Teaching methods**

1. The teacher narrate stories by way of appropriate teaching aid

(a) Most of the time      (b) At times      (c) Rarely

2. Flash cards are used for teaching alphabets.

(a) Most of the time      (b) At times      (c) Rarely

3. Video recorder or record player is used to facilitate learning

(a) Most of the time      (b) At times      (c) Rarely

4. Children are taken for field trips

(a) Most of the time      (b) At times      (c) Rarely

5. Bulletin boards are maintained to display pictures

(a) Most of the time      (b) At times      (c) Rarely

---

**TESTS FOR MEASURING LEARNING ABILITY**

1. Find out the letter which is repeated from the following row of letters

(1) t m f s o t q

(2) a e r l e p q

(3) o p y w p g z

2. Find out the word which is different from others from the following rows

(1) run sun run run

(2) hat hat bat hat

(3) rush push rush rush

3. Find out the words whose last letters are same

(1) happy boy like bag toy

(2) cow cat row see saw

(3) ant hand bat torch raw land

4. Which one is different from the other

(1) on my head

(2) on my head

(3) in my hair

5. Match the following letters and put ✕

f s A Y

k k R R

n f W A

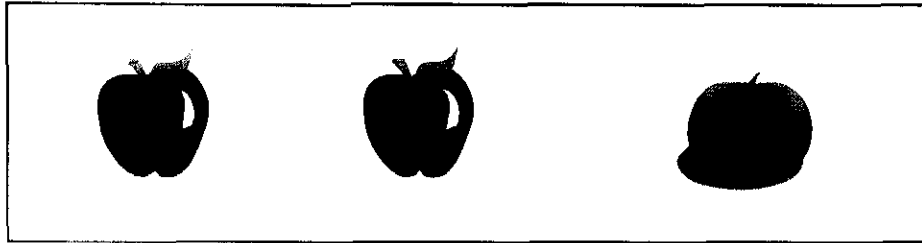
s o Z W

o n Y Z

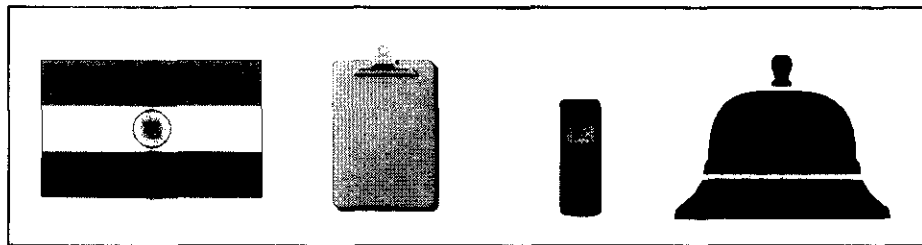
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6. Present three objects, one must be different from the other two. Ask the child to find out the different one.



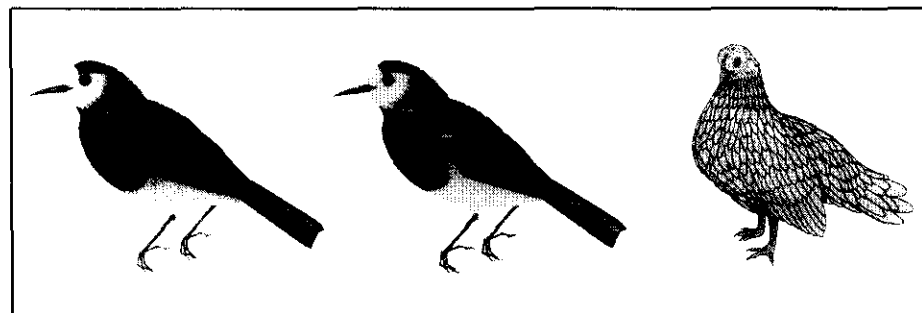
7. Present four figures and ask the child to point out the one which is asked to him.



8. Find out the lengthy word from the following row:

an	wise	saw	trouble
ran	bat	match	waiting
crows	buy	train	encourage

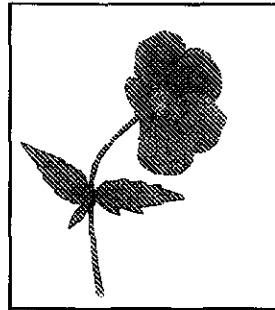
9. Present 3 pictures of which, one is different from the other two, Find out the different one.





10. Match the words
- |     |     |
|-----|-----|
| toy | car |
| car | ran |
| boy | toy |
| ran | boy |

11. Provide the children some crayons along with a picture draw on the paper



- (1) can hold the crayons properly
  - (2) scribbles on paper
  - (3) colours in approximate area containing various shapes
  - (4) cannot perform any of the above.
12. Examine, whether the children can do any of the following.
- (a) can complete simple forms when outlines are provided
  - (b) can trace simple form by keeping objects on the paper  
(keeping a bangle)
  - (c) can copy geometric form drawn on black board
  - (d) cannot perform any of the above.
-

13. Provide the children with blocks of different sizes.
- (a) Builds simple structures with 6 - 8 blocks but lacks precision in placing them.
  - (b) builds a variety of structure using 8-10 blocks in horizontal and vertical placement
  - (c) Precisely places 10 or more blocks to produce structures having symmetry and design
  - (d) cannot perform any of the above.
14. Provide the children with colour paper
- (a) handle it and form shapes meaninglessly
  - (b) produces simple shapes
  - (c) produces variety of complex shapes.
  - (d) cannot perform any of the above
15. Provide the children with thread & beads
- (a) can thread medium sized wooden beads/similar materials
  - (b) can thread small sized wooden beads.
  - (c) can accurately thread the threading board of small holes
  - (d) cannot perform any of the above.
-

*Appendix - IV*

**QUESTIONNAIRE TO ELICIT INFORMATION REGARDING  
TEMPERAMENT OF PRESCHOOL CHILDREN**

Using the scale shown below, please mark an 'X' in the space that tells how often the child's recent and current behaviour has been like the behaviour described by each item.

<b>Almost never</b>	<b>Rarely</b>	<b>Usually does not</b>	<b>Usually does</b>	<b>Frequently</b>	<b>Almost always</b>
1	2	3	4	5	6

---

**I. Activity**

1. The child moves about actively when he / she explores new places

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

2. The child plays quietly with his/her toys and games

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

3. The child likes active outdoor play to quiet play inside

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

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4. The child moves slowly when working on a project or activity

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

5. The child sits calmly while watching TV or listening to music

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

6. The child runs ahead while walking with the parent

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

7. The child enjoys games that involve running or jumping

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

8. The child engage in activities rather than simply sitting.

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

9. The child is enthusiastic when he/she masters an activity

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

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10. The child stops his activity and go to the other side where some children are dancing

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

## II. Emotionality

1. The child is easily excited by praise

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

2. The child cries intensive when hurt

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

3. The child is outwardly expressive of his/her emotions

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

4. The child reacts strongly (cries or complains) to a disappointment or failure.

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

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---

5. The child becomes angry with one of his/her playmates since he takes the toy she was playing with.

Almost never \_\_\_\_\_ Almost always

1 2 3 4 5 6

6. The child laughs hard while watching television cartoons.

Almost never \_\_\_\_\_ Almost always

1 2 3 4 5 6

7. The child becomes upset or cries over minor falls or bumps

Almost never \_\_\_\_\_ Almost always

1 2 3 4 5 6

8. The child is moody for more than a few minutes when corrected or disciplined

Almost never \_\_\_\_\_ Almost always

1 2 3 4 5 6

9. The child becomes upset if he/she misses a regular television programme

Almost never \_\_\_\_\_ Almost always

1 2 3 4 5 6

---

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10. The child cries when he/she meets new visitors at home.

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

### III. Sociability

1. The child settles arguments with playmates within a few minutes

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

2. The child looks up when someone walks past the doorway

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

3. The child approaches children of his/her age that he/she doesn't know

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

4. The child has difficulty getting used to new situations

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

5. The child avoids new guests or visitors

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

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6. The child tends to hold back in new situations

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

7. The child like to be with a group rather than sitting alone

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

8. The child express his desire to visit his friend's house

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

9. The child runs ahead to talk with his friends if he happens to meet him while walking with his parent.

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

10. Child makes more friends

Almost never \_\_\_\_\_ Almost always  
1 2 3 4 5 6

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