THE TEACHING OF THINKING SKILLS IN THE PRESCHOOL YEARS TO ENHANCE COGNITIVE DEVELOPMENT

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JUNE 1999
I declare that **THE TEACHING OF THINKING SKILLS IN THE PRESCHOOL YEARS TO ENHANCE COGNITIVE DEVELOPMENT** is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

D T NGOBELI

21/09/99

DATE
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SUMMARY

THE TEACHING OF THINKING SKILLS IN THE PRESCHOOL YEARS TO ENHANCE COGNITIVE DEVELOPMENT.

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Degree : Doctor of Education
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The study contributed to preschool education by highlighting the attitudes and perceptions of parents and preschool teachers and practitioners concerning preschool education in general, and the teaching of thinking skills in particular. Furthermore, information with regard to developing guidelines for a preschool learning programme to assist unqualified and underqualified preschool practitioners in predominantly rural areas was generated.

The literature study revealed that all areas of development, that is, cognitive, physical, social, moral and emotional are interrelated. Therefore, development in cognition is influenced by, and influences the other areas. Cognitive development in particular, is most rapid during the preschool years and should be stimulated at this stage.

A qualitative study was undertaken to determine the attitudes and perceptions of preschool teachers/practitioners and parents with regard to preschool education in general, and the teaching of thinking skills to enhance cognitive development in particular. Four preschools in Region 3 of the Northern Province were observed to investigate the teaching of thinking skills and also the learning programmes used in these institutions.

The findings from the literature and research studies led to the following conclusions:
Parents are uninformed concerning their role in stimulating the cognitive development of their children.

Preschool education is regarded as being very important for children.

There are no prescribed learning programmes or explicitly stated guidelines underlying preschool education.

Thinking skills are taught to a greater or lesser extent in preschools, although the intentional mediation is missing.

The training of preschool practitioners is a neglected area.

In view of the conclusions, the following recommendations were made:

Underqualified and unqualified preschool practitioners should receive training.

Partnership between parents and preschool practitioners should be encouraged to ensure continuity between the home and the preschool.

Parents’ support programmes should be developed to empower them as their children’s most significant mediators.

Thinking skills should be infused in preschool learning programmes and activities.

Remote, rural areas should be supported by the government and NGOs with the provision of preschool education.

Prescribed guidelines and learning programmes should be developed to assist unqualified and underqualified practitioners in rural and disadvantaged areas in the Northern Province.

**KEY WORDS**

Preschool Cognition Thinking skills Early childhood Preschool practitioner
Learning programme Mediation Physical development Mental stimulation
Social development Emotional development moral development
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CHAPTER ONE

BACKGROUND AND ORIENTATION

"Unless the foundation is sturdy, it is useless to try to erect a sturdy building: even if the building is beautiful in appearance it will crumble to pieces when touched by a gale or an earth tremor, if the foundation is not firm. Early development is about this most important foundation-making. This foundation must be made very strong from the beginning, for it will be impossible to start making foundations when the building is up" (Masaru Ibuka 1977:56).

1.1 INTRODUCTION

Child development is an important sphere of human life. Parents have always regarded raising children as their responsibility and a part of their lives. However, it is not only the biological parents that play a role in children’s development - teachers, educationists and other concerned adults are involved. Brierley (1994:xi) has pointed out that the responsibility of raising children is awesome, and parents and teachers tend to be concerned about the permanent effects they might have on children - they are concerned about the influences they might have on the children’s total development.

Right from the time children are born, their parents or caretakers look after them, and that marks the beginning of the young child’s education. Sometimes it is the minders that take care of the children, or they may be taken to a crèche, a nursery
school or a preschool. The practitioners in the early childhood institutions will then spend part of the day with the children and will play a role in their development. As the various adults care for the children, they also educate them and influence their development.

Education is a life-long event, and children start being educated before they even go to school, that is, before they reach the age of six - in fact, education virtually starts at birth. Beck (1985:13) asked the following questions in this regard: How much are children capable of learning before the age of six? What happens to their brains during the preschool years when their bodies are growing and changing rapidly? Is the child's intelligence inherited and fixed by the genes he or she has inherited? Can the mental capacity be raised by the way children are cared for? What can be done for the children to give them ample opportunity to grow in intelligence during these important early years of life?

During the early childhood years or preschool years the foundation is laid for the child's development in later years. It is the period when development is rapid in all aspects of the child, that is, physical, social, emotional, normative and cognitive. Therefore, the education of these children should be taken seriously because the foundation should be strong if it is to carry a strong building.

Day (1994:9) states that "... early childhood education has a rich history. Its roots began with the dawn of humankind when societies expend time, energy and resources caring for children, this expenditure involves education". Further, Day (1994:9-10) postulates that in ancient times young children were not respected and were regarded as property with very few rights. They were regarded as miniature adults who differed with adults only in quantitative ways. They were viewed as
smaller, weaker and less intelligent versions of adults.

However, as time went on, as numerous studies on children unfolded, this idea about children changed. Educationists and scientists like John Dewey, Friedrich Froebel, Jean Piaget, Maria Montessori, to mention but a few, focused their attention on children, and threw light on characteristics of children that are unique. At this point in time education for young children is gaining in momentum. In South Africa, in recent years we have seen a great number of preschool institutions mushrooming all over in our society, and this has turned the spot-light on preschool education.

The present government, as reflected in the White Paper on Education and Training (15 March 1995) has also recognised the importance of the education of young children by pointing out that "... the care and development of young children must be the foundation of social relations and the starting point of human resource development strategies from community to national levels". The government acknowledges the importance of Early Childhood Development (ECD) as an essential cornerstone for later or life-long learning.

The present thesis would like to focus on the development and education of children from two years to five years, that is, children who have passed the infancy stage, but who have not yet started formal school. While the researcher acknowledges the fact that children are complete and whole beings and cannot be divided into compartments, the study focuses on cognitive development of the preschoolers and their acquisition of thinking skills. However, the focus includes the background of the total development of the child, as Nutbrown (1994:3) rightly states, "... children are complete and whole persons. They are not divided into parts which need to be
educated, parts which need to be cared for, and parts which need to be healthy. Ensuring their health, care and education requires a holistic approach”. The researcher also acknowledges the fact that other studies, amongst others, Ibuka (1977) and Beck (1985) have shown that intellectual development is most rapid during the first eighteen months of a child’s life. However the researcher will focus on preschool education as a complement to high quality parental care.

The role of parents is, and will always be crucial in the development of children, because even though children go to preschool institutions, they spend a lot of time with their parents. However the role of preschool institutions will be focused upon - how they enhance cognitive development of the young children and how they teach them to think. This will be studied against the background of parental influence in the total development of the children.

1.2 AWARENESS OF THE PROBLEM

The researcher’s interest was kindled when she witnessed the emergence of numerous preschool institutions in the community, especially the black community. As more and more mothers are employed in the formal sector, more and more children spend their days in preschool centres. Even those children who have minders at home, like grandparents, are taken to preschools. Some of these preschools are private owned and some are state-aided. Some have buildings built specifically for preschool purposes, and some operate in churches or any other available building. The researcher then wondered whether the education offered in all these institutions is beneficial to the total development of children. Do these institutions enhance cognitive development of the children? Are they taught thinking skills in these preschools? What is the quality of the educational programmes
offered in these preschools?

As preschool education or early childhood education is regarded as very important and acknowledged as such by educationists and psychologists, including the government, the researcher realised that the education has to offer an educational and beneficial service to children. The programmes in preschool institutions should, ideally, be designed in such a way as to enhance the total development of children in general, and cognitive development in particular - programmes that will teach thinking skills as the foundation of life-long education.

1.3 SOME STUDIES ALREADY UNDERTAKEN

A number of researchers have undertaken various studies on cognitive development and acquisition of thinking skills by preschoolers. A few of the research findings will be mentioned here.

* Scherer (1989) did a study on computing for young children, and found that computer programmes are effective in helping with the cognitive skills of problem solving, mathematics, language, and with the improved development of thinking skills. Suggestions were made for treating the computer as another resource in a preschool environment, including criteria for choosing software used successfully by the researcher.

* Shure (1993) undertook a study in which teachers of low income preschool and kindergarten children were trained to help children learn to think and solve typical interpersonal problems with peers and adults. Children were taught how to think so that they can decide for themselves what to think or do, they were not taught what
to think. It was found that as early as age four children could, or can learn to recognise that behaviour has causes and consequences, and that there is more than one way of solving a problem.

* Burger (1992) undertook a study that showed that thinking among preschoolers can be improved by the acquisition of thinking skills, and that improved thought processing does not occur spontaneously - it must be taught. Burger found that the well-informed mother, as the primary caretaker, is the one who can design the child's environment in such a way as to allow optimal actualisation of his or her cognitive potential.

* Wakefield (1994) did a study on young children's decision-making. She examined how allowing children to make choices can affect the quality of thinking in the school environment. She discusses the teacher's role in creating a learning environment in which an exchange of viewpoints is encouraged, one that allows children to make and defend their own decisions. She offers several examples of classroom activities that make children decide and therefore engage in thinking, and this contributes to cognitive and social development.

* Katz (1994), in her study suggests that early childhood teachers should eliminate boring, repetitive activities from their curricula and engage children's minds in activities that stimulate thinking and reasoning. She suggests that instead of making paper snowflakes, for example, children might be made to discuss and examine the characteristics of snow, study weather, and engage in other more creative activities. Their curiosity can be awakened and their thought processes improved.

There are other researchers who have studied preschool children, but the few
quoted above serve to show that preschool children can, and should be taught how to think in order to enhance their cognitive development.

1.4 STATEMENT OF THE PROBLEM

The problem under study arises from a problem identified in the field. Most young children now spend part of their day in preschool institutions. The preschool years are a period of great growth and developmental changes, specifically cognitive development. The researcher wondered whether these institutions are fostering and stimulating this intellectual development.

The main problem, which this study seeks to investigate, can be summarised as follows: What are the attitudes and perceptions of parents and preschool teachers and practitioners with regard to preschool education and the teaching of thinking skills in the preschool years?

The following serve as subsidiary problems to further expose the problem:
1) Do parents have important formative effects in the cognitive development of their children?
2) Is cognitive development influenced by physical, social, normative and emotional development?
3) Because children do think and reason without being taught to do so, is it necessary to teach thinking and reasoning skills in the preschool years?
4) What should be included in preschool learning programmes? How can preschools enhance the total development of children and also intensify their cognitive development?
5) Why are the preschool years crucial in the development of cognition?
1.5 AIMS OF THE STUDY

The main aim of the study is to examine the attitudes and perceptions of parents and preschool teachers and practitioners with regard to preschool education and the teaching of thinking skills in the preschool years.

This examination will amongst others include the following subsidiary aims:

1.5.1 To determine whether parents or early caregivers have important formative effects on the cognitive development of children.

1.5.2 To determine the effect of physical, social, normative and emotional development on the child’s cognitive development.

1.5.3 To determine whether it is necessary to teach thinking and reasoning skills in the preschool years.

1.5.4 To determine the philosophical assumptions that can guide the design and development of preschool learning programmes.

1.5.5 To determine the importance of the preschool years for cognitive development.

1.6 SIGNIFICANCE OF THE STUDY

In a study undertaken by Atmore(1993) it was shown that in 1992, 18% of the total population in South Africa were children of preschool age. This means that they
made up almost a fifth of the total population of the country. In the Northern Province, according to the Early Childhood Development Policy Discussion Document (August 1997:16), children between 0-4 years form 18,3% of the total population while those between 5 and 14 form 30,2%. This gives an indication of the high percentage of children in the Province and the need for resources required to cater for them. Most of these children live in the rural areas, and as the province has one of the highest levels of unemployment and poverty rates in South Africa at this point in time, most of these children live in poverty. These young children, irrespective of whether they come from urban or rural areas; from wealthy or poor households, need to be catered for, they need care in order to develop properly. The present study will throw light on the need for proper child care resources that will help in enhancing the total development of these children in general, and their cognitive development specifically.

“Children have a central part in the reconstruction and development of a democratic South Africa. Appropriate programs should be put in place to ensure that a proper foundation is laid during the critical period of development so that all children develop to their full potential” (ECD Policy Discussion Document August 1997:5). This is the vision for early childhood development in the Northern Province. In order that this vision can be realised, preschool education must be strengthened and have programmes that lay the foundation for life-long learning. This study will inform the design and development of preschool learning programme.

1.7 METHOD OF RESEARCH

The methodology of this study is two-fold. Firstly there is a review of literature and then the empirical research.
1.7.1 Literature review

Relevant literature on preschool children and their education will be studied. This is of great value as it enriches the current study, as much as the current study may expand it.

The preschool child will be studied in totality because cognitive development cannot be isolated from the other aspects of development and vice versa. Preschool education, that is, the interventions outside the home, will also be studied. The programmes and curricula will be studied in order to see the principles that govern young children’s teaching and learning.

1.7.2 The empirical study

The method of research is qualitative. The empirical study will be divided into the following sections:

1.7.2.1 Interview with parents of preschool children

The researcher will use a structured interview to collect data relating to the care and education of children before they attend preschool institutions and the time they spend at home after preschool. The aim is to obtain information on the kind of “mediation” they receive at home, and the role that is played by parents in the development of their children.
1.7.2.2 Observation

The researcher will visit four preschool institutions in the Northern Province. The aim is to observe the teaching and learning programmes at these institutions.

1.7.2.3 Interview with preschool teachers

The researcher will interview selected preschool teachers in the Northern Province. The aim will be to get their perceptions, experience and ideas about preschool education, and also to explore their role in the total development of children in general and cognitive development in particular.

1.7.2.4 Focus group for preschool teachers

The researcher will gather information relating to preschool programmes, by holding focus group sessions with preschool teachers. The focus will be on the teaching of thinking skills in preschool institutions.

1.8 DEFINING TERMINOLOGY

1.8.1 The preschool child

Vrey (1990:65) states that the preschool child is the child between the ages of two and six. Mwamwenda (1995:47) says these children are between the ages of three and six. For the purpose of this thesis, preschool children are children who have passed the period of infancy, that is, who are over two years old, but who have not yet entered formal school (the junior primary phase), that is, who are not yet six
years old. Preschool children in the Northern province will be targeted for study.

1.8.2 Development

Rathus (1988:3) defines development as ".... the orderly appearance, over time, of physical structures, psychological traits, behaviours, and ways of adapting to the demands of life". On the other hand Oladele (1989:19) defines development as ".... a progressive series of changes that occur in an orderly, predictable sequence or pattern as a result of maturation and experience". Both authors see development as being orderly and involving both the visible part - the physique, and also the psychological part that cannot easily be seen, but that is only implied from the behaviour of the human being.

The main aim of educating children is to lead them towards adulthood, so by implication development refers to this journey towards adulthood.

For the purpose of this thesis development will refer to the visible part and the psychological part, especially cognition. The psychological part will be deduced from the observable changes and behaviour of children as they mature and also as they act upon the environment and the environment acts upon them.

1.8.3 Cognition

Van der Zanden (1993:61) defines cognition as: "The process or act of knowing; our reception of raw sensory information and our transformation, elaboration, storage, recovery, and use of this information". Lefrancois (1997:73) defines it as "....the art or faculty of knowing". This is the faculty that helps a human being to
orientate him/herself in the world.

Hendrikz (1986:88) is of the opinion that cognition includes the ways we come to know and comprehend the world in which we live, to learn from it and to think about it. This means that a person learns about his/her life-world, and also orientates him/herself in it, through cognition.

For the purpose of this thesis cognition will refer to activities that are intellectual in nature, the mental activities used to acquire and act upon knowledge.

1.8.4 Cognitive development

According to Mwanwenda (1995:510) cognitive development refers to the "... development of a person's mental capacity, involving reasoning and dealing with various problems calling for objective thinking". Van der Zanden (1993:232) states that cognitive development "... is characterised by the rapid expansion of cognitive abilities. Children become more adept at obtaining information, ordering it, and using it. Gradually, these abilities evolve into the attribute called intelligence".

In this thesis cognitive development will refer to the development of a person's mind as evidenced by the way he reacts to or deals with different situations in different and peculiar ways; strategies that he uses to solve problems and decide, and functions that relate to thinking and ideas. Cognitive development cannot be directly observed, but can be inferred from the behaviour of the person.
1.8.5 Thinking skills

Beyer (1987:25) says that the word skill, in as far as it refers to thinking, means "..... the ability to execute or perform an activity in an expert, rapid, accurate way". Beyer further states that this word is often used as a synonym for thinking operations like recalling, organising, analysing, and others. On the other hand, French and Rhoder (1992:17-19) point out that a thinking skill includes strategies which the thinker needs to accomplish the task of thinking.

For the purpose of this study thinking skills will be the means that are used by an individual to cope and deal effectively with different stimuli in the environment - the strategies that are used by people to respond to situations and events to which the solutions are not straightforward.

1.8.6 Learning Programme

According to the Interim Policy for Early childhood development (1997:3), a "programme" refers to any number of events or activities that are compiled, in accordance with the curriculum framework. A learning programme is specific and spells out specific outcomes that are expected as well as activities that will be undertaken in order to attain the stated outcomes.

For the purpose of this thesis the concept "learning programme" will refer to the activities that are undertaken in preschool institutions on a day to day basis, that is, the teaching-learning activities.
1.8.7 Practitioner

"In respect of educators and trainers the term includes both formally and non-formally trained individuals providing an education in Early Childhood Development (ECD). This would include persons covered by the Educator’s Employment Act (Act No 138 of 1994) (Interim Policy for Early Childhood Development 1997:3).

For the purpose of this thesis, the term will refer to all caregivers, child minders and preschool teachers who are involved in early childhood development, but who may be unqualified or underqualified.

1.9 THE PLAN OF STUDY

Chapter one is the introduction and background to the research problem. The problem is formulated and the aims and significance of the study are stated.

Chapter two examines the preschool child’s total development. Physical, social, language, emotional and moral development are studied. The idea is that the child is a "whole" and so all the aspects of development affect each other - and therefore cognitive development cannot be studied in isolation.

In chapter three the focus is on cognitive development. An in-depth study of the development of cognition in the early childhood years is undertaken. Some thinking skills that can be taught to preschoolers are explored.

In chapter four the focus is on preschool education - the different preschool institutions in the community, the role of preschool teachers in cognitive
development of young children, and issues concerning preschool curricula and programmes are examined.

The fifth chapter outlines the empirical design of the study. Procedures for the gathering of data are stated.

In chapter six data are gathered, recorded and analysed. The results and findings are discussed.

Chapter seven presents a summary, conclusions, recommendations and implications of the study. Broad guidelines for designing a programme for cognitive development in the preschool years are suggested.
CHAPTER TWO

THE PRESCHOOL CHILD

2.1 INTRODUCTION

When children come through the period of babyhood and toddlerhood, they enter into the early childhood stage. In some societies, these children go to nursery school, crèche, kindergarten or preschool. In some societies they stay at home, waiting for the time when they will eventually go to school. Those who do not attend any form of preschool, spend their time at home with their mothers, where they engage in mother-child interaction; or they play with younger siblings if they have them; or with their playmates or on their own. If they have working mothers they will be minded by caretakers, who in most cases will be looking after more than one child.

This period of development is generally referred to as the preschool stage or the early childhood stage. Although it is difficult to classify children's development into generally accepted periods or compartments, psychologists and educators have attempted to set ages within which the different stages of development fall. Amongst others, Oladele (1989:25), Hurlock (1980:115) and Vrey (1990:65) describe early childhood as the period between two years and six years. On the other hand Mwamwenda (1995:47) and Papalia and Olds (1992:178) see it as a period between the ages of three and six.

The reason why it is almost impossible to place stages of human development into
compartments is that the different stages overlap, and the characteristics of the preceding stage are sometimes carried over to the next stage. For example, some characteristics of the preschool period are carried over to the primary school period, and some characteristics of infancy are carried over to the preschool period. Another reason may be the fact that children themselves are so different that it is very difficult to pin down certain characteristics to a particular group. Perhaps another reason may be that various authors use different criteria for classifying into different phases. Nevertheless, the stages of human development are classified by looking at the general characteristics of the individuals.

Educators refer to the early childhood years as the preschool age to distinguish it from the time when children are considered mature enough, both physically and mentally, to cope with the work they will be expected to do when they begin their formal schooling. The pressures and expectations that young children are subjected to in the home, crèche, day-care and preschool, are different from those they will experience when they begin their formal education in grade one.

For the purpose of this thesis, the preschool child is the child who is no longer a baby or toddler, but who has not yet entered formal school. The child may be at a crèche, day-care centre, preschool, being looked after by a minder, or staying at home with the mother or caretaker.

2.2 THE IMPORTANCE OF THE PRESCHOOL YEARS

The foundation for the development of the child is laid down during the preschool years, that is why these years are regarded as very important. This is the period of great intellectual development, and beginning from before birth to the age of about
six years, intellectual development is more rapid than in any other period of life. If children are deprived and do not receive stimulation during these years, this may have lasting negative effects on them.

2.2.1 Preschool years - a crucial period of life

The preschool years are the most crucial years in a person's life. Brierley (1987:23) is of the opinion that what is well and truly grounded in young children is likely to remain with them for the rest of their lives. The Jesuits were well aware of this when they said: "Give me a child until he is seven" (Brierley 1987:23). The Jesuits believed that what is grounded in children's minds before they reach the age of seven will influence their whole lives.

According to Forrest ( in Atmore 1993:118-119) Lord Broughelm, in a widely circulated manifesto of 1923 said, "..... the truth is that the child can and does learn a great deal more before the age of six years than all he ever learns or can learn in all of his after life. His attention is more easily aroused, his memory is retentive, bad habits are not yet formed, nor is his judgement warped by unfair bias".

The preschool years are very important, and educators and parents should take advantage of them and lay the foundation for physical, social, emotional, language, moral and intellectual development in later years.

Beck (1985:14) further states that there is now major evidence that the most favourable time for many kinds of learning and for the stimulation of basic learning abilities in children is already past before they reach the age of six. This implies that if we wait for children to begin school before stimulating or fostering their cognitive
development, we may be too late; the time to start doing it is during the preschool years.

The implication is thus that, the preschool years are crucial for development, and specifically for cognitive development, and as Beck (1985:39) states: "The child has already developed half of his total adult intellectual capacity by the time he is four years old, and eighty percent of it by the time he is eight. After age eight, regardless of what type of schooling and environment the child has, his mental abilities can only be altered by about twenty percent". This implies that most of the development of the brain takes place during the early years, the preschool years being part thereof.

Brierley (1987:27) asserts that most of the human being's body weight develops during adulthood, but, in contrast, most of the brain development occurs in the early years. He says that by the age of five the brain is ninety percent of its adult weight, whereas the body weight is about half of its adult value. As far as brain development is concerned, by the time the child is five years old, it has developed almost to its fullest capacity, whereas physical development is way behind. This is the reason why the early years are so crucial for cognitive development. We should be nurturing the brain intensely, in the same way as we nurture the body. Most of the time parents worry about the physical development of their children and are not really concerned about the intellectual development.

Brierley (1987:31) goes on to say that, ".... the brain and nervous system are most impressionable to the effects of the environment during periods of rapid growth and development. These occur in the human brain when it is growing rapidly in the uterus and also in the years up to about ten, though it is during the first five when
brain growth is especially swift". This statement by Brierley draws our attention to the fact that brain development is swift during the prenatal period, infancy and the preschool years. As this is the period when the brain is most impressionable, much should be done to stimulate it.

The writer thus believes that much can be done to stimulate and foster the cognitive development of the child, and this must be done during the early years, the preschool years included, when the child’s brain is growing rapidly; rather than wait for the child to begin schooling. We can do something about cognitive development, and Garbarino (1989:68) seems to support this by saying: “The child’s life is not fixed in some unalterable genetic code that predetermines what and who the child will be”.

2.2.2 The role of parents during the preschool years

Parents have an important role to play in the development of their children in general, and in cognitive development in particular. They are, by circumstances, the first and potentially the most important teachers that the children have.

“Parents have the unique opportunity to boost their youngster’s intelligence when it is most subject to change, to teach him individually, at his own rate and when and by what means he is most likely to learn, to shape their relationship with him in ways that can actually help him become brighter” (Beck 1985:14). In most cases, parents are the first adults that the young child has contact with after birth, and up to about the time the child goes out to preschool or other forms of child care, they are the only adults who have an influence on him or her.
The interactions that the children have with their parents are of the utmost importance in that they lay the foundation for later development. They have the chance of boosting the child’s intelligence while it is still susceptible to change, and they move at the child’s pace. They are the ones that teach children the complexities of their mother tongue, and long before the children go to school, they know their mother tongue and this may have an effect on thinking and the acquisition of thinking skills.

In this regard, Burger (1992:v) states that during the preschool years the mother, as the child’s primary caretaker can design her child’s environment in such a way as to allow for optimal actualisation of his intellect. The environment that parents create for their children plays an important role in their cognitive development; and as Healy (1987:43) observes, “...enriched environments encourage the kind of play that promotes brain growth and lays good foundations for a lifetime of learning”.

An enriched environment on its own without intervention from a significant adult or the parents will not stimulate brain development, but the presence of an adult, to make the children feel safe because they can depend on an adult, and to make them aware of relevant stimuli, makes them reach out to new experiences, and this stimulates their thought processes. Regardless of the young child’s innate intellectual potential, as is evident from the above literature, parents can raise their children’s thinking capacity.

This would then imply that cognitive development should not be left to chance, it should be stimulated especially by the parents during the early years of life before the child ever comes to attend any kind of formal educational programmes. Preschool programmes should also pay particular attention to cognitive
development, because during the preschool years there is still a great capacity for brain development and much can be done to enhance it.

The parents act as mediators for their children. According to Feurstein (1980:15) "...mediation refers to the way in which stimuli emitted by the environment are transformed by a mediating agent, usually a parent, sibling or other caregivers". In the environment there are many stimuli, but children need someone to mediate between them and the environment - to direct them towards relevant and meaningful stimuli. A significant adult, such as the parent, caregiver or the preschool teacher should preferably mediate for the child, rather than other children.

Schwebel (1986:9-10) states that the high value placed on mediation does not suggest that if children are given the opportunity they will not gain from experience and develop on their own to a certain extent. What is suggested is that, generally speaking, how well and how much they learn from experience depends to a considerable degree on the quality of the adult mediation or intervention. These interventions may assume the form of actions taken by parents or other child care givers.

Because the optimum time for brain stimulation and cognitive development in a child is already largely past before he reaches age six, a parent is in a position to increase the child’s intelligence substantially and to influence his thinking skills, which will be used for the rest of his life. That is the reason why the parent’s role should not be underestimated.

Before we can attempt to teach preschool children, or to help stimulate their intellects, or foster their cognitive development effectively, we must know these children in totality, because the child functions as a whole.
According to Gordon and Browne (1989:87) the concept of "... the whole child is based on the accepted principle that all areas of human growth and development are interrelated. It is only for the purpose of studying one area or another in depth that such categories are created". Thus the child in totality should be studied because various attributes of the child, such as his physical, social, emotional and moral development play a role in shaping him, and they will also influence cognitive development and the acquisition of thinking skills.

In this section various facets of the life of the preschool child will be discussed in as far as they influence and are interrelated with cognitive development.

**2.3 PHYSICAL DEVELOPMENT OF THE PRESCHOOL CHILD**

**2.3.1 General aspects**

In this section the physical development of the preschool child will be referred to because of the "wholeness" of the child. Children cannot be sub-divided into different water-tight compartments. One wonders whether development in one aspect does not affect development in other aspects. For example, one could ask the following question: Do physical changes and growth affect cognitive development?

Physical development refers to the specific biological changes in size, weight, structure and strength of various parts of the body. Van Der Zanden (1993:232) maintains that during the preschool period children become better co-ordinated physically. Walking, climbing, reaching, grasping and releasing are no longer simply activities in their own right, but rather means for new endeavours.
During infancy, the motor activities are sometimes just reflex actions, but during the preschool years they are done with a purpose; so the better co-ordinated the child is, the more new experiences he may engage in, and the more venturesome he may become. One wonders if being venturesome and trying out new experiences does not stimulate cognitive development. Because of the developing skills, children find new ways of exploring the world and accomplishing new things. They need to gain more initiative and they seek new ways of affecting the environment. While they are doing this they become more adept at gathering and processing information. In a way the physical development in the preschool years lays a foundation for cognitive and social development.

The physical needs of preschool children determine to a large extent what kinds of activities they will engage in. Depending on how well developed some motor skills are, (for example, fine muscles), the child will be able to handle small objects, which in turn will for instance, lead him to gather and process information pertaining to classification or seriation.

Turner and Hamner (1994:154-155) are of the opinion that unmet physical needs affect all other aspects of the child’s behaviour. For example, a child who is overly tired will tend to be cranky and have difficulty getting along with peers. A child who is hungry may behave aggressively. A child coming down with, or recovering from an illness may be lethargic and disinterested. The basic needs of rest and sleep, appropriate and adequate food, normal urinary and bowel functioning, and good physical health are essential if children are to maintain their natural energy, curiosity and involvement.

Physical development may not have such an obvious effect on cognitive
development. However, physical development lays a solid foundation for the increased motor activities of this stage. The increased motor activities will then influence social development and encourage exploration of the environment, which in turn could affect cognitive development.

Some psychologists, amongst others Hurlock (1980:116) have found a correlation between physical development and intelligence. It was found that children of superior intelligence, for example, tend to be taller in early childhood than those of average or below average intelligence. Clark (1992:34) further states: “We are aware of the above average physical development of many gifted children, we also notice how they value and share physical pursuits far less than cognitive endeavours”.

It would seem that there is a correlation between physical development and cognitive development. The question is whether physical growth influences cognitive development or vice versa.

2.3.2 Nutrition

For the child to grow properly and be healthy, adequate and good nutrition is necessary. Inadequate diet may lead to stunted physical growth. A common anxiety is whether insufficient food in pregnancy and early life is harmful to the development of the brain of the child. The question more specifically is: Are there times in brain development when poor food or a lack of food may have serious negative consequences?

Brierley (1987:35) says that the answer to this is not really clear, and to be harmful
malnutrition may have to be chronic. He goes on to say that in economically poorer countries it often happens that babies are born with a low brain mass, (sometimes 500 grams below the normal mass of 2,500 grams) and with a relatively small head circumference. However, the brain has such great powers of catching up that if the child is provided with good conditions between birth and about two years, the growth of the cranial circumference in such babies will be faster in the first few months after birth than in normal babies. So, even chronic malnutrition in the mother during pregnancy may not permanently hinder catching up. However, children who are at risk in these cases are those with a low birth mass, (below the norm of 2,500 grams) and who are then also subsequently malnourished. It is in these doubly deprived children that the negative effects on the brain are greatest.

The evidence in this regard suggests that malnutrition may not necessarily have a significant long-term effect on brain development, except where it is added to other negative factors. Other factors in the environment, for example, tender loving care, can reduce the negative effects. Nevertheless, brain development is to a certain extent bound up with body development, and therefore the promotion of optimal general physical development forms a background against which adequate intellectual development can take place (Brierley 1987:35).

2.4 SOCIAL DEVELOPMENT

Social development means learning to live with other people, both adults and children, and learning how to get on with them. It includes learning to make friends, sharing equipment, helping one another, being polite, playing and working in a group, standing up for oneself and solving disagreements without fighting.
Preschoolers' socialisation agents are mostly their parents and family members, and before they go out to preschool centres these are almost the only adults that influence them. As they go out to day-care centres, crèche, nursery school and preschool, they meet other people such as their peers, their caregivers and their teachers. All these people will play a role, no matter how small, in their socialisation. However, according to Prinsloo and Wiechers (1994:39) most authors agree that in the early years, that is, infancy and early childhood, the home atmosphere is extremely important for the children's subsequent socialisation to be successful.

In addition, Harris and Liebert (1992:321) are of the opinion that during the preschool years children internalise their parents' rules and standards of behaviour. The rules become part of the children, something they believe in, rather than something that is imposed on them by others. This forms the basis for learning the rules of the society, and directly influences moral development. By learning to internalise the rules of their families and how to act according to those rules, children are prepared to learn the rules of their society and learn to live by them. This means that this socialisation has its beginnings within the family, with the parents playing a major role.

2.4.1 Factors that may influence social development

There are various factors that may affect the social development of young children. The following are some of them.

2.4.1.1 Gender differences and sex role stereotyping

During the preschool period children become aware of their sex - of being male or
female. Van der Zanden (1993:252) states that gender is one of the early attributes of self. One of the major developmental tasks for the child during the first six years of life is the acquisition of gender identification. Gender identification refers to awareness of one's sex. On the other hand gender roles are cultural expectations that define ways in which members of each sex should behave. All societies have taken advantage of the anatomical differences between men and women to assign gender roles.

Parents and family members treat children differently right from birth, and this increases in the early childhood years. This differential treatment of boys and girls emphasises gender differences. Parents expect boys and girls to behave in different ways. It is not only the parents that do this, but also the extended family, preschools, primary and secondary schools. They convey overt and covert messages about gender roles. These messages tend to stress the stereotyped sex roles (Wiechers 1990:19).

Wiechers (1990:19) further asserts that "... gender identification is of the utmost importance to a person, however sex-role identification is quite another thing. Depending on the values within a particular culture, a sex-role can have a negative effect on a young girl's self-concept, her confidence, motivation, achievement and her career". Gender is determined biologically, the child is born male or female, and it is very important for him or her to identify with his or her sex; but sex role is culturally determined, the child incorporates behaviour which is regarded by society as being male or female.

Furthermore, De Witt and Booysen (1994:74) say that the term sex role "...denotes the typical conduct that is associated with a particular gender on the basis of
stereotyping and is expected from members of that gender”. People psychologically identify with a particular gender, as an integral part of their personal identity from a very early age. This will directly affect social development.

In some black families for example, boys are regarded as heirs and much is expected of them right from the early years. Girls on the other hand are not regarded as very important because it is expected that they will get married and leave home. Some parents do not even think that girls should go to school beyond the elementary level as they do not really expect anything from them; whereas boys, as the future breadwinners should be sent to school as there are great expectations for them. The questions that can be asked in this regard are: Does this kind of thinking on the part of adults not influence the kind of mental stimulation that will be given to these children? Will this kind of socialisation in the children’s tender years not influence their cognitive development and acquisition of thinking skills in later years?

2.4.1.2 Culture

Culture also affects social development of young children. "The term culture encompasses the values a people share, the common patterns among the ways they think and behave, their sense of common history, the body of traditions they accept, and the other characteristics that hold the group together. Those within a culture share a feeling of belonging that helps individuals identify with the group and lets them know how to act and how to fit in” (Myers & Myers 1995:121).

Each cultural group expects its young children to act in a particular way. If a particular culture rewards and reinforces learning, the children are more likely to
achieve in school than are their counterparts from other cultural groups.

In some cultures, for example, getting into an argument with elders and answering them back, no matter how constructive, is regarded as a sign of disrespect and is not encouraged. The same applies to being inquisitive and asking a lot of questions. The questions now are: Aren’t these children being deprived of the very mental stimulation that they need during their growth and development? Won’t these deprivations negatively affect their cognitive development and acquisition of thinking skills?

2.4.1.3 Child-rearing practices

Child-rearing practices, especially the style of parental authority, will have a remarkable influence on the social development of the child in general, and the cognitive development in particular. Oladele (1989:32) says that “…social behaviour is essentially a by-product of child-rearing practice and it depends upon the value judgement of the cultural pattern in which the child is brought up”.

In this section three styles of parental authority will be discussed, that is, the authoritarian style, the permissive style and the authoritative style.

a) Authoritarian parents (Autocratic parents)

Harris and Liebert (1992:322) are of the opinion that authoritarian parents are very strict and they regard obedience as a virtue. The child is punished forcefully if there are conflicts between him and the parents. Children are expected to do as they are told without any argument, and they are not given much freedom and
independence. Such children are usually afraid of their parents.

Van der Zanden (1993:271) states that authoritarian parents "... attempt to shape, control and evaluate a child's behaviour in accordance with traditional and absolute values and standards of conduct". Such parents believe that children should be seen and not be heard.

De Witt and Booysen (1994:33) list the following as characteristics of authoritarian parents:
* They make unilateral decisions on what is right or wrong and cannot be persuaded otherwise.
* They expect their children to be meek and submissive at all times, not to ask questions, but simply to do as they are told.
* They reprimand, threaten or punish for all transgressions of the child.

Children of such parents are trained to conform and not to ask a lot of questions. This is a problem for young children because when they are growing up, they are curious because they see a lot of unfamiliar objects and behaviours in the environment. They need to get an adult to direct their attention to relevant stimuli and to answer their questions. If they are denied the opportunity to ask questions and to talk on a one-to-one basis with their parents (as the adults available for them in the early years), then their development will be affected and they may then miss out on the mental stimulation that they so much need during the early childhood years.

While children need to be disciplined, they also need loving and patient parents who can talk to them, listen to them, debate and discuss with them, and answer
their various questions. The question that can be asked in this regard is whether this style of parenting does not inhibit cognitive development. When children are not given any freedom and independence to express themselves, do they still develop mentally as well as they would have done if they had been given some freedom and a listening ear? Can children gain mentally by being told exactly what to do at all times and being expected to be obedient every time? Does this not imply that it is presumed that children’s minds are blank and that adults must fill the blanks?

b) Permissive parents (laissez-faire parents)

These parents seek to provide an accepting and non-punitive environment in which their children control their own behaviour as much as possible. The children in such families are consulted about family policies and decisions. Such parents make few demands on their children and do not expect conformity (Van der Zanden 1993:271).

These parents are characterised as follows by De Witt and Booysen (1994:33):
* They allow their children to do as they please to a large extent.
* They are inclined to let things slide.
* Their children are seldom punished and they are mostly left to fend for themselves.
* They usually set no limits.
* They do not make decisions on the children’s behalf and allow them to do as they like.

Although preschoolers cannot really be expected to make policies and take decisions about family matters, in the laissez faire parenting style it means “they are
allowed to do as they like" to a great extent. Most of the time the parents do not intervene in the activities of such children. One wonders whether such a situation will enhance cognitive development? Can preschool children benefit intellectually by manipulating and handling objects in the environment without adult intervention? Can children acquire thinking skills by handling objects or making decisions without mediation from adults?

(c) Authoritative parents (democratic parents)

Authoritative parents provide strong direction and intervention for children's overall activities, but they also give them considerable freedom within reasonable limits. Their control is not rigid, punitive, forced and unnecessarily restricted. The parents give reasons for doing certain things and they interact with their children on a give-and-take basis. They also respond to their children's wishes and needs (Van der Zanden 1993:271).

Beck (1985:59-60) has pointed out that in such families the activities are planned in such a way as to take the children's needs into consideration. Such parents regard as significant the fact that children have to grow and develop into thinking individuals who can evaluate situations and act appropriately - ".....not trained animals who obey without question".

De Witt and Booysen (1994:33) state the following as characteristics of the authoritative (democratic) parents:
* They try to understand and accept the children's views, emotions and behaviour, and to accept their children with all their talents and limitations.
* They punish their children, but before they do it they try to understand their
behaviour.
* They respect their children and take the trouble to discuss with them and listen carefully to their input.
* They try to disengage themselves systematically so that their children can grow towards independence and responsibility.

The preschoolers like talking and they need someone to listen to them, to answer them and give feedback on what they are saying. They need adults who will give them their time, respect them as people of worth, and also give them direction and draw their attention to suitable and appropriate stimuli in the environment. While giving direction, the adults should also give some amount of freedom for the child to explore the environment and satisfy his or her curiosity.

This parental style (authoritative), where there is appropriate intervention on the part of adults, and also some freedom for the child to explore the environment, and the possibility of interacting with an adult, is ideal for cognitive development of preschoolers. While the child can and may benefit from the environment, he or she also needs an adult mediator to help stimulate this development. The other extremes, (that is, where children are either overly restricted by over-strict parents, or where children do as they like without appropriate intervention from adults), may not enhance cognitive development. There must be a balance between the two, where children are given some freedom, coupled with intervention from significant adults.

These three styles of parenting have an effect on the social development of preschool children directly and the social development may then have an effect on their cognitive development. An important question which can be asked in this
regard, is the following: In which way does parental style play a role in the stimulation of mental development of preschool children?

2.4.2 Play

Playing is associated with preschoolers. Whenever we think about preschoolers, we think about play because generally they are ever on the move, they like and enjoy playing. However, it is difficult to define play, although it is known that it is an important part of children's lives.

Van der Zanden (1993:286) defines play as "... voluntary activities that are not performed for any sake beyond themselves. They are activities that people commonly view as being outside the serious business of life". Playing is a pleasurable activity that is done for its own sake because it is enjoyable.

According to De Witt and Booysen (1995:121) children's play is their way of exploring the world. It is the natural way in which they make themselves busy with the world around them. It is their way of communicating with their world, and projection of themselves. Children get to master their world through play. It is a means of discovery and creation for them. Hymes (in De Witt & Booysen 1995:121) has the following to say about play: "It is thinking time for young children. It is language time. Problem-solving time. It is memory time, planning time, investigating time. It is organisation-of-ideas time when the young child uses his mind and body and his social skills and all his powers in response to the stimuli he has met". This description of play by Hymes gives the impression that play is everything for young children. If it is all that has been said about it, then the child needs play for his development, specifically in cognitive development and the acquisition of thinking
skills.

Nevertheless, whether we can define play or not, whether we can give reasons for play or not, play is an important part of preschoolers' lives; they enjoy it and they learn through it. Play also plays a significant role in the overall development of young children in general, and social development in particular.

2.4.2.1 Types of play

There are different types of play that children engage in, the following being some of them:

a) Exploratory play

Brierley (1994:71-72) states that in exploration the child is serious and concentrates on the activity. It involves investigation and manipulation and a desire to succeed. It is complex and includes a variety of problem solving activities; for example, a two year old doing puzzles or jigsaws, or a four year old “building” a house out of boxes and other materials, or a five year old making a car using pieces of wire. In this kind of play children work towards a definite end product.

This kind of play, coupled with appropriate intervention at the right time by adults, and an environment which is conducive to exploration, can contribute to cognitive development. The mediation or intervention by adults is necessary so as not to miss chances of using play to teach thinking skills to the children.
b) Imaginative play

Imaginative play has fun and freedom in it, and is satisfying for its own sake. Brierley (1987:72) says that "... it acts as a yeast to children's imagination. It has also been speculated that such play may be necessary to keep the infant's brain primed and active". Brierley goes on to say that adults and older children use their thoughts to keep the brain active. However, for the young child, until his internal thinking develops sufficiently, play in all its forms keeps the brain "pepped up", so such play can enhance children's ability to think without external stimulation.

Van der Zanden (1993:286) further asserts that imaginative play is "... an avenue for exploring the inner person of the child and acts as an indicator of underlying cognitive changes".

This seems to indicate that children need imaginative play in order to facilitate and practice thinking activities. It also gives us valuable information for understanding the thinking processes of young children and it may even help them to move towards the ability to think on an abstract level later in life. It therefore seems that imaginative play can lead to the development of the intellect and the acquisition of thinking skills.

c) Socialised play

Socialised or co-operative play is a group effort and it involves playing different roles. The children integrate their activities and they have different responsibilities.

Lindberg and Swedlow (1985:49) state that this kind of play involves dramatisation
of life situations. Children decide on the role they wish to play as long as they remain within the boundaries of the game so that they can be accepted by the rest of the group. In this kind of play, which begins at more or less four and a half years, children are socialised by friends, and they learn to interact in a group. According to Zeece and Graul (1990:13) co-operative play leads to a noticeable sense of belonging (or the lack of co-operative play to a sense of not belonging to a group). Roles and leadership tend to change frequently in the group as the play itself changes.

As children interact with their playmates, talk to each other, and listen to each other, they develop socially. The questions that can be asked are: What is the effect of this interaction with playmates on the cognitive development of these young children? As they play their chosen or assigned roles, do they acquire certain thinking skills? By looking at the tactics of their friends who are playing other roles do they gain thinking skills and strategies?

d) Egocentric play

Egocentric play is characteristic of the child before the age of four. It goes hand-in-hand with egocentric speech - where the child talks to him/herself while playing. It is as though he is thinking out aloud. As a result, in egocentric play, children play independently. They do not attempt to play with other children or to control those who come into or leave the play area. They just play along side other children, not with them.

Children sometimes play by themselves either because they do not want to play with anyone else, or because they do not know how to get involved with others.
They may be in an early childhood classroom, where there are other children, but some of them may not even pay attention to what the others are doing (Lindberg & Swedlow 1985:47).

Some forms of play may act as mental stimulation because young children really think by doing, looking, listening and touching. As they do that one wonders if it keeps their brain active and helps in its growth.

2.4.2.2 The role of play in the child’s cognitive development

In a study undertaken by Harris et al (1989:26-27) play was found to have the following effects in the young children’s lives:
* It contributes to the development of creativity and aesthetic appreciation.
* Play permits children to transform reality and hence to develop symbolic representations of the world and their immediate environment.
* Play is cathartic - it acts as an outlet for emotions.
* Play is preparation for life. It encourages the practice and mastery of those skills that will be useful in adulthood.
* As children play, they retain their playful attitude and this is a learning set that contributes to flexibility in problem solving.
* It is an active form of learning that unites mind, body and spirit.

Zeece and Graul (1990:15) state that play is not a luxury but a necessity in the lives of young children. With adult support or intervention it becomes a catalyst for optimal growth and development. It contributes to learning and cognitive development as children combine what they know with what they are learning as they play. “Indeed children play to learn as they learn to play” (Zeece & Graul
Brierley (1994:73) is of the opinion that play contributes to intellectual growth if the appropriate ingredients are present. The ingredients are security, very slight interference from adults, intervention and extension at the appropriate time, and an environment which invites exploration and in which it can progress. Successful and appropriate intervention is of crucial importance if play is to contribute to cognitive development. The teacher of young children must master the art of seizing the correct moment to intervene in order to challenge the child at the right level and to teach a thinking skill. For example, some children have educational toys in different shapes and colour. If the child just plays alone or with other children of his age, he may not benefit much; but if there is intervention from an adult at the correct level and moment, such skills as classification, seriation and others, may be taught.

Furthermore, children express themselves through play, they also acquire concepts and organise their knowledge. This is significant for preschoolers because they need to learn concepts and gain vocabulary that will then act as vehicles for thought. They are naturally curious and become increasingly so as they play. Curiosity is necessary for children to explore and benefit from their environment. Thus play, by making children more curious, enhances cognitive development because children learn to manipulate the environment and with the help of adult mediators, their intellectual growth is stimulated.

2.5 LANGUAGE DEVELOPMENT

Another area of development that may affect cognition is language development. Where does language come from? How do children learn to talk? According to
Healy (1987:163) various intellectuals have debated whether language is ".... pre-programmed or determined by input into specialised areas of the brain". Is there a mechanism that is already in place when the child is born that will make it talk? Do children acquire language as they hear others talk or talk to them? The answer seems to lie somewhere in-between.

Language is a means of expression and it reflects the instinctive nature of man to communicate. It determines what and how children will learn from their environment. We wouldn't know how to communicate with each other effectively if there was no language. Children learn a lot of things because of language. In fact, Beck (1985:66) says, "....it can encourage or discourage thinking", as evidenced by the fact that very young children are capable of complicated cognitive functioning as they acquire a vocabulary of their mother tongue, and be able to construct intricate sentences reasonably.

2.5.1 Theories of language development

Psychologists, educationists and linguists have always wondered how language is acquired and have come up with various theories to explain this phenomenon. Two of these approaches will briefly be referred to in this section.

2.5.1.1 The behaviourist approach

The behaviourists explain language acquisition in terms of the connection between stimulus and response. The child learns a language as a response to a stimulus.

Lenyai (1991:35) says that behaviourists' standpoint is that children are born with
a general learning potential, such as the innate capacity to acquire language; and that language learning occurs completely through the effects of the environment on the individual. Turner and Hamner (1994:19) further say that behaviourists believe that learning occurs when one individual conditions the behaviour of another by controlling the rewards and punishment for certain behaviours. The same applies to language learning: it comes about when an individual controls another to behave in a certain way. Usually it is the parents, as the first adults to have contact with the child, that will have this kind of control even on the child's language acquisition. That is why children learn their mother tongue first.

The behaviourists' view is that children learn to talk as a result of responding to a stimulus in the environment. They learn by imitating other people; and they are also greatly influenced by the reaction of other people to their speech. Mwamwenda (1990:132) has this to say in this regard "... caregivers gradually shape the prelinguistic child's cooing and babbling into words and sentences". This means that they reinforce every time when the child's trials at speaking come closer to the desired one, until mastery is attained. This is called reinforcing successive approximations.

However, reinforcement does not seem to be enough as an explanation for the acquisition of language. Craig (1983:207-208) points out that most of the time children have speech which is original and which has never been reinforced. Even if some forms were encouraged or discouraged, it wouldn't be possible to reinforce all correct forms and eradicate all incorrect ones. This seems to imply that besides rewards, punishment and reinforcement to encourage the acquisition of language, there are other forces that are responsible for children's acquisition of language.
2.5.1.2 The nativistic approach

While the behaviourists believe that language can be learnt through stimulus-response and can be influenced by the environment, the nativists believe that it is acquired through the development of innate linguistic abilities.

Harris and Liebert (1992:250-251) explain that it is obvious that something about language is inborn. This is evidenced by the fact that babies seem “tuned in” to speech right away. They have preference for the human voice as compared to other sounds. Furthermore, language development is the same in all children, that is, it follows a relatively fixed, universal pattern. Babies all over the world progress from crying to cooing to babbling. Harris and Liebert (1992:251) further state that “… the child does not need lessons in learning to speak, in fact formal training is usually of little use. He does not need to be particularly intelligent - only the most severely retarded or brain damaged are entirely without language”.

The linguist Chomsky (in Craig 1983:208) rejects the reinforcement theory as the only explanation for language acquisition. He believes that every human being is born with an intellectual structure for acquiring language - in other words, human beings are biologically programmed to learn language. The language-acquiring ability enables children to process linguistic data from the environment and to formulate productive grammar from which they create language.

Chomsky (1957) believes that children listen to what adults say, deduce or find the basic rules, then generate their own language. This means that what children need is to be exposed to language as used by adults during the early years (because the older one becomes, the more difficult it will be to learn a language). From listening
to other people speak, the child will be able to extract the basic language structure and principles. That is the reason why children make errors in grammar. For example, they hear people say “houses” to indicate the plural of “house”, then they will say “mouses” as plural of “mouse”. It means that they have grasped and extracted the basic language structure and principle of how the plural is formed by listening to other people speak, and they have come up with “mouse-mouses” from “house-houses”.

Cohen and Rae (1987:92) observe that just as the children's initial motor behaviour is embedded in their genetic endowment, so too may we find evidence of a genetic link with their initial efforts at using language. Chomsky’s theory seems to imply that there is a genetic predisposition to produce communicative sounds and to recognise them, as well as to anticipate and structure grammar. McNeil (1970:1087) expanded on the ideas of Chomsky and further described this inborn capacity for language acquisition as LAD - Language acquisition device. The purpose of this LAD being to find the basic rules within the language. LAD is a metaphor, it does not imply that there is actually a device in the child. It suggests that human beings learn language initially as though they have been designed to do so.

However, the writer believes that the two approaches - the behaviourist and nativist theories - are not mutually exclusive. Children learn to talk when they have the innate ability to do so; on the other hand, having the inbuilt mechanism will not help much if there are no role models and practice. Children need experience, they need to be spoken to, to imitate other people and to associate words with other words and phenomena in the environment. In other words, they need to learn in order to acquire language.
It is also important for children to learn language during the very early years, especially during the first two years of life. During this time brain growth is very rapid, and during this period of accelerated brain growth the child is intensely sensitive to language acquisition.

2.5.2 Stages of language development

Language development goes through a series of stages that are universal. A brief description of the stages will follow.

2.5.2.1 The prelinguistic stage

These are very early vocalisations like crying and other sounds made by the baby, for example, yawning, sighing, coughing, sneezing and belching. After about six weeks there is gurgling followed by cooing and babbling at about the third month. Even the deaf go through these sounds even though they have never heard them. This suggests an inborn mechanism (Van der Zanden 1992:193).

2.5.2.2 The holophrase stage

At about ten months the child utters single words, most often nouns and usually names of people, things or animals in the immediate environment. These, according to Craig (1983:214), are often single words meant to convey complex ideas.

The one word that is uttered by the child, together with non-verbal communication like facial expressions and gesticulations within a particular context or situation, carry the meaning of a total sentence. For example, the child may say: Dog!
coupled with pointing at it and crying. This may mean that he is afraid of a dog or a dog is coming towards him. That is why it is called a holophrase or "one word sentence" because the one word implies a whole sentence.

2.5.2.3 The two-word sentence

By eighteen months the child speaks telegraphically and states only the very necessary words. Wiechers (1994:19) says that the child formulates a sentence which may be negative, emphatic, expressing command or questioning. If the two-word sentence is supported by nonverbal communication and the situation, it becomes very meaningful.

For example, the child may say: "Mama go!". This is a full sentence which may mean that the mother has gone to work or somewhere else; or "Water open", the child may be giving a warning that there is a tap of water that is running. Children can thus express themselves reasonably well through two word sentences.

2.5.2.4 Multiple-word sentences

The child reaches this stage by the age of two and two and a half years. As his vocabulary expands he becomes capable of formulating longer sentences consisting of a number of words. According to Lefrancois (1997:47) ".... multiple word sentences include a subject and a predicate. For example, the child may say: "I no want wash" or "I want milk". Sometimes some of the words may be placed incorrectly but sometimes the sentence may be grammatically correct; nevertheless the meaning is clear.
2.5.2.5. More complex grammatical structures

Children reach this stage roughly between two and a half and three years of age. During this stage they use increasingly more complicated grammatical structures. Some elements are added to sentences and prepositions are used (Wiechers 1994:20).

Lefrancois (1997:47) states that during this stage "...elements are added, embedded and permuted within sentences. Word classes (nouns, verbs and prepositions) are subdivided. Clauses are put together". For example, children can now say: "Take me to the toilet" - which means that they can use a preposition; or "I can't jump" - meaning that they have used permutation.

2.5.2.6 Adultlike language

At about five to six years, the child can speak in an adult-like fashion. According to Lefrancois (1997:47) "... complex structural distinctions are made" and the child can ask, tell or promise. For example: "Where is my doll?" or "The book is on the table" or "I promise to bring it to you".

This is the time when children are still at preschool and about to start the junior primary phase. This means that by the time children start Grade one they have to a large extent, mastered their mother tongue. Language development therefore takes place especially in the preschool years and this further underlies the importance of these years, as language and intellectual development go hand in hand.
2.5.3 Classification of children's speech

Children's speech can be classified into egocentric and socialised speech.

2.5.3.1 Egocentric speech

Here the child indulges in speech for the simple pleasure of talking. Ideas are not purposefully exchanged with another person. As already mentioned in section 2.4.2.1(d), the child usually speaks to himself while playing, and it is as though he is thinking aloud. It is like a monologue and is valuable for helping children to be fluent and coherent in expressing themselves. It also helps children to structure their own thoughts, and thus it stimulates cognitive development.

Lefrancois (1997:97) states that children talk to themselves as if they want to guide their own behaviour. For example they might talk about what they are doing as they do it. They say things out loud rather than silently, as if they believe that language must be spoken if it is to direct behaviour. This is different from, but may be a precursor to, the older children's and adults' inner speech or self-talk which makes all higher mental functioning possible.

Vygotsky (Papalia & Olds 1992:197) sees egocentric speech as a special form of communication, that is, communication with oneself. He believed that private speech helps children integrate language with thought.

2.5.3.2 Socialised speech

Vrey (1990:72) says that socialised speech is used when children speak to other
people, conveying messages to them, and receiving messages in return which they understand because they know the language.

Unlike egocentric speech, socialised speech involves communication between people and has many communicative functions such as the exchange of ideas, making requests, instructing, directing and others. By the end of the preschool period, the children’s vocabulary has increased extensively and they use their mother tongue almost like adults. This is useful at this period when their cognitive development is rapid, as the language will act as food for their thought processes because thinking cannot occur in a vacuum, but in a context.

2.5.4 The parents’ contribution to language development

Because of the close relationship between a mother or caretaker and the child during infancy and early childhood, the former play an important role in language development. They are usually in close contact with their growing children and this puts them in a position of being their children’s first teachers and models. According to Wiechers (1994:12) this relationship is the most important component or factor in the young child’s environment, and the early care-giver affects the child’s language acquisition, ability to communicate and establish relationships, as well as his intelligence.

The mother especially, as the adult who interacts with the child most, is the one who plays a very important role in language development. The way she speaks to the child will influence language acquisition. Van der Zanden (1993:186-187) calls this care-taker speech. He says that in caretaker speech (which is sometimes termed baby talk), caretakers (mothers and fathers) modify their language when speaking
to infants and young children. Usually the vocabulary is simplified and the pitch is made higher. Adults phonologically simplify vocabulary for children, for example, "wa-wa" for water, and it makes speech affectionate.

This kind of speech is also called "motherese". Van der Zanden (1993:186) observes that what is termed motherese "...is a simplified, redundant, and highly grammatical sort of language". The parents restrict their speech to the present tense, to concrete nouns and to utterances about what the child is doing or experiencing. This may assist the child to acquire language sooner.

The importance of the early caregiver is highlighted by Brierley (1987:44) when he says that if the child is not spoken to by the age of ten, he may be dumb for life or at least may be retarded in speech. It thus appears as if there is an optimum time in the early years for the brain to master the skill of talking. The child learns to talk by having someone, preferably an adult, who talks to him, who gives continuous input, someone he can relate to continually.

Brierley (1987:47) further states that the mother's method of teaching language is direct. The mother talks, or should talk to the child before he understands. "Language passes over him like water from a fresh bubbling spring". Before a child learns to speak the mother should always be on the lookout for any sign of understanding on the child's part. When the child says his first words she and others should urge him on. His first understanding of his mother tongue is made easier by the habits mothers have of repeating the same phrases with slight alterations and at the same time acting what they are saying. Repetition is important for language acquisition.
2.5.5. The relationship between language and thought

The questions to be asked here are: Can the use of language increase the child’s ability to think? What is the relationship between language acquisition and brain development? Pappas (1984:133-134) says that there are no conclusive answers about the relationship between language function and brain development. He says that many of the issues to do with this relationship are complex and controversial. However many human scientists believe that there is a relationship between language and thought.

Healy (1987:193) believes that “inner speech”, that is, the silent conversation that we carry on with ourselves, creates physical connections in several important parts of the brain. A person can involve himself in inner speech only if he has acquired language. So language acquisition leads to inner speech, which in turn leads to further brain development.

Van der Zanden (1993:183) maintains that “...language is a vehicle of conveying thought”, for example, when a person is asked to describe something, he or she seeks to translate a mental picture into words. The spoken words thus transmit what is in the mind, they convey thought. Language facilitates thought and other cognitive processes. It makes it possible for people to encode their experiences by assigning names to them. It further provides concepts by which people dissect the world around them and categorise information. Language also helps human beings to divide the environment into manageable and relevant units and areas.
2.6 EMOTIONAL DEVELOPMENT

Emotional development is another area of human development which may affect and be affected by cognitive development. Van der Zanden (1993:228) defines emotions as "... the physiological changes, subjective experiences, and expressive behaviours that are involved in such feelings as love, joy, grief and rage". These are the personal feelings that human beings have and the way they express such feelings.

Emotional development includes the child’s understanding and control of emotions such as anger, sadness, affection, jealousy and others. Parents, family members, or teachers have a role to play in the emotional development of children by providing them with an environment that will make them feel loved, accepted and secure.

"Emotions are outward expressions of inner feelings which are aroused by one’s behaviour or that of others" (Oladele 1989:27). The person expresses his feelings and emotions through verbal and non-verbal communication.

Psychologists have characterised emotions in various ways. Some perceive emotions as a reflection of physiological changes that occur in our bodies, including rapid heart beat and breathing, muscle tension, perspiration and a “sinking feeling” in the stomach. Others have viewed it as the subjective feeling that one experiences - the label assigned to a state of arousal. Still others say that it is expressive behaviour that a person displays, including crying, moaning, laughing, smiling and frowning. Emotion is not one thing but many, and is best characterised as a combination of all these descriptions (Van der Zanden 1993:202).
Piaget (1969) (in De Witt and Booysen 1995:21) states that emotions cannot be separated from cognition. Both of them, combined together, form symbolic schemes which are the basic building blocks of intelligence. Emotions supply energy to the schemes in the form of interest or lack of it, as well as the tendency to avoid or approach a situation. Cognition is enhanced or hampered by emotion. The two, that is, emotions and intellect, are inseparable and irreducible.

Mwamwenda (1995:50) maintains that there is a difference in the emotions of an infant and a child in the early years. During infancy emotions are general and undifferentiated. Thereafter, that is, in the early childhood years, emotions or patterns of expression become differentiated and distinguishable. For example, infants express their anger undirectionally and physically, by kicking, hitting or struggling. This characteristic is still observed during the very early preschool years, when the child expresses his anger by temper tantrums that are accompanied by threats and insults. As the children grow older they use alternative and more appropriate ways of expressing emotions. During the preschool years the child should ideally be taught to make this shift, that is, from expressing emotions in an undesirable way to expressing them in more desirable and germane ways.

Emotions are driving forces behind certain behaviours and mannerisms. Maier (1978:86-87) says that Erikson’s theory searches for the affective forces which make individuals act in certain ways. In other words, Erikson has connected emotions with social development and described eight developmental phases as far as emotional development is concerned, attributing five phases to childhood and three to adulthood.
2.6.1 Erikson’s socio-emotional dimensions

Erikson is Sigmund Freud’s “disciple” and as such is regarded as being a Neo-Freudian. Like Freud, he was a psychoanalyst, but he extended and refined Freud’s notions of personality development by focusing more on child development. His point of departure was that as individuals interact with their environment, they encounter psychosocial crises that roughly correspond to given ages and stages of life (Turner & Hamner 1994:16).

Erikson (1963) identifies eight stages of socio-emotional development and they are known as psychosocial stages. They are the following:

* Trust versus mistrust (0-2 years)
* Autonomy versus doubt and shame (2-3 years)
* Initiative versus guilt (3-6 years)
* Industry versus inferiority (7-12 or 13 years)
* Identity versus role confusion (14-20 years)
* Intimacy versus isolation (20-35 years)
* Generativity versus stagnation (35-55 years)
* Integrity versus despair (55 years onwards)

This theory gives us an idea of what socio-emotional phases children pass through as they develop. Four of these phases will be discussed here, because they will throw light on the emotionality of the preschool child. One wonders to what extent this emotionality has an effect on cognitive development. Or, does cognitive development affect emotional development?
2.6.1.1 Phase 1: Trust versus mistrust (0-2 years)

This is the first phase of Erikson's socio-emotional stages. According to Erikson (1963:247) the first demonstration of babies' basic trust is the ease of their feeding, the depth of their sleep and the relaxation of their bowels. This is the stage when the child begins to experience inner division, when some of the things he used to have automatically in the mother's womb are no longer so easily available. It is against this sense of deprivation and abandonment that basic trust must maintain itself throughout life.

Maier (1978:89) further states that emotional development is secured in the very early experience of this first phase. When children are born they leave the rhythmic regularity, warmth and protection of the uterus, and experience the reality of life in first contacts with the outer world. That basic trust which they had begins to be challenged as they grow older.

A sense of basic trust helps an individual to grow psychologically and to face new experiences willingly. This may then lead the child to face new events, which in turn may act as mental stimulation. Each successful outcome of this basic trust tends to produce favourable expectations of new experiences, yet it is these very experiences that may offer occasions for mistrust. However, for the child who has experienced trust in his immediate environment, his overall confidence, balance and emotional well-being will be maintained.

2.6.1.2 Phase 2: Autonomy versus shame and doubt (2-3 years)

In the second phase the child acquires a sense of freedom while fighting the sense
of shame. If all has gone well, children will now trust their mothers and would like to assert their independence. However, physically, socially and psychologically, they still depend on their parents. This then creates doubt in their ability to be autonomous - this is the conflict that has to be resolved during this phase.

As infants gain trust in the person who cares for them, their environment and way of life, they realise that they can determine their own behaviour, and thereby gain a sense of autonomy. At the same time, their continued dependency on other people brings a sense of doubt concerning their ability to assert their independence and exist as autonomous beings. “This doubt becomes compounded by a certain shame for their instinctive revolt against their previously much enjoyed dependency, and by a fear of exceeding their own or environmental limits” (Maier 1978:96-97).

Shame, according to Erikson (1963:252-254) is an emotion that supposes that one is completely exposed and conscious of being looked at, and it is closely related to doubt. “A sense of rightful dignity and lawful independence on the part of adults around him gives to the child the confident expectation that the kind of autonomy fostered in childhood will not lead to undue doubt or shame in later life” (Erikson 1963:254).

2.6.1.3 Phase 3: Initiative versus guilt (3-6 years)

Erikson (1963:255) has the following to say about this phase: “Initiative adds to autonomy the quality of undertaking, planning and attacking a task for the sake of being active and on the move, where before, self-will, more often than not, inspired acts of defiance or, at any rate, protested independence”.

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The danger of this stage is a sense of guilt over the aims and acts initiated. Prinsloo and Wiechers (1994:53) state that ".... the very initiative can also cause children to develop guilt feelings". In their actions, the children may make mistakes and then they may expect condemnation or punishment. Other people's activities may frustrate their initiative, and this can also cause guilt feelings. This is the crisis of this stage.

To resolve it, Lefrancois (1997:70) believes that identification with significant adults like parents and preschool teachers, is at the centre of the resolution of the crisis of this phase. Children feel guilty if their initiative leads them to being in conflict with the significant adults. The adults should therefore encourage the children's sense of initiative and nurture a sense of responsibility in the children.

The questions now are: Does this sense of initiative stimulate intellectual development? What role does identification with significant adults play in the children's cognitive development?

2.6.1.4 Phase 4: Industry versus inferiority (7-12 or 13 years)

This socio-emotional phase spans the primary school years, which is the stage following the preschool years, and is also the stage to which we are leading the preschool child. According to Lefrancois (1997:70) this phase is characterised by children's need to interact and be accepted by the peer group. They need to get assurance about their importance, their significance and their identities. They also learn tasks that they think are important in their culture.

Turner and Hamner (1994:17) observe that ".... industry develops as children
pursue challenging tasks with eagerness and curiosity”. If they fail in their attempts they may develop a sense of inferiority. Successful resolution of the conflict of this stage, that is, industry versus inferiority, depends to a great extent on how significant others respond to the children’s efforts. If their efforts are recognised, acknowledged and praised, the sense of industry is encouraged; but, if their efforts are looked down upon, seldom praised and rewarded, then they may have a sense of inferiority.

2.7 MORAL DEVELOPMENT

Moral behaviour is one of the most intriguing aspects of human behaviour about which children must learn. Underlying moral behaviour are reasoning processes that may parallel general cognitive development. It refers to the way in which children learn to determine what is right and what is wrong.

De Witt & Booysen (1995:32) are of the opinion that children are not born with a sense of what is right or wrong. They do, however, have the potential for learning. Parents play a crucial role in this regard. There is a relationship between the normative or moral behaviour of children and their interaction with adults and peers.

Kohlberg (1963:11) defines moral development as “... a process of internalising culturally given external rules through rewards, punishment and identification”. This means that morality is influenced by significant others.

According to Hurlock (1980:132) moral development during the preschool years is on a low level because of the following reasons:

* Young children’s cognitive development has not yet reached the point where they
can learn or apply abstract principles of right or wrong.
* Preschoolers do not have the necessary motivation to adhere to rules and regulations because they do not understand how these benefit them as well as members of the social group.
* They are unable to understand the "whys" and the "wherefores" of moral standards, and as a result they must learn moral behaviour in specific situations.
* They merely learn how to act without knowing why they do so.

Moral development is dependent upon intellectual development. It occurs in predictable stages related to stages of intellectual development. As children's abilities to perceive and understand change, they move on to a higher level of moral development. While the order in which these stages in moral development occur is constant, the ages at which children reach these stages differ according to the level of their intellectual development. The ages that may be given act only as guidelines (Dermer & Thiel 1975:78).

2.7.1 Theories of moral development

Two theories of moral development will be discussed briefly, that is, Jean Piaget's theory and Lawrence Kohlberg's theory. Both have shown that moral development follows a predictable pattern related to the sequence of stages in intellectual development.

2.7.1.1 Piaget's theory

Piaget (1932:18) believed that there is an orderly and logical pattern in the development of children's moral judgements. This development is based on the
sequential changes associated with children's intellectual growth, especially the stages that are characterized by the emergence of logical thought.

His theory recognises the existence of two levels of morality in the child, that of realism or heteronomy, before the child is ten years old; and that of co-operation or reciprocity, after the age of ten. As the preschooler falls under the category of realism or heteronomy, it will be referred to briefly.

Piaget (1968:106, 335) stated that moral realism is "... the tendency which the child has to regard duty and the value attached to it as self-subsistent and independent of the mind, as imposing itself regardless of the circumstances in which the individual may find himself". In other words children accept from adults a certain number of commands to which they must submit whatever the circumstances may be.

Piaget (1968:106) further says that any act that shows obedience to a rule or even to an adult, regardless of what he may command, is good; any act that does not conform to rules is bad. A rule is therefore not in any way something elaborated, or even judged and interpreted by the mind; it is given as such, ready made and external to the mind. It is also conceived of as revealed by the adult and imposed by him. Good behaviour is therefore defined by obedience.

This implies that what determines what is right or wrong for the preschooler is what his parents or other significant adults say, otherwise nothing in itself is right or wrong. Piaget believed that children develop a conception of moral rules as absolute, unchanging, and rigid as a result of their position in relation to adults.
It is only when children approach adolescence that a new stage emerges, that is, the stage of morality by co-operation.

### 2.7.1.2 Kohlberg's theory

Like Piaget, Kohlberg also believed that children go through certain phases of moral development as their cognition develops. His theory proposes three broad levels of moral development and reasoning.

1. **Preconventional reasoning:** It is used by children between the ages of four to ten years. Siegelman and Shaffer (1997:372) state that before the age of 4 the young child is still in the premoral phase and does not engage in moral thinking, although by age two to three punishment and reward begin to play a role.

2. **Conventional reasoning:** It is used by the majority of adolescents and adults. At this level moral reasoning is more sociocentric in that it also takes into account the interests of others.

3. **Post-conventional reasoning:** People who function at this level are neither sociocentric nor egocentric, but autonomous in their judgement (Kohlberg 1963;1981)

From these three broad levels, Kohlberg developed six stages of moral development. For the purpose of this thesis, only the preconventional level will be discussed as preschoolers operate at this level and even in the junior primary phase they will still be operating at this level.

As has been said, this level is reached by children aged four to ten years. At this level children are responsive to cultural rules and labels of good and bad, right and
wrong. The children interpret these labels in terms of the physical consequences, that is, punishment, reward, exchange of favours, or in terms of the physical power of those who enunciate the rules and labels of good and bad (Kohlberg 1981:16-17).

STAGES IN PRECONVENTIONAL REASONING.

* Stage 1: Punishment and obedience orientation

During this stage the child simply obeys rules and acts in such a way as to avoid punishment, or because those in authority say that it is right. Kohlberg (1963:14) has the following to say in this regard: “There is no real conception of a right. Having a right to do something is equated with being right and it implies obeying authority”.

Kohlberg (1981:17) further says that in this stage “... the physical consequences of action determine goodness or badness regardless of the human meaning or value of these consequences. Avoidance of punishment and unquestioning deference to power are valued in their own right”.

* Stage 2: The instrumental relativist orientation

According to Kohlberg (1981:16-17) “.... right actions consist of that which instrumentally satisfies one’s needs and occasionally the needs of others. Elements of fairness, reciprocity and equal sharing are present, but they are always interpreted in a pragmatic way”.

Children want to satisfy themselves first. This reflects the egocentricity of young
children - thinking of themselves and failing to see the other's point of view. Right or wrong do not have their meaning but depend on what the child will get and who says that it is right or wrong. Preschoolers learn moral behaviour in context and therefore they will take the moral standards of the people who are significant adults in their lives. They themselves are still too young and inexperienced to make judgements on their own and to come to a conclusion about what is right and wrong concerning various issues.

The children in this phase, that is, the preschool phase, depend to a great extent on their parents, their caretakers, their teachers, and other significant adults for their moral behaviour. They take their cues from the adults. It means that to have any sense of morality, the child depends on others, there is no inborn sense of right or wrong. This further underlies the important role of adult intervention in the lives of young children.

2.8 CONCLUSION

As already been stated, the preschool years are of the utmost importance for lifelong individual development because the foundation for all future development is laid here. Preschool children have feelings, needs and desires and should be afforded the human dignity and worth that they deserve.

This study focuses on cognitive development and thinking skills of preschool children. However we cannot totally isolate cognitive development because all the other areas of children's development are interactive. It is the whole child that must be considered because there is an interplay of factors and that is why the education of young children is approached holistically. It is believed that all the facets of the
children's development - physical, social, language, emotional, and moral - will play a significant role in cognitive development, and vice versa.

In the next chapter, the cognitive development of preschool children and their thinking skills will be studied.
CHAPTER THREE

COGNITIVE DEVELOPMENT IN THE PRESCHOOL YEARS AND THE TEACHING OF THINKING SKILLS

3.1 INTRODUCTION

As children develop physically, emotionally, socially and morally, they also develop the cognitive facet of their psyche. Development in one aspect influences development in the other aspects and vice versa. The questions that can be asked are: Should the development of cognition be left to maturational processes that will occur as children grow older, or should there be intervention to enhance this cognitive development? Should thinking skills be taught consciously or will children acquire them as they are taught other things? If cognitive development is left to chance will the children still develop cognitive skills optimally?

In this chapter the writer will attempt to demonstrate that conscious intervention by an adult is necessary to enhance the cognitive development of preschool children. If cognitive development is left to chance, the children may not reach their potential. The researcher would also like to point out that if young children are taught how to think, their intelligence can be increased, their cognitive development can be enhanced; and that thinking processes that come before intelligent behaviour can be taught.
3.2 THE MEANING OF COGNITION

3.2.1 Cognition

The term cognition refers to activities that are intellectual in nature. According to Bjorklund (1989:3) cognition refers to "...the processes or faculties by which knowledge is acquired and manipulated". It is a mental process. We cannot directly observe it.

In his description of cognition, Hendrikz (1986:88) included the ways we come to know and comprehend the world in which we live, to learn from it and to think about it. These activities describe the processes of thinking, learning, remembering, comprehending, reasoning, making decisions and solving problems.

Spodek et al (1991:87) state that "....cognition refers to an individual's intellect or thinking"; while Matlin (1989:2) states, "... cognition, or mental activities, involves the acquisition, storage, retrieval and use of knowledge".

Rosser's (1994:2) idea is that cognition includes all the mental activities that are used in changing a stimulus from an environmental source to represent reality for the person, and therefore guide behaviour. Before an individual can react to a stimulus, he or she must have processed it to represent reality for him or for her.

Cognition, as the afore-mentioned definitions imply, relates to mental or intellectual activities in which the human being is involved in the course of his or her life. It is the way in which we obtain knowledge from the world and how we utilize this knowledge after we have transformed it to represent reality for us. It is a concept
that refers to all the activities of the mind.

3.2.2 Cognitive development

When the mental or cognitive processes by which knowledge is acquired, interpreted and represented develop, we may speak of cognitive development. Mwamwenda (1995:89) states that "...cognitive development is the development of a person's mental capacity to engage in thinking, reasoning, interpretation, understanding, knowledge acquisition, remembering, organising information, analysis and problem solving".

Bjorklund (1989:4) maintains that cognition develops. He says that when we speak about cognitive development we are referring to "....some hypothetical mental construct, faculty, or ability that changes with age". Cognitive development involves changes in mental processes by which we obtain and utilize knowledge. This implies that before we acquire knowledge or respond to an environmental stimulus, there are some activities that take place in the mind. These activities precede the behaviour that will be exhibited by the person, and underlie human behaviour. These mental activities develop over time, due to maturation and also due to environmental factors.

Schwebel (1986:13) asserts that more specifically "...cognitive development can be defined as the individual's active process of constructing the methods and contents of personal thought through interactions with the physical and social environment".

These mental processes develop and change as a result of maturation to a certain extent, and also by the interactions that a person has with his or her environment.
The question is: If we teach children thinking skills as early as the preschool years, will this lead to optimal cognitive growth?

3.3 COGNITIVE DEVELOPMENT IN THE PRESCHOOL YEARS

3.3.1 The need for intervention in the cognitive development of the preschool child

As has already been stated, the preschool years are very important for the overall development of the individual. Most psychologists agree that the first six years of life are critical for human development, because the foundation for all future development is laid here. These years are very important for cognitive development. Beck (1985:9&30) states that the level of intelligence can be raised to a considerable extent during the first six years of a child's life and that the child does not actually have a fixed intelligence or predetermined rate of cognitive development. The level of intelligence and the rate of cognitive development can be changed, either positively or negatively, by his environment, especially during the earliest years of his life.

Adults (for example, parents and preschool teachers), need to intervene in raising children's thought processes and therefore leading children towards optimal cognitive development. They need to put themselves between the children and the environment, and teach the children thinking skills. In this regard Clark (1992:73) says that "...we have a choice. We may either plan to provide the most nourishing environment that is possible within our current knowledge, or we may allow this important interaction to occur by chance. Regardless of how we choose to approach these formative years, interaction will occur and intelligence will develop. Whether
that development leads to actualisation or loss of human potential depends on us".

The implication here is that the child's cognitive development and the level of intelligence can be stimulated, for better or for worse. Furthermore this stimulation can especially be done when the child is still very young, when, according to Beck (1985:15) the child's "...fast-growing brain could absorb readily".

Schwebel (1986:13) is of the opinion that significant adults in the children's lives can create environments that can facilitate their cognitive development, especially by strengthening their self regulatory, metacognitive skills. Clark (1992:74) seems to agree with this as she says, "...we can no longer just let children be children without an awareness that we are inducing events that will have permanent effects on their lives".

The above-mentioned writers imply that we have an option of enhancing young children's cognitive development. They also imply that the manner in which the environment is structured will have an effect on their mental growth and that the level of intelligence is not actually fixed at birth, but that it can still be raised. In fact, it appears that children do need environmental intervention in order to develop optimally.

3.3.2 Cognitive development of the preschool child

As has been said, when we study development we are looking at changes over time. As children grow, changes occur in their lives, including changes to their cognitive functioning. The changes are due to maturation and also to stimulation, intervention and interaction with the environment.
According to Decoster et al (1986:151-152) during the early years cognitive development is a gradual process. The younger the child is, the more he will need help and mediation from adults. This help needs to be child-centred. Decoster goes on to say that cognitive development is the gradual acquisition, structuring and restructuring of cognitive acts and strategies.

Van der Zanden (1993:232) is of the opinion that in the preschool period cognitive development is characterised by the swift expansion of mental abilities. Children become more proficient at obtaining information, ordering it and utilizing it. Whereas sensorimotor processes largely dominate development during infancy, a significant change takes place after eighteen months toward more abstract processes of reasoning, inference and problem solving.

In this thesis particular attention will be paid to Jean Piaget's theory of cognitive development because it is of the utmost importance and the "...most influential child development theory of this century. Piaget's approach looks at how the child's interaction with the environment leads to cognitive development" (Lefrancois 1997:73). McShane (1991:21) further states that Piaget's theory was developed over a very long period. A wide range of issues concerned with cognitive development were observed and he also revisited and improved his theoretical views again and again.

According to Gordon and Browne (1989:109) Piaget's theory depends on both maturational and environmental factors. It is maturational because it sets out a succession of cognitive stages that are influenced by heredity; and it is environmental because the experiences that the children have, will have an important effect on the way in which they develop. Because of the outstanding basic
contribution made by Piaget in the field of cognitive development, his theory will be discussed briefly.

According to Piaget's theory, people go through four developmental phases related to stages of cognitive development. They are the following:

Stage 1: The sensorimotor stage (birth to 18 or 24 months)
Stage 2: The preoperational stage (2 to 6 or 7 years)
Stage 3: The concrete operational stage (6 to 11 or 12 years)
Stage 4: The formal operational stage (11 or 12 years onwards)

Gold (1987:95) points out that the age ranges were intended as guidelines only; it was noted that the figures were different for the various cultural groups and also for different children who belong to the same cultural group.

The preschool child, according to this model, functions in the second stage, that is, the preoperational stage of cognitive development. The writer will start off by referring to the sensorimotor stage because it is the phase just preceding the preoperational phase, and thus has an effect on the preoperational phase. The concrete operational stage will also be discussed because that is where the child is being led.

3.3.2.1 Sensorimotor stage (birth to 18 or 24 months)

This is the first stage of cognitive development according to Piaget's theory. Children are in the sensorimotor stage when they acquire language, and it forms a basis for all subsequent understanding (Maier 1978:30). This means that the mental development that takes place during the very early years is very important as it is
the foundation for future development. That is the reason why the writer, although discussing the cognitive development of the preschool child, has decided to start with the sensorimotor stage because it is the basis for later cognitive development.

Hatfield and Hatfield (1992:165) are of the opinion that for infants and toddlers all mental processes and all learning are tied up to their direct experience with the environment. Children experience the world through their five senses, which facilitates adaptation to the environment. They respond to stimuli and they try to organise and adapt to the environment. According to Piaget (1950:7) "...adaptation must be described as an equilibrium between the action of the organism on the environment and vice versa". Furthermore, Piaget (1953:5) says that there is adaptation when the child is changed by the environment and when this results in the increase in the interchanges and interaction between the environment and the child which is favourable to the preservation of the child. The cognitive functioning of the child is a way of interacting with the environment, and is important to ensure the survival of the child.

Children use the processes of assimilation and accommodation in order to adapt to their environment. "The filtering and modification of the input is called assimilation; the modification of internal schemes to fit reality is called accommodation" (Piaget & Inhelder 1969:6). On the other hand, Maier (1978:21-22) agrees with Piaget and says that assimilation implies understanding new content on the basis of existing schemes or simply incorporating an experience into a person's way of thinking. Accommodation on the other hand means modifying one's internal schemata. It implies making an adjustment, to change an earlier way of thinking in order to "fit" it more correctly to the requirements of the new situation. Children modify the environment to suit them (assimilation), by using that for which they already have
schemata, for example sucking - children have a tendency of sucking everything that comes to their mouths. Or, they may extend, modify or create new schemata to accommodate a new situation, for example, extending sucking to chewing when something solid is to be eaten.

The acts of children during the sensorimotor stage are directed towards immediate and practical satisfaction. The success of the action as such is obviously more important to the child than gaining knowledge through the action. Sensorimotor intelligence, according to Piaget is "...intelligence in action and in no way reflective". The children do not think about their thinking, they just perform the act for the sake of the act and practical satisfaction (Piaget 1950:121).

Piaget and Inhelder (1969:4-5) further state that it is difficult to state exactly when sensorimotor intelligence appears. What is found is a series of substages, each marking a new developmental level.

Within the sensorimotor stage then, six substages can be described, and they are "....successive and always in the same order" (Maier 1978:30). The substages are the following:
1. Exercise of reflexes
2. Primary circular reactions
3. Secondary circular reactions
4. Coordination of secondary schemas and application to new situations
5. Tertiary circular reactions
6. Invention of new means through mental combinations
a) Substage 1: Reflexes (0 to one month)

Piaget and Inhelder (1969:6-7) observed that during the stage of reflexes young children are active and they are often involved in automatic responses that are rhythmic. The child has an inborn tendency to organize his or her world, and some of the reflexes of the child are of particular importance for later development. Furthermore, Piaget (1953:24-25) states that there is only a slight difference between instincts and reflexes. From the beginning of their most primitive functioning, one by one, or in relation to each other, the reflexes give rise to a systematization which exceeds automatization. Each one depends on the preceding reflexes and conditions those that follow.

Maier (1978:31) goes on to say that these reflexes are a continuation of the prenatal way of life. They are automatic and repetitive in nature. This repetition and rhythm establishes the basis for cognitive development in that schemes will later develop from them.

b) Substage 2: Primary circular reactions (one to four months)

A circular reaction is a response pattern that tends to prolong its own existence because the acts composing it produce the eliciting stimuli. The act is repeated because of its reinforcing value (Mwamwenda 1995:90).

This substage "...characterises the formation of the first habits" (Piaget & Inhelder 1969:8). The habits may emerge from the child's activities directly or they may be imposed from the outside.
In this substage reflex behaviour is gradually replaced by voluntary movements which have a pattern. Inborn reflexes change into habits through experience (Maier 1978:32). This implies that out of the reflexes and repetitions of the first substage, some habits are formed. These are means towards an end. What was known by the child, for example sucking, is now used to achieve another aim, such as sucking whatever comes to the child's mouth.

According to Piaget (1953:364) "...new associations are formed as the pressure of experience begins". Some reflex actions are repeated through trial and error and if the outcome is pleasant, the behaviour will be repeated, and therefore some schemes will be formed and certain activities will be associated, and habits are formed. The response pattern tends to repeat itself if there is a pleasurable reinforcement.

This made De Witt and Booysen (1995:14) deduce that this phase lays the ground for the concept of causality which is learnt from interaction with the environment. As children interact with the environment, as some of the problems are solved through trial and error from the reflex actions, they learn to associate certain events and come up with causality, no matter how basic. They realise that phenomenon A leads to phenomenon B.

c) Substage 3: Secondary circular reactions (four to eight months)

According to Maier (1978:35) "...this stage involves a continuation of the primary circular reactions patterns and the incorporation of a more lasting behaviour. Behaviour is directed toward retention". Children now base their behaviour and activities on other objects in the environment rather than on their bodies only, as in
the previous substages. They begin to be able to recognise stimuli as forming part of certain events and symbols begin to have meaning.

During this stage babies grasp and manipulate everything they can reach. The results that they get motivate the repetition of the activity. "Although their actions seem to reflect a sort of magical belief in causality without any material connection, their use of the same means to try to achieve different ends indicates that they are on the threshold of intelligence" (Piaget & Inhelder 1969:10). The fact that children now use the same means to achieve their ends, means that some degree of retention has taken place. They know that a particular activity will give rise to another one (usually a pleasurable one for the children).

d) Substage 4: Coordination of secondary schemas (eight to twelve months)

In this substage more acts of practical intelligence are observed. Here children actually set out to get a particular result irrespective of the means that is going to be employed. They can now actively search for a hidden object by whatever means. Means and ends are now coordinated and new means are invented to achieve an aim. However, the means are derived from the existing schemes (Piaget & Inhelder 1969:10-11).

The children's activities do not only consist of repeating, but also combining and uniting (Piaget 1953:361). They become aware of the fact that an object continues to exist even when they cannot see it. This is what Piaget calls object permanence, which is one of the major cornerstones of infantile intelligence. Because mobility is increased for the children at this stage, they have more contact with the environment and the trial and error activities that they engage in lead to the
formation of behavioural patterns which are then used to achieve some aims. They now actively search for an object and are able to imitate.

e) Substage 5: Tertiary circular reactions (twelve to eighteen months)

During this stage children can walk, hence they come into contact with a larger section of their environment. They now invent new means that are derived from other schemes, not only the existing ones. When they realise that they are not getting the desired result by using the known means, they come up with new means (Piaget & Inhelder 1969:11). They now vary their behaviour as they try to solve problems.

Piaget (1953:361) further states that "...the utilisation of experience spreads still more and the co-ordination of schemata extends henceforth into discoveries of new means through active experimentation". At this stage the children engage in experiments in a trial and error way and may find solutions to various types of problems.

f) Substage 6: Invention of new means through mental combinations (eighteen to twenty-four months)

During this substage the child "...becomes capable of finding new means not only by external or physical groping, but also by internalised combinations that culminate in sudden comprehension and insight" (Piaget & Inhelder 1969:12). The child now "thinks" about a solution to a problem. Piaget (1953:361) states that this sixth stage "...adds one more behaviour pattern to the preceding ones: the invention of new means through deduction or mental combinations". Children now actively search for
solutions, not only by external means, but also by their own intellectual functioning.

De Witt and Booysen (1995:15) are of the opinion that this substage forms a bridge between the sensorimotor and the preoperational stage. There is more emphasis on cognitive behaviour. The children now see objects as separate entities from themselves. This also marks the beginning of the preoperational stage.

3.3.2.2 Preoperational stage (2 to 6 or 7 years)

This is the second stage of cognitive development according to Piaget's theory. Bjorklund (1989:23-24) states that the preoperational period is characterised by the lack of operations. According to him, operations are:
- mental schemes that denote ways in which the individual will act in his or her life-world.
- mental constructs that require the use of symbols.
- internalised actions that exist in an organised system.
- logical and follow a system of rules.

However, although preoperational thought is based on symbols, it lacks logic. Preschoolers are influenced by appearances rather than logic and their thinking is intuitive and lacks operations. That is why this stage is called the preoperational stage of cognitive development.

The preoperational stage is described in terms of two substages, that is, the stage of preconceptual thought and the stage of intuitive thought.
a) Preconceptual thinking (2–4 years)

During this stage children are actively involved with the environment. They discover new symbols all the time. The symbols are used to communicate with others and also with themselves. First and foremost the symbols have a personal meaning for the children themselves. Even when children and adults use the same concept, they may be referring to different phenomena (Maier 1978:41). Thus children understand concepts in a different way from the way adults understand them. It does not really mean that children do not use concepts, but they use them in "....an incomplete and sometimes illogical way" (Lefrancois 1997:79).

According to Piaget (1950:127) this period is marked by preconcepts and the first forms of reasoning. Preconcepts are "...the notions which the child attaches to the first verbal signs he learns to use". Children give meaning to a word according to how they use or experience it, not according to how other people understand it. Even concepts of time and space are understood in terms of the children's own point of reference. Maier (1978:43) adds to this by stating that thought and reason for the children in this stage are based on self-reference. Life and all events are logical within their own frame of reference, not according to other people. This, according to Piaget (1950) is egocentrism. Mwamwenda (1995:93) agrees with this by saying that egocentrism means that the child can see something from only his own point of view and cannot take into account other points of view or alternatives.

Piaget (1950:127) further states that during this stage the children do not yet understand general classes because they cannot differentiate between all and some as they use concepts in their own way. Although by now the children understand that objects are permanent, they however think that their shape or other
properties may change in relation to how they see them. For example, they may think that the shape of a mountain may change in the course of a journey. This means that their concepts are still illogical, and they therefore cannot understand general classes.

Children’s thinking is transductive during this stage (Piaget 1950:127). Lefrancois (1997:81) agrees with this and states that transductive reasoning is not a logical reasoning process, but does, occasionally lead to a correct answer. It is reasoning from the particular to the particular. For example, if the doctor that the child knows wears glasses, the child may refer to any other person who wears glasses as a doctor. Thus, making logical generalisations is still difficult for the children.

Maier (1978:44) further points out the following characteristics of children as observed by Piaget during this phase. During this stage children tend to judge events by their outward appearance, not objectively and logically. All judgements are done subjectively. They also tend not to perceive the notions of quality and quantity at the same time. Furthermore, they tend to attribute life to inanimate objects. Piaget (1950) calls this animism. This is just the children’s way of explaining events. For example if the child falls down, he or she may think that the floor deliberately hurt him or her.

Until the age of approximately four years, children are characterised by the form of reasoning that has just been described, where their thinking is still greatly illogical and concepts have meaning peculiar to the children. After the age of four children’s thinking change in a way, but reasoning is still illogical and thinking is mainly intuitive.
b) Intuitive thought (4-7 years)

This period of intuitive thinking is basically an extension of the previous period, (the preconceptual period). Both periods entail preoperational thought.

Piaget (1950:129) says that from 4 to 7 years there is "... a gradual co-ordination of representative relations and thus a growing conceptualisation, which leads the child from the symbolic or preconceptual phase to the beginnings of an operation". Although concepts begin to attain a general meaning, thinking is still prelogical.

During this period the sphere of social contacts widens, and this helps in reducing egocentricity and in increasing social participation. They now increasingly use words as part of their thinking process. Just as previously they predominantly used actions to act out their thinking, they now use words to form their thinking. Although their thinking is still largely egocentric, they now take into consideration the thinking of significant adults in their lives (Maier 1978:46).

Children still have difficulty in thinking about two ideas at a time. This can be explained by Piaget's concept of conservation. "Conservation refers to the concept that the quantity or amount of something stays the same regardless of changes in its shape or position" (van der Zanden 1993:240). Piaget (1950, 1969) tested young preschoolers and found that they have a problem with conservation. They believe that there is more liquid in a tall and thin glass than there is in a shorter and thicker one, even though the liquid was transferred to the other glass in their presence. This comes about because their reasoning is still illogical, in that they cannot "hold on" to the idea that the quantity remains the same even though the shape of the container may have changed.
Piaget (1950) further observed that preschoolers have a problem with centring and decentring. This means that preschoolers have a tendency of centring or concentrating on one striking dimension of an object without taking into consideration other aspects and dimensions. In the experiment on conservation, children have a problem because they can concentrate on one aspect of a thing at a time. For example, they concentrated on the heights only and ignored the width.

Van der Zanden (1993:241) takes up this idea by Piaget and states that for children to be able to solve their problems of conservation they must be able to decentre, that is, they must be able to concentrate on two aspects at the same time, in the example cited, height and width.

They also have a problem of understanding classes and seriation. It was observed that when children were asked to classify wooden beads, they had a problem. They could understand that they were a whole because they were made of wood, but because some were white and some were brown they thought that they could not be placed together (Piaget 1950).

Furthermore, during this stage children now start to judge activities by their end products. A single clue can make them conclude. For example, a car can be said to be the fastest just because it arrived first, irrespective of the distances that were covered by the other cars (Maier 1978:47-48). This reasoning is still not logical, but intuitive. But at this stage they can select an objective point of reference; and this is an attempt at logical reasoning, although very spurious. As long as they continue to reason from their own point of reference only, they are not able to assign fixed laws of causality and they even see it as unnecessary. However, personal experience and visual representation enable them to perceive simple relationships...
and to establish rules for action.

Lefrancois (1997:82) agrees with Piaget and acknowledges this advancement of preoperational thought over the sensorimotor period. He says that children begin to apply logic in solving problems, although it does not mean that they will always give the right answers. This kind of logic is still inadequate for them to yield correct answers consistently.

By the end of this period the thought processes of the children progress toward the concrete operational level. The child now has operations that do not generate contradictions. and "... given a set of data they can arrive at an answer generally free of contradictions" (Bjorklund 1989:32).

3.3.2.3 Concrete operational stage (6 to 11 or 12 years)

Piaget (1950:139) says that the point where intuitive thinking changes into operational thought is difficult to determine. However, he says it is a crucial turning point and is always rapid and at times seemingly immediate.

"Concrete operations are so named because children's thinking is limited to tangible facts and objects and not to hypotheses" (Bjorklund 1989:32). Children in the concrete operational phase can arrive at a conclusion on the basis of concrete evidence. Furthermore, Piaget and Inhelder (1969:100) assert that the operations involved here are called concrete because they are directly related to concrete objects. They are not related to elements outside their range of experience and also not to hypotheses.
Children are now capable of applying some of the essential structures of thinking that they couldn't apply in the preoperational phase, for example, conservation, seriation, classification, and others. For example, in conservation, during the preoperational period they could not understand that the quantity of water remains the same even though the shape of the glass is different from the first one. During the concrete operational stage children understand that if nothing more has been added and nothing has been removed, then the liquid remains the same even though the shape of the glass has changed. (Piaget 1950; Piaget & Inhelder 1969). This means that the children can now decentre. They can focus their attention on more than one aspect of a phenomenon, in this case the width and the height of the glass. The children also understand reversibility, which means that the liquid from glass A, if poured as it is into glass B, and vice versa, remains the same if nothing else is added or subtracted.

During this period children become capable of arranging objects according to size. A given element is understood in advance to be larger than the other elements (Piaget & Inhelder 1969:102). Unlike in the preschool years where the child actually held each object next to the other, the mental representations that the child has now helps him or her to understand “greater” and “smaller”. The ability to classify is also gained in this period. The child now sees similarities and differences and can recognise subclasses within the larger class.

To summarise changes that take place in this period, Lefrancois (1997:83) says that in this period children make an important change from a prelogical form of thinking to thinking that is based on rules of logic. The operations or mental activities of this period apply to concrete objects and they differ from the previous period because of their ability to conserve. Before, the concrete operational stage children are said
to be preoperational; not because they cannot think, but because of limitations. These limitations come about because the children rely on their own perceptions, intuitions and thinking from their own perspective only.

3.3.3 Evaluation of Piaget's theory

In this section there will be a brief evaluation of Piaget's theory of cognitive development. No other theory of cognitive development has received as much attention as Piaget's theory. In the field of cognitive development it is impossible to ignore it.

Piaget's theory has brought highly challenging and thought provoking ideas to the study of cognitive development. He made very interesting discoveries and deductions after observing "systematic mistakes" that are made by children in tasks of conservation and class inclusion. He found out that such mistakes come about because of conceptual deficits and not ignorance. Nobody could have thought of asking the children the questions he asked because it appeared that the answers were obvious. The task errors that he brought to light are fascinating and have led many psychologists and educators to look them up again and again, and have led to a lot of research (Gold 1987:150-151).

Gold (1987:151) goes on to say that the theory is simple and unified. Its central point is to indicate that every organism wants to adapt to its environment and also wants to keep its current organization, that is, it wants to use what is already in its schema. The organism is therefore faced with the task of reconciling these two aims. Right from the sensorimotor stage children try to reconcile these aims by using the processes of assimilation and accommodation. They want to adapt to the
environment by using what they already have, and by trying new means in order to cope with the environment. In the preschool years children are faced with reconciling these aims. They use their own perspective to deal with the environment.

Although Piaget's work is magnificent and remains largely unchallenged, there are however some criticisms and limitations as seen by various psychologists and educationists.

According to Lefrancois (1997:91) Piaget "...has not used sufficiently large samples, sophisticated analysis, or adequate controls" in his investigations. Piaget used especially longitudinal studies and investigated his own children. It is questionable whether his studies are really representative.

There is also less agreement with regard to the order of the stages. It is argued that some children reach the stages earlier than Piaget's stages, and some, especially in less industrialised, non-Western places might reach them later. Cultural factors need to be taken into consideration in considering children's performance on cognitive tests. Piaget has also underestimated the mental capabilities of preschoolers and overestimated those of adolescents and adults (Van der Zanden 1993:306; Lefrancois 1997:91). However, what is meant here is that the order stays consistent.

Many psychologists, including, Denham (1991), Van der Zanden (1993), Pasnak et al (1996) and Lefrancois (1997), disagree with Piaget's idea that preschoolers cannot benefit from experience in learning conservation tasks because of their cognitive immaturity. A number of psychologists have taught children the skills that
Piaget had said they could not grasp successfully. Children have been found to have greater intellectual skills than Piaget had anticipated.

According to Bjorklund (1989:29) Piaget assumed that cognitive development progresses best when children are allowed to discover on their own the principles that underlie the performance of a task, rather than being taught how to do it. However it has been found that it is more effective when children are taught the skills by means of mediation rather than when they are only left to discover on their own.

Piaget also assumed that it is not until the age of at least six or seven years that children are capable of sorting objects by two criteria at the same time, for example size and shape. He said that when sorting objects they kept on changing criteria. It is now known that children go from being unable to sort at the age of two years, to being partially able at the age of three, and to generally being completely successful at the age of four years (Denham 1991:37).

Denham (1991:37) further states that it has also been found that three and four year old children can differentiate between animate and inanimate things. Not only can they tell the difference between a rock, a person and a doll, they also understand that people are alive and rocks are not. They also do not attribute emotions to things like rocks. Piaget tended to ask about far away things that moved like living things, for example, clouds. Thus young children attributed life to them, not because they were not able to differentiate between living and non-living objects, but because Piaget’s questions were biased toward animistic answers. Even children who were not preschoolers could have given such answers. The tasks were just difficult to solve and deal with and the problem was not that the children could not
differentiate between animate and inanimate objects.

According to Lefrancois (1997:91-93) it has been found that preschoolers are able to represent symbolically and to discover relationships among ideas. Their concept of numbers, and ideas of big and small, few and many are developed at preschool.

Piaget neglected or overlooked a number of achievements of the preschoolers. However, in evaluating the importance of these criticisms one should keep in mind that "...Piaget's theory, like other theories, is a metaphor. Specifically it is a philosophical/biological metaphor intended to explain intellectual adaptation through the growth of intellectual capabilities and functions" (Lefrancois 1997:92). Some of the criticisms stem from not understanding the metaphor and the intentions of the theory. They may also stem from applying the principles of the theory in a narrow way, and assigning great importance to the tasks performed and not referring to the basic metaphor. However, the explanations of the theory and its practicality are very useful and important.

### 3.3.4 Enhancing cognitive development of the preschool child

Just as the children's bodies must be nurtured in order that they may be healthy and develop optimally, so must the cognitive aspect be nurtured and looked after so that there can be optimal cognitive growth. Maturational factors do lead to the development of the cognitive ability of the child, but maturational factors alone cannot lead to optimal development. Factors in the environment play a vital role in enhancing the cognitive development of children. The writer would like to indicate that besides the neurological growth and maturation that come about with age, there are other aspects and factors in the environment and in the child's life-world.
that foster and enhance his or her cognitive development. This presupposes that if cognitive development is left to maturational processes that will come about with age, the child will not develop optimally.

Children need to be stimulated intellectually. Stimulation means "...actively providing the necessary and sufficient help to children for smoothly building up their own cognitive system" (DeCoster et al 1986:152). The environmental factors are very important in providing such stimulation. Factors that may lead to mental stimulation or the enhancement of cognitive development include not only relevant content but also (and most importantly) the children themselves and significant others in their lives.

3.3.4.1 Children themselves

Children themselves play a role in accelerating their own cognitive development. They draw out stimuli and responses from the environment, and these help to enhance their cognitive development. In this regard Clark (1992:35) says that for the children to develop optimally, their active involvement is required. Children themselves are active agents in their own cognitive development.

This involvement with the environment starts right from the first year of life. Schwebel (1986:11) is of the opinion that infants develop the ability to reach out, grasp and hold objects that are found in the environment. As time goes by they can modify their activities as required by circumstances. Fry (1992:31) further states that children assimilate their environment with their currently existing mental structures and modify the structures by accommodating the demands made by the environment upon them, thus unfolding their cognitive and social functioning.
This means that as the children themselves react or respond to the environment, their mental processes are stimulated. They adjust the existing structures to suit new demands and also use the same structures to deal with different situations. As they are doing this, their cognitive functioning evolves and this therefore helps in enhancing their cognitive development.

Fry (1992:31-32) goes on to say that children have an inherent motivation to explore new experiences and to act on the environment. They have the power to deal with their environment, explore it, construct it and "...assimilate cognitive structures embedded in their environment". Each child does this in his or her own way, depending on the situation. In this regard Bjorklund (1989:235) states that factors that are inherent in the children are critical for the children's development, perhaps just as critical as the parents' role. Children even affect their parents' behaviour, which in turn affects their subsequent growth. Thus children themselves play a role in facilitating their own cognitive development.

3.3.4.2 Significant others

There are various ways in which significant others intervene in the life of the child in order to enhance cognitive development. What the significant others, especially adults, do and their role in manipulating the environment, will certainly have an effect in stimulating the mental development of the child. In a study by Richter and Grieve (1989:7) it was found that "...mental development correlated with measures of the actions and intentions of caretakers and with measures of the organisation of the physical environment". This means that the quality and quantity of intervention by other people will have an influence on the extent of mental stimulation which the child receives and consequently also on the enhancement of
cognitive development in the child. The implication is that the actions of significant others in handling and directing environmental stimuli for the children and with the children, helps in stimulating their mental growth. The environmental stimuli are not important per se, but how they are manipulated by the caretakers, (the way in which the learning experience is mediated), is the valuable part as this will have an impact on intellectual development.

The role of the parents as the children's first teachers is not to be underestimated. The parents are there when the children still engage in reflex actions and circular reactions. They are there when the children are involved in preconceptual thought and also when they reason intuitively. They are an important part of the children's nurturance. Whether the children go to preschool or not, the parents, if they are adequate learning facilitators, will play a role in stimulating cognitive development. The present researcher suggests that in this stimulation of mental development by parents mediation must not be left to chance, it must be intentional, and must preferably be done in an informed manner.

Significant others may intervene in the lives of children in the following manner:

a) Mediated learning experiences

The concept “mediation” stresses the role of other people, for example, teachers, parents and peers, in the cognitive development of the child.

According to Feuerstein (1980:15) cognitive development is a product of the interaction between the child and the environment, that is, "direct exposure to sources of stimuli". This exposure, according to Feuerstein, produces changes that
will affect the child's behaviour and intellectual growth. These changes that have been brought about will, in turn, affect the interaction with the environment.

Mediated learning experiences (MLE), refers to "....the way in which stimuli emitted by the environment are transformed by a mediating agent, usually a parent, sibling or other caregivers" (Feuerstein 1980:15). Feuerstein goes on to say that in doing this, the significant other is guided by his or her own intentions, culture and emotional investments. He or she chooses and organizes stimuli that he or she deems appropriate in the environment for the child. This affects the cognitive development of children. They acquire behaviour patterns and learning modes which will further affect their capacity to be influenced or modified by being exposed to environmental stimuli.

According to Feuerstein et al (1986:50) in a mediated learning experience, the significant other interposes himself or herself between the environment and the child. He places himself between the two. The adult intentionally filters and focuses stimuli in the environment for the child. He or she organises, orders and regulates the intensity and frequency of stimuli for the child and with the child. When the child has been involved in a mediated learning experience and has learnt to interact with the environment, he or she will naturally continue to actively interact with things. This means that a habit of taking notice of environmental stimuli is formed. The aim of the mediator is to teach the child to be able to focus, observe and differentiate experiences, with the mediator as the go-between for the environment and the child. From there the child will be able to interact more meaningfully with the environment even when he is on his own.

Feuerstein et al (1986:52) believe that other factors such as cultural differences, low
socio-economic level, poverty and others can affect cognitive development negatively only if they lead to a lack of mediated learning experiences. This implies that mediated learning experiences are extremely important in influencing cognitive development, more important than the other factors. The other factors can be counteracted by mediated learning experiences.

According to the theory of mediated learning experiences, the mediation is more important than the environmental stimuli themselves. The child benefits more from the mediation rather than just from the direct exposure to stimuli. "The capacity to benefit from direct exposure to stimuli, no matter how rich or poor they may be, is only contingent on the nature of the mediated learning to which the person has been exposed. The more the person has been exposed to MLE, the greater will be his or her capacity to profit from and become more proficient through direct exposure to stimuli" (Feuerstein et al 1986:52).

The most suitable age for the children to benefit from mediated learning experiences is early childhood because the earlier the children have such experiences, the earlier will they be able to deal with the world of stimuli to which they are exposed in an active, productive and representational way and therefore develop well cognitively. Feuerstein (1980:16) says that "...the more and earlier an organism is subjected to MLE, the greater will be his capacity to efficiently use and be affected by direct exposure to sources of stimuli". Feuerstein et al (1986:51) however warn that it should not be taken to mean that if the child is not involved in mediated learning experiences in the preschool period nothing can be done for the child. It means that the earlier the better. There are intervention programmes for older children and adults. However, one can expect their benefiting from such programmes to be much more limited than in the case of young children.
Macxy (1990:51) says that there are three elements that Feuerstein maintains must be present for MLE to occur. They are intentionality of the mediator, that is, the mediator must consciously intend to structure the environment for the child. The second element is transcendence, that is, the mediator should link the present experience to other experiences that will come in future. The experience must therefore not just be to solve the immediate problem; and, finally, the third element is meaning or the actual learning to be communicated to the child.

According to Feuerstein (1980:16) MLE determines cognitive development and it complements Piaget's ideas. Piaget regards the environmental stimuli as important in cognitive development, and perceives the human element (or mediation) as one factor among others. The mediative value or the intervention by significant others is not regarded by Piaget as essential to the cognitive development of the child, but as just another source of stimulation which does not differ from others. In MLE however, the human mediator is regarded as very important, and is interposed between the stimulus and the child.

The important characteristic of MLE is that it - (by facilitating learning and the acquisition of learning skills) - enables children to make efficient use of their experience. The cognitive structures will then further facilitate cognitive development by making the children receptive and sensitive to stimulation (Feuerstein 1980:24). This means that the mediator helps the children to benefit, not only from stimuli upon which they are focused in the present, but also from other stimuli that they will be exposed to in future. Mediated learning experiences have long-term results.
b) Social interaction

Social interaction plays a vital role in the stimulation of the mental development of children. Children need to interact with other people in their environment. In this way, according to Naude et al (1987:20-21), while interacting with others, children receive feedback on their performance and they are given the opportunity to watch others engage in activities that require the use of thinking strategies, for example, problem solving. The children and the adults can listen to each other while one of them is solving a problem. The errors that the children or the adults may make can be used as a guide or clue about the thinking strategy that is used. In these interactions the child's mental development is fostered. It therefore implies that cognitive development can be enhanced by high quality social interactions.

In this regard one thinks of Vygotsky's contributions. Haywood et al (1986:131) say that Vygotsky stressed the role of the social environment in the development of children's thinking processes. Children mostly experience problems and challenges in the presence of adults. The adult will then be exemplary in demonstrating how the problem can be solved. The adult can ask a question, an open-ended question, so as to guide the child to finding a solution. The adult can also verbalise his or her own thinking processes, and therefore facilitate the thinking skills of the child. This would be a metacognitive approach. The adult thus models a thinking strategy. Later on children will attempt to solve problems on their own and the role of the adult will be to guide and act as facilitator. Thus children develop cognitively by imitating the adult while involved in social interaction with the adult. The children will learn strategies from the adult as significant other. "Strategies are effortful cognitive operations that are directed at a goal" (Bjorklund 1989:59). Strategies are very important to cognitive development and induce changes in the children's cognitive
functioning. As the children interact with significant others, they imitate what they do, especially the strategies they use in solving problems and in interacting with the environment, and this will lead to positive changes in their cognitive functioning, and therefore enhance cognitive development.

Vygotsky (1978) was of the opinion that adults define and provide the social context in which children are nurtured. The social context will then be instrumental in influencing cognitive development by providing culturally developed tools and practices, for example access to computers, calculators and any other thing that channels and facilitates cognitive activities, as well as through social interactions with significant others in the society. In most instances then, adults and children work together to bring the children gradually from their initial level of mastery to the most advanced level of independent activity that the child can achieve (Fry 1992:61). This means that while interacting, the children are taken from one level of cognitive functioning to another, which is more advanced than the initial one, and thus the children grow cognitively.

To explain this phenomenon of moving from one level to another, Vygotsky (1978:86) introduced the concept of "zone of proximal development". He defined it as "...the distance between the actual developmental level as determined by individual problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky 1978:86). The actual developmental level refers to the level at which the child is at the moment, and the level of potential development is the level that the child is capable of reaching.

"Children at every age have their own zone of proximal development. There is
always further development in the making. How much of the potential is realized depends upon the availability and effectiveness of adult mediation " (Schwebel 1986:8-9). The adult will then structure activities that are aimed at the level of development of the child. During the interactions with the children, they will participate in activities in which they are not capable (because of their level of development); but with repeated practice, children are gradually guided to a higher level of capability and cognitive functioning.

Schwebel (1986:9) further states that the real capability of the child is represented by the upper boundary of the zone of proximal development. This potential or capability is realised when, through mediation by an adult, the upper boundary is identified and education is directed towards helping the child achieve it.

(c) Benefits of mediation and interaction.

As already stated, how well children will develop depends to a great extent on the quality and quantity of the significant others' mediation, or adult interventions. The adult's or significant other's role is to facilitate cognitive development by being a model, by demonstrating cognitive strategies, by structuring activities to suit the developmental level of the children, by identifying the present level of cognitive functioning of the child, by attempting to close the gap between the present level and the new level and also by generally offering activities that will lead to cognitive development. The present writer would like to propose that by teaching young children thinking skills, their cognitive functioning can improve and therefore their cognitive development can be enhanced.

In the next section thinking and thinking skills that can be taught to the preschool
3.4 THINKING AND THINKING SKILLS

Thinking is something we do every day, often without being aware that we are doing it. The thinker needs thinking skills in order to accomplish the task of thinking most effectively and efficiently.

3.4.1 The nature of thinking

Thinking is a concept that is very difficult to define and various individuals define it in different ways. Although it is an activity carried out by all people (although not always very effectively), it is a complex phenomenon and as a result it is difficult to arrive at an all-embracing definition of the term. However, different theorists have attempted to define thinking.

According to French and Rhoder (1992:12) thinking can be defined as "...a natural, active process; it occurs within both a physical and personal context; it is influenced by society, requires prior knowledge and the ability to represent knowledge and is recursive". It includes all the mental processes in which an individual involves himself or herself.

Beyer (1988:16) defines thinking as "...a holistic process by which we mentally manipulate sensory input and recalled data to formulate thoughts, reason and judge". Beyer (1988:16) further states that through thinking, people give meaning to the day-by-day experiences that they encounter, and that people's perceptions, existing knowledge, conscious activity, application of certain operations, knowledge
and dispositions are involved.

The information-processing perspective view thinking as "...akin to the way computers access and process information" (Berg 1992:7). Thinking is the process that characterises what the individual does between input of the information and output. These mental processes that make the stimuli from the environment meaningful for the person and produce certain behaviour that may be termed intelligent behaviour, is what is called thinking. As has already been stated, it happens between input and output when information is taken from the environment to the sensory register, from there it is processed to the short term memory and finally to the long term memory.

From the above definitions thinking can be viewed from various perspectives, such as: thinking as a natural process, thinking as an active process, thinking in context, and thinking and knowledge. These four perspectives on thinking will now be discussed briefly.

3.4.1.1 Thinking as a natural process

Some theorists, like Haywood et al (1986:12) say that thinking is "...a product of native (gene-based) ability". They regard thinking as being part of and directly linked to the structure of the brain and therefore done naturally. Preschoolers also engage in thinking because they also acquire and apply information that is found in the environment. According to Elkind (1991:15) the young child thinks in a different way from the older child or the adult. But this difference does not signify primitiveness or inferiority, but only the fact that the developmental levels are different, and also the life experiences are different.
French and Rhoder (1992:12) state that as a natural process it implies that perhaps there isn't much that can be done about thinking. However, even theorists who believe that thinking is a natural process suggest that a conscious effort can be made to improve it. Nickerson (1987:28) believes that although thinking is natural, people can be taught how to think effectively. He says that what should be taught is not how to think per se, but how to do it more effectively. As a natural process, everyone engages in thinking, but when it comes to thinking effectively, steps should be taken to ensure that it does happen.

3.4.1.2. Thinking as an active process

Although thinking is a natural process, the thinker is not passive, he or she is actively involved in the development of thought. According to Beyer (1988:46-47) thinking consists of mental activity which is characterised by operations that the mind seems to perform when thinking. The operations may be cognitive in nature, that is, they generate and find meaning; or they may be metacognitive, that is, they direct and control the strategies and skills by means of which we make meaning. Any activity of thinking consists of meaning making operations and those that direct how meaning is to be produced.

3.4.1.3 Thinking in context

"The thinking process occurs within both a physical context and a personal context" (French and Rhoder 1992:13). The physical context of thinking is the brain and the body and the personal context is the thinker's likes, dislikes, fears, attitudes and all dispositions that are the personal context of thinking. Both the physical and the personal contexts characterise thinking. Beyer (1987:20) adds to this by stating that
thinking does not occur in a vacuum. Any act of thinking requires not only the brain and the body, but also factors external to the mind. The factors may include the expertise of the thinker, proficiency, disposition to gather information, as well as attitudes and feelings.

The environment in which thinking occurs also shapes thinking. Beyer (1987:20-21) mentions three dimensions of the environment that influence thinking. They are firstly, time, which refers specifically to the amount of time which is devoted to thinking. Secondly, the arena in which thinking occurs. It may be in a dialogue, a discussion, an argument, or it may even be a reflection. Thirdly, the topic or subject thought about also has an influence. French and Rhoder (1992:13) say that the scope and or content of the thinking process are influenced by the society and can be different for different groups within that society.

Preschoolers need an environment to act upon in their thinking, and the environment to act upon them. As they react to the various stimuli in the environment, and as the significant others direct stimuli towards them, their thinking processes are activated. Children need to be actively involved in developing their thinking processes, and they also need a context in which to exercise their thinking skills.

3.4.1.4 Thinking and knowledge

Thinking and knowledge influence each other. The individual needs prior knowledge in order to think; and he or she acquires and utilizes knowledge through thinking. A person cannot think about nothing, he has to have something to think about. According to Bjorklund (1989:81) information-processing approaches are concerned
with the representation of knowledge and the processes applied to that knowledge. The knowledge that the children have, will influence how they process information and how they think. The question to be asked here is whether their limited scope of knowledge affects their thinking abilities or whether their limited cognitive skills affect their information processing abilities.

That is why children need factual information or the encyclopaedic information and vocabulary that they are taught as they grow up, either in their homes (if they receive high quality intervention), or in the preschool by their teachers. This information will then be used to engage their thinking processes.

3.4.2 Thinking skills

According to Beyer (1987:22) thinking is not as simple as a muscular action but consists of many different cognitive operations that take place at the same time and often in combination. The mind seems to work as a whole, but for the purposes of teaching, different operations, skills and strategies can be identified.

As far as operations are concerned there are cognitive and metacognitive operations. The present writer will focus on cognitive or thinking operations. Metacognitive operations are also extremely important and cannot be ignored as they lead to effective thinking. According to Flavell (1976:232) metacognition means one’s awareness of one’s thought processes in the act of carrying them out. The human being then uses this awareness to control himself or herself. Metacognition makes the person aware of the way in which he is thinking.

The terms that are used to describe thinking operations are skills, strategies and
operations. Referring to thinking, the word skill means "...the ability to execute or perform in an expert, rapid, accurate way" (Beyer 1987:25). Beyer goes on to say that the word skill is often used as a synonym for thinking operations such as recalling, organising, analysing and others. If such operations are simple they are regarded as skills, but if they are complex, sequential operations like problem-solving and decision-making, they can be regarded as strategies. Thinking operations include both skills and strategies.

French and Rhoder (1992:17-19) are of the opinion that a thinking skill includes what the thinker needs to do in order to accomplish the task of thinking. Different theorists describe thinking skills in different ways according to the perspective they take. Thinking skills may be viewed according to the thinker's approach, for example, analysis, deduction, synthesis and others. They may also be viewed according to the information-processing demands of the information, and how the information is organised and represented, for example, recognition of concepts, reconstruction, evaluation and others. Furthermore thinking skills may be viewed according to their levels of complexity, for example taxonomies such as Bloom's taxonomy.

Whatever the case may be, they are needed if one is to accomplish the task of thinking.

3.4.3 Thinking skills in the preschool years

The question to be asked is when the teaching of thinking and thinking skills should begin. Should it begin when children are still very young, when they are older or even in the adolescent years? The present writer believes that we must start as
early as the early childhood years, in fact teaching thinking should be the goal of the preschool years.

Runco (1990:37) is of the opinion that "...the thinking of children at all levels is significantly influenced by the type of opportunities they are given". If they are given tasks that make them think, and thinking is mediated, they will do so; but if they are not given tasks in which they can exercise any thinking skills, then they will not do so. The writer believes that the sooner we start teaching children to think, the better.

The writer believes that thinking skills can be taught and can also be taught to preschool children. The alternative (not teaching thinking) would be to believe that thinking and thought processes are a function of heredity only and are fixed when the child is born. But then, cognition is a function of both heredity and environment, and because environmental factors play a role in cognition, it means that environmental factors can be manipulated in such a way as to influence thinking. In this regard, Nickerson et al (1985:46) say that if thinking skills are really learned patterns of behaviour, then we might expect that training will have an effect on them. Training will lead to competence in intellectual functioning, some of which will later take place relatively automatically in appropriate contexts. This does not mean that there is nothing more that affects the development of thinking skills, but it means that training is also one of the aspects that affects it.

Piaget (1950, 1953) says that children adapt themselves to their environment through assimilation and accommodation (see section 3.3.2.1). As they do this they learn to think because they are striving to maintain a state of equilibrium between themselves and the environment. Although Piaget was not really trying to prove that thinking can be taught, his theory seems to support it, because it implies that by
interacting with the environment cognition can develop. This leads us to the assumption that if the environment is manipulated with the aim of improving the children's thinking, then thinking skills can be taught and cognitive development can be enhanced.

If we take Piaget's theory as our point of departure we may say that thinking skills evolve through stages, meaning that there are certain thinking skills that can be developed during the preschool years and some that cannot, due to the maturational level of the child. However more recent cognitive psychologists have found that young children can perform cognitive tasks that were originally regarded as being too advanced for them and, therefore can be taught thinking skills that were supposedly too advanced for them. For example, it has been found that children can understand cause and effect more than Piaget had given them credit for. This then implies that perhaps when Piaget tested the young children, they actually failed in performing the kind of tasks that he gave them, and not because they lack the thinking ability required (see section 3.3.3).

Different authors on the subject seem to imply that thinking skills can be taught to preschoolers, as long as they are given suitable tasks, appropriate information and mediation.

3.4.4 Some thinking skills that can be taught to the preschool children

As children develop, they acquire thinking skills due to maturation. But as the preceding discussion suggests, children must be taught thinking skills. The writer will discuss some basic thinking skills that can be taught to preschoolers in order to enhance their cognitive functioning.
3.4.4.1 Focusing and paying attention

Focusing refers to paying attention. This skill must be taught to preschoolers; we cannot just assume that preschoolers can pay attention. There are multitudes of stimuli in the environment, or we can even provide stimuli for the children in order to enhance their cognitive development. However it is not just the number or kind of stimulus situations that are in the environment that will have an effect on the children, but the ones that they will pay attention to, the ones that they will observe.

Eggen and Kauchak (1988:26) state that sometimes teachers of young children assume that children will focus on or observe stimuli in their environment, and that the process takes place naturally. It would however be more accurate to say that the capacity to observe and focus comes naturally, but that this capacity must be developed, it must be taught and gradually practised over the years in order to reach its highest potential. Thus children must be taught (mediated) to focus. This skill should be developed step by step from infancy until they can learn to observe and focus attention on relevant stimuli that the mediator would like them to observe.

At first for a very short span of time and later, as the children grow older, for a longer span of time, so that by the time they go to school they are able to pay attention and to focus adequately. The role of the mediator becomes apparent here, so that he or she can help the child to focus on the stimuli that he or she (the mediator) deems suitable and appropriate for stimulating and enhancing cognitive development.

In order to teach preschoolers to be able to pay attention, story-telling is one of the methods that can be used. The younger the children, the shorter the story should be. Gradually the length of the story can be increased, so that they may learn to pay
attention for longer periods of time, as long as the mediator monitors the interest or lack of it in the children. Step by step, as efforts are made by the significant adult to teach children to pay attention, they develop the skill of paying attention, which will be valuable when they go to school later. Story-telling for preschool children must be made pleasant, informal, and have a feeling of closeness with the caregiver, and it will also build vocabulary and enhance sentence construction. Furthermore, it promotes the metacognitive skill of anticipation, when favourite stories are repeated. To monitor whether the children are paying attention or not, the mediator can ask questions as the story progresses so that the children's thinking can be engaged.

3.4.4.2 Classifying or categorising

According to Rosser (1994:134) classification or categorising is "...the ability to scale and group things". It is an important and basic skill that makes experience manageable and meaningful. The stimuli and experiences in the environment are so numerous and so varied that they would be unmanageable and confusing. If the children can classify, it means that the stimuli could be managed and therefore be reduced in numbers because they have been put in larger groups.

Gordon and Browne (1969:359) maintain that children learn attributes of objects by exploring, and learning the class names. If for example, children are classifying objects under "toy" and "pet", they make collections and classify them by similarity. At the same time they will know the characteristics of the different objects. For example, the children will know that although the objects may all have fur, some can only be played with without any problems, but there may be problems if you tug at the ears of some of them. They may then know that this is a toy and the other one
is a pet. In doing this children must be given the freedom (within the mediatory learning situation), of classifying according to their own criteria which may be meaningful to them, rather than the teacher actually telling them how to do it. Then it will not have the same classification meaning for the children, they will only be carrying out instructions or simply sorting. The children must be able to discover the characteristics that they use as criteria for classification by themselves. What the teacher can do is to draw their attention to the criteria they are actually using, not to tell them which criteria to use.

The important thing is that children must be taught to talk about the activity that is taking place. If children are classifying food and the child puts milk, juice and yoghurt in one group, and then puts porridge, bread and apples in another group; the teacher could enquire from the child what he or she did and to draw the attention of the child to the fact that he or she is classifying according to whether the food substance is liquid or solid. As a result the child’s attention will be drawn to the attributes of the objects. The teacher can go further and ask the child to find other ways to classify the same objects; thus drawing their attention to the many characteristics of the same objects. It is important that the child should not just sort, but should understand why certain things are grouped together. At the same time the child must be encouraged to say why he is putting certain things together. By verbalising what he is doing, the child’s thought processes become known to the teacher and both of them, that is, the teacher and the child can build upon this. The child is then busy with metacognition, because he is thinking about his own thinking. By being able to classify, children will be able to deal with the numerous stimuli in their environment, and the many more that they will encounter later at school. At the same time their cognitive development is enhanced as they will be creating structure and order in the life-world.
3.4.4.3 Comparing

Comparing, according to Eggen and Kauchak (1988:33) is the skill that derives from observation, it is an extension of observation. Comparing means identifying similarities and differences. It helps in making children able to find patterns, and finding patterns helps in generalisations.

Comparison teaches the child "...to find similarities and differences between two or more objects or events and describe them along the same dimension" (Feuerstein et al 1986:64). The child must learn to compare so that the many stimuli in the environment should not remain fragmented and separate.

Preschoolers can be given tasks where they are required to identify similarities and differences in order to teach or train the comparison skill. For example, children can be given different shapes to compare. The shapes may be triangles, squares, rectangles and circles. Some may be made of wood and some of plastic. Some may be big and some may be small. The child can then be encouraged to find the similarities and differences among the shapes. The child will be able to see that we can compare on different dimensions, for example, the colour dimension, the size dimension, the shape dimension, and others. This will help the child to be able to see the different perspectives of an object and therefore it enhances cognitive development.

Another example is that children could be given pictures of children and be encouraged to discuss the similarities and differences. Or they could be given their own pictures when they were younger and their present pictures, in order to see the similarities and differences. They can be led to comparing on the same dimension,
for example the teacher could draw their attention to size, hair, the toothless mouth in earlier years as compared to the present, and others. This will teach children to be able to juxtapose as early as the preschool years. This skill will be very useful in future when individuals will be required to compare the many and varied phenomena that they will have to choose from in the course of their lives.

3.4.4.4 Sequencing

Sequencing refers to planning the order in which certain actions are to be performed. Children need to be taught which things belong next to each other, what comes first and what follows. The preschool teacher should encourage children to "think" about the task and plan what must come first and what must come last. Children must also say why they say that. For example, children could be asked to describe what they do in the morning before coming to school. As they give the description, they must be led to understand that certain things come before others, for example getting out of bed comes before brushing the teeth, and putting on socks comes before putting on shoes. Although this is a very simple example it leads children to understanding and visualising more complex tasks that need sequencing. The questions that the teacher asks should lead the children to realise why some things precede others. From this, rules of dealing with certain tasks can be deduced. This is the groundwork for more complex sequencing in which children will engage when solving mathematical problems for example. They can gradually learn to know that things should be done systematically and in a step-by-step fashion in order to arrive at a solution or a conclusion.
3.4.4.5 Seriation

Seriation refers to how children can arrange items according to a graduated scale. Gordon and Browne (1989:359) are of the opinion that in order to teach children seriation, they can be made to build pyramid towers and to fit nesting blocks together. By noting differences through trial and error mostly, they learn seriation systematically. For instance, the pyramid tower is ordered from largest pieces to smallest as it is built. The boxes are nested one inside the other by their graduated size. By so doing children learn to arrange in order. As they are engaged in such activities, their thought processes are engaged, they are learning the applicable thinking skills, and their cognitive development is enhanced.

3.4.4.6 Transfer

Transfer refers to the skill of generalising a solution of a problem to other related problems. Children must be able to see that they do not have to start from scratch each time they have to deal with a problem; they could use solutions that they had used before to solve a different problem or task.

Greenberg (1990:34) states that transfer to new problems does take place even among preschoolers. This can be done if children are shown how problems resemble each other and how one can bridge to other situations. For example if children build a pyramid, and see that the larger blocks should be at the bottom and the smaller blocks at the top; and if they are led to realise that it is so that the larger ones can carry the smaller ones as the smaller ones cannot carry the heavier ones, it means that they can proceed to understand how to deal with other related tasks. They can be able to transfer this skill to other problems; for example, if they are
given books to stack, they can then generalise the solution and put bigger books at the bottom and smaller books on top. Maybe the writer can be ambitious and state that this will lead to the child, in the distant future being able to understand that a bridge has to be reinforced heavily in order not to crumble; and a double storeyed house has to settle on heavy reinforcement. From small beginnings the ability to transfer can perhaps lead to greater things.

When young children go to school they will have to transfer (bridge) what they learn within the four walls of the classroom to real life situations. If the thinking skill of transfer is well developed right from the start, it will be used spontaneously and it is part of the goal of education (that of being able to use what is taught at school in real life situations) that this will be realised.

3.4.4.7 Predicting

In predicting children are asked to think of a possible outcome. In a study by Coonrod et al (1991: 27-28) children were asked to plant different kinds of beans, a bean sprout, a pinto bean, a mature green bean and a bright red jelly bean. The children were asked to predict which of the beans would grow the fastest. Some chose the bean sprout because according to them it had already started growing. Some chose the pinto bean and one said because "it is already a bean seed". Some favoured the jelly bean "because it is red, and red is best".

Some of the reasons given by the children may seem ridiculous, but what is interesting is that they are learning to "brainstorm" in a way. It is from such speculations and predictions that great things are discovered.
A study by Katz (1994:2) draws our attention to the fact that children's minds are wasted when we don't make them predict. When she was observing preschool teachers working with the children she was struck by the fact that preschool teachers sometimes let opportunities to teach thinking skills pass by without taking advantage of them. Once when she was observing a preschool class, there was heavy snowfall outside, and the teacher was encouraging the children to join her in singing about snow, snowmen and snowflakes. Katz (1994) thought it would have been better if children were made to stick out rulers or sticks in the snow and predict how high it would be the next day; or they could have filled jars with snow and be encouraged to predict whether a cup of snow would weigh the same after it had melted or after it was frozen into ice in the refrigerator. The children could have been encouraged to ponder and think and speculate about the snow.

If this skill is well developed, it could be valuable when children have to work independently in school. The hypotheses that are postulated whenever we have to study any phenomenon make use of prediction.

3.4.4.8 Analysing

In analysing, children should be taught to focus on what is not readily obvious in an event. In a study by Kataeva et al (1994:66-71) children were asked to push a ball into a basket. A child was sitting at one end of a table and on the other end of the table there was a ball, far enough away that the child, sitting on the chair, could not reach it with his hands. Close by the child, near enough so that the child could reach it, there was a stick. The child was asked to push the ball into the basket, which was on the floor at the other end of the table where the ball was, without getting up from the chair.
This appeared to be a simple and practical task, but some preschoolers failed to complete it. Some of the children could not think of what to do in such a situation. Kateava et al (1994:71) say that it is because the children were unable to analyse the situation either mentally or in action. The children were not evaluating their trials to reach the ball and therefore were not discarding erroneous action choices.

In order to succeed in tasks, analysis is necessary. The children should be encouraged to analyse the conditions of the task. The teacher as mediator (by means of questioning and guiding), should help in a step by step analysis of the task with the children. This could, for example, lead to conclusions that the ball is too far to be reached with their hands, that the stick can however be used as an "extension" of the arm, and that the ball is near to the box. After this careful analysis the child could arrive at the conclusion that the stick can be used to push the ball into the box.

Analysis according to Coonrod et al (1991:32) "...entails breaking up an element into component parts". If faced with a task, children should be able to break it into parts, it is then that they would see where the solution lies, rather than to take it as an unbreakable whole. Children, even older ones, sometimes fail to complete assignments because of the failure to analyse the task involved. If children can be taught the analysis of simple tasks, they would be able to confront the many tasks that they will be faced with at school. Failure at certain tasks at school come about because of inability to analyse situations. Analysing a situation or a task before trying to deal with it helps children not to be impulsive. It helps them realise that there are various ways of solving a problem and that if one way fails, one could try another way until a solution is reached. Being able to analyse would then lead to more intelligent behaviour, and therefore we could say that cognitive development
3.4.4.9 Synthesising

According to Coonrod et al (1991:32) synthesis "...is the ability to combine the parts back into a whole". These writers further say that play is a natural medium for this thinking skill as children are continually taking concepts apart and putting them back together (analysis and synthesis), to create a better understanding of their world. Puzzles can give children the chance to exercise this thinking skill. As they put back the pieces together and search for a missing one, they are synthesising. They become able to identify a missing part to make a whole.

3.4.4.10 Recalling

In recall we retrieve what we have learnt before from our memories. In order to succeed in school, children have to be able to recall information that is in their memories. Bjorklund (1989:62) is of the opinion that levels of recall increase with age, with these improvements being attributed to older children's use of strategies such as rehearsal and organisation. Rehearsal entails repeating the information to oneself, and organisation entails grouping and remembering items together.

In a study by Pressley and Van Meter (1993:135) it was found that preschoolers also use strategies to help them retrieve information from their memories. If a familiar object is hidden, even the youngest preschoolers are aware that they will have to recall where the object is hidden. They then manifest behaviours that show that they would like to be able to remember where the object is hidden. As they do other things, they frequently look at the spot where the object is hidden and point...
at the location. They rehearse so that when the time for recalling comes they may be able to do so.

The preschool teacher could present children with a series of items, for example, pictures, words, numbers, and others. The items could then be taken out of sight and the children could be asked to recall those items in any order they wish. Such practice will help them use strategies like rehearsal and organisation in order to recall data. Even though it is done on a smaller scale at a preschool level, it is preparation for the large scale recalling that the individual will be required to do in later years. As children are required to recall more and more data, they increasingly come up with plans to help them remember. Thus, by teaching children this thinking skill in various ways, we are also facilitating their cognitive development.

3.5 CONCLUSION

The thinking skills that have been discussed are by no means exhaustive, but nonetheless they are very important if one is to think effectively or be a better thinker. These skills can be taught and one would presume that teaching them right from the preschool years, when the brain is developing rapidly and susceptible to stimulation, would be a better option, so that teaching them at formal school can be a continuation of the work started earlier.

In the following chapter, preschool education will be discussed. The focus will be on the preschool setting, the preschool teachers, and the learning programmes. The role of preschool education in enhancing cognitive development and the teaching of thinking skills will be examined. This will be done against the background of parental involvement.
CHAPTER FOUR

PRESCHOOL EDUCATION

4.1 INTRODUCTION

Preschool education is a significant area of education. Preschool children, like all other children have a right to be educated and be made ready to take part in life's responsibilities and demands. As already stated, the parents are the first and most significant teachers of their young children, and right from the time the children are born, they (the parents) leave their mark on their lives and minds. "Parents and other family members are the young child's first educators who affect the development of the child's potentialities by limiting or expanding and enriching the informal learning opportunities for him or her " (Whitmore 1986:71).

The first three years of life are especially crucial for intellectual growth and parents have a great responsibility. In this regard Ibuka (1977:17) says that the studies of cerebral physiology and infant psychology have shown that the key to intellectual development is in the child's experience of the first three years, that is, the period in which there is still considerable cerebral development. He further states that "...no child is thus born a genius, and none is born a fool. All depends on the stimulation of the brain cells during the crucial years. These years are the years from birth to three. Kindergarten is too late". The statement by Ibuka clearly points to the fact that the home is of the utmost importance in the mental development of the child and preschool can only extend and complement what has been started at home.
It is generally taken for granted that children are raised in good homes, ones that will provide for all their needs. However, this is not always the case. Some families do not have the resources (financial, cognitive, affective or normative) to provide adequately for their children. Circumstances in the families, sometimes beyond their control, can make it difficult for parents to foster their children's development adequately. Some parents have the resources to cater for their children's development, but do not have the time or adequate information to stimulate and care for them appropriately. Some parents are just not interested, and some just abandon their children. Some parents simply ignore their children and take up the saying that "children should be seen but not heard". Preschool education can therefore complement the families in fostering the development of preschool children in all the spheres of their lives, but it can never really take the place of the good home.

Whitmore (1986:71) is of the opinion that throughout the early years of development, parents and teachers influence the child's development in all areas through stimulation, challenge, direction, discipline, responses to the child's expressed interests and needs, and direct teaching. From this statement it seems that in the education of preschool children, partnership between the home and the preschool cannot be avoided, and as Spodek et al (1991:2) point out, "... early childhood programs work hand in hand with families to provide the necessary basis for the children's development, supplementing parents' child-rearing efforts and increasing the support to allow children to assume their role in society successfully".

Besides the support that these children get or should get from their homes, they can also benefit through preschool education. Preschool education can have an impact on their social, emotional, physical, normative and cognitive development. All the
activities that they engage in during the time that they spend in preschool centres may have a great influence on their development. The preschool practitioners or teachers will be the children's educators outside the home, and will provide stimulation and nurture the children. They will structure opportunities that will enhance the development of the children, and they do this intentionally and systematically. They extend the stimulation that was, or should have been started at home by parents. The children are not to lie dormant at home waiting for the time when they will come to preschool, but, the intervention should start with the parents at home and then be continued by the practitioners at preschool.

In this chapter the writer will focus on preschool education in general and the role that it plays in the development of preschoolers. As has been said, for the purpose of this research, they are the two to five year old age-group, children who have not yet started formal schooling. The assumption here is that preschool education can and should play a significant role in the overall development of young children, and more specifically in their cognitive development. The writer would also like to examine the role of the preschool teachers and learning programmes in the teaching of thinking skills and the enhancement of cognitive development in the preschool years.

Questions that can be asked are among others, the following: What role does preschool education play in the development of children? What role can the preschool teacher play in enhancing the cognitive development of preschool children?
4.2 THE MEANING OF PRESCHOOL EDUCATION

"Early childhood education refers to group settings deliberately intended to effect developmental changes in children from birth to the age of entering first grade" (Gordon & Browne 1989:9). This definition by Gordon and Browne refers to the education of children who have not yet entered formal school, although these authors acknowledge the fact that more recent definitions include the elementary school years as well. It also points to the education that is provided by the home and the preschool.

On the other hand Spodek et al (1991:2) define it as "...the education of children from birth to age eight". According to these writers the children who have started school are included in this area. The White Paper on Education and Training (1995:33) describes this area as Early Childhood Development (ECD), and it is defined as "... an umbrella term which applies to the processes by which children from birth to nine years grow and thrive physically, mentally, emotionally, morally and socially". The South African government envisages including children who are in the junior primary phase as forming part and parcel of this group of children. Formerly, the term "educare" was used to refer to preschool education in the non-formal sector. ECD now replaces the term "educare" which referred to the provision of education and care of children from birth to age six (Interim Policy for Early Childhood Development 1997:1). Educare falls within the broader term ECD as stated by the present South African government.

At this moment the National Department of Education is implementing a Project-Based Early Childhood Development Programme entitled "National ECD Pilot Project" which represents the first step towards implementing the compulsory
reception year throughout South Africa (Interim Policy for ECD 1997:1). The pilot study is investigating the feasibility of having a reception class in the year preceding that of being admitted to Grade one. This means that the government sees the need for children to be educated or prepared for school.

However, no matter how involved the government is in the education of young children, preschool education can never take the place of the education from the good home. By the time these children come to preschool most of their brain development has taken place. If the child has already missed the stimulation in infancy and toddlerhood, preschool cannot really replace it, but the child can still get the benefit of being taught concepts and being given the opportunity of exploration and being involved in different experiences. As already stated, Brierley (1987:28) says that the years from 0 to 5 years are very important for brain development. This means that during the 2 to 5 years stage all is not lost, the preschool practitioners still have a particularly great role to play in stimulating cognitive growth.

Gordon and Browne (1989:9) state that "...educators in preschools build bridges between a child's two worlds, school (or group experience) and home". At this time the foundation for future learning is built. Later, the child will build on the same skills that have been laid during the preschool years. It seems as if preschool education is very important for the overall development of young children, and that they need it in order to develop optimally and be made ready for school.

4.3 THE NEED FOR PRESCHOOL EDUCATION

There are various reasons and arguments to support the fact that there is a need for preschool education. Some of the reasons are: benefits for disadvantaged
children; benefits for advantaged children; increasing number of women working outside the home; technological changes; long-term effects on children; and the developmental need for preschool.

4.3.1 Benefits for disadvantaged children

There are homes, and parents, who cannot or are not willing to give suitable nurture to their children (see section 4.1). Some of these children are abandoned, no one seems to love them or accept them; some are illegitimate, their mothers were not ready for them and regard them as a hindrance to their (the mothers) development, and therefore are ignored; some mothers simply do not know the importance of stimulating their children, they think it will be the teachers' duty when the children eventually go to school; other children are just pushed to child minders who are over worked and burdened and they may then simply ignore the children who then play by themselves with very little adult intervention. These children, who are then disadvantaged as far as educational input is concerned, could benefit greatly by receiving preschool education.

According to Ellermeyer (1988:287) "...an overwhelming amount of research evidence has indicated that for the economically disadvantaged or at risk child, day care is cognitively enriching and advantageous". Atmore (1993:125) agrees with this by stating that preschool enriches the lives of individual children whose development would otherwise be adversely affected by detrimental socio-economic and cultural circumstances. These authors all seem to imply that adverse socio-economic background plays a role in disadvantaging children, and that such children can benefit greatly by being involved in preschool education.
However, poverty on its own does not necessarily lead to poor quality intellectual stimulation - educational neglect does. If the child lives in a poor family or a family whose socioeconomic background is not favourable, but gets high quality stimulation, then the child would not be disadvantaged as far as mental growth is concerned. The problem arises when poverty is coupled with pedagogic neglect and ignorance on the part of the parents or the child minders, who mostly are the grandparents or other family members who are unemployed. If these caregivers do not realise this responsibility, the children may miss the intellectual stimulation that they really need and this will affect their intellectual development and learning in later years. Although such children may have missed out on the stimulation of the first two years, preschool may still save them from total loss.

In South Africa, a considerable number of preschoolers come from disadvantaged home backgrounds where emotional and especially intellectual neglect abound, and while preschool education cannot claim to take the place of the family, it can do much to enhance the total development of these children, and specifically their cognitive development. As Sylva and Wiltshire (1993:36) point out, preschool education leads to immediate, measurable gains in educational and social development, and it also leads to lasting cognitive benefits in children.

4.3.2 Benefits for advantaged children

In a study undertaken by Ellermeyer (1988) on the effects of day care on advantaged children, it was found that some authorities actually believed that intervention from outside the home has a negative effect on the cognitive development and functioning of the young children. Other researchers found that day care has neither a positive nor a negative effect on cognitive development of
advantaged children. It was suggested that when children receive high quality intellectual stimulation at home, there is no evidence of intellectual enhancement to the children because of attending daycare. However, in a study undertaken by Odendaal (1993:198) it was recommended that parents from advantaged backgrounds should be made aware of their responsibility for the rearing of their preschool children as well as of the educational implications that this will have on their total development. They should be guided so as to have the appropriate knowledge and parenting skills to make them fulfil their parental tasks effectively. Thus the socio-economically advantaged background on its own is not enough, parents must still intentionally foster their children's intellectual development.

Children who are able to get high quality stimulation at home do not therefore seem to benefit much intellectually by attending preschool. The best quality intellectual stimulation of the young child takes place on a one to one basis because then the adult can move exactly at the child's pace and give as much input as the child can cope with. At preschool, the child will be in a group, and share the attention of the adult with other children. It is possible that the quality of intellectual stimulation could drop drastically in a group context when compared to an ideal home situation.

The researcher however believes that children from advantaged backgrounds need the professional, conscious and deliberate intervention that they may get from preschool. The preschool teachers may consciously and deliberately teach thinking skills to the children and therefore enhance their cognitive development. Whitmore (1986:71) states that the educator at preschool systematically guides the child's development through structured opportunities involving other children. Here again, the quality of the intervention is very important. If the quality of preschool education that is offered enhances development deliberately and intentionally, then, as has
been said, even children from advantaged backgrounds can benefit. Preschool education must therefore be structured in such a way that children should get professional intervention, with a curriculum that is especially developed for them. This implies that the preschool practitioner must be qualified so that we can prevent "...widespread waste of children's minds" (Katz 1994:2).

4.3.3 Increasing number of mothers working outside the home

The number of working women in South Africa is on the increase. In 1985 there were more or less 1 642 000 working women between the ages of twenty and thirty four. This is the age at which women usually have young children. The implication here is that there is a large number of young children who are separated from their mothers during the day, and they have to adapt to some form of alternative care. Alternative care usually takes the form of crèche, preschool, day mothers, and playgroups (De Witt & Booysen 1995:55).

According to Spodek et al (1991:7) the increased numbers of working women has also led to a decline in the availability of traditional baby-sitters. Grandparents and unmarried relatives are no longer at home caring for the young children, they are also at work. To replace these, preschool centres are needed.

4.3.4 Technological changes

Due to great advances in technology, and the resultant large scale urbanisation, most people live in urban areas (some left their relatives in the rural areas due to migrant labour), where the children are exposed to a lot of dangers and where they actually do not have much space for playing. Because of the complexities and
numerous changes that occur in such a society, many adjustments are required in life styles. Lindberg and Swedlow (1985:1) observe that as families feel the pressures that come into being because of new demands on their time, they place more and more responsibility on the schools for all aspects of their children's development.

Nutbrown (1994:6) points out that worries about the safety of children and urban living inhibit children's freedom. They are not free to explore their world because the adults are concerned for their well-being, including fear of illness from polluted rivers and beaches, and abduction and abuse. In order to support the children's learning, educational content is brought from the outside world into safe, defined and man-made boundaries. Educators have seen the need to create opportunities which provide children with the freedom to learn in protected environments which, as far as possible, removes the restrictions that come about because of fear for the children's safety. This is an additional reason why preschools and day-care centres are necessary.

4.3.5 Long-term effects on children

Sylva and Wiltshire (1993:17) indicate that most research shows that preschool education leads to lasting enhancement of educational and later employment performance because it has measurable gains in the cognitive and social development of the children. It does this through encouraging high aspirations, motivation to learn and feelings of task efficacy. Preschool education is also effective because it shapes the cognitions that children construct and their thinking skills. It can also foster the belief in children that attainment is not innate, but is instead achieved in part by effort. For this reason the researcher believes that
young children need preschool education. By enhancing the children's cognitive and social development, they are educated for life. It is with these skills, the foundation of which was laid in preschool that they will build for the rest of their lives.

Spodek et al (1991:8) further point out that early intervention can help reduce the number of children who are assigned to remedial classes, and who repeat a grade because of low achievement. Early childhood programmes have also produced significant increases in IQ and achievement in the early primary grades.

4.3.7 The developmental need for preschool education

Several aspects of young children's growth point to the need for early childhood education. The development of young children requires appropriate intervention so that it may be optimal. In this section the different aspects of development and how preschool education can enhance this development will be discussed.

4.3.7.1 Physical and motor development

The early childhood experiences aid the child in physical and motor functions and development. As indicated in the Interim Policy for Early Childhood Development (1997:12) preschool must provide activities that lead to fine and gross muscular development. It must also provide activities that encourage co-ordination and balance. Materials and apparatus that enable the child to use and exercise both large and small muscles are mostly provided in preschools.

Eliason and Jenkins (1994:13) say that gross muscles apparatus include climbing apparatus, tricycles, wagons and others; while small muscles apparatus and
activities include puzzles, scissors, crayons and other materials that encourage the use of the hands and fingers.

4.3.7.2 Emotional development

One of the goals of early childhood education is to provide children with a positive self concept. The significant people in children's early environment reflect back to the children how they are viewed, and the children, in turn, will see themselves in accordance with the way in which they are seen. These views of themselves will form their self-concepts, which in turn will determine their behaviours, attitudes, feelings, experiences and success (Eliason & Jenkins 1994:14).

The preschool education group offers the child the kind of milieu where he or she can relate to other children. From looking at how other children relate to him, the child can form an opinion about himself.

4.3.7.3 Cognitive development

Essa and Rogers (1992:9) observe that during the preschool period, cognitively, the children acquire the beginnings of a mode of logical and abstract thinking that lays the foundation for the more complex subsequent thinking processes. In order for the children to develop optimally as far as intellect is concerned, they need intervention. They need to interact with their environment, and through processes of assimilation and accommodation, to acquire knowledge (section 3.3.2.1). As already stated, because there are numerous stimuli in the environment, children need "mediators" (Feuerstein 1980, 1986). The mediator stands between the child and the environment, and facilitates the reactions that the child will make towards
his or her environment (section 3.3.4.2). Having an environment that has a lot of materials like educational toys and others, will not help the child much; but having a mediator to direct the child towards the environment and stimuli including the different materials and educational toys, is what is desirable. That is why children need preschool education.

Early childhood education provides opportunities for optimal intellectual functioning, not only through looking, listening and doing, but also through thinking. Atmore (1993:125) says that in the preschool, children are taught thinking skills appropriate to their level of development. Children are encouraged to be curious and a foundation is laid for sensory and perceptual learning, which leads to conceptualisation. This is desirable because during this stage of preconcepts we need to lead children towards conceptualisation.

Essa and Rogers (1992:29) further state that another thinking skill that must be encouraged throughout these years is the ability to represent actions, events and objects in a symbolic way. In the preschool this can be done by giving the children opportunities to imitate, represent with other objects, draw pictures of objects, and role playing something that has been concretely experienced. These mental transformations are very important for cognitive development.

Preschool should also provide preschoolers with opportunities that enhance aspects of cognitive development, such as development of the skills of sorting, ordering, classifying and seriation. Children can be asked to sort out objects and put in order according to size, for example, from the biggest to the smallest; or they can sort from the lightest to the darkest. Segal (1995:35) says that preschool provides a learning environment that encourages exploration, curiosity and critical thinking.
As De Witt and Booysen (1995:70) explain, in the preschool the children are exposed to a wide range of experiences so that they can discover the world around them. They are also guided towards realising that knowledge is interesting, so that the desire to learn is cultivated at an early age. They need an adult who will talk to them, focus their attention on relevant and significant stimuli, ask questions, get them to hypothesise, guide them toward answers, bridge to other situations and maintain a face-to-face relationship with them.

4.3.7.4 Social development

Socialisation takes place in the early years and the family is the first and most influential socialisation agent. However the child can also benefit socially by attending preschool. Eliason and Jenkins (1994:13) are of the opinion that the early childhood group, where children relate to other children of their own age, is an ideal situation for the furthering of development in social skills. By playing with their age-mates, under the vigilance and guidance of a well-trained teacher, they learn to develop friendships that enable them to refine their social behaviour. They learn to share, listen to what others are saying, develop leadership skills, follow others in certain situations, gain confidence in dealing with others, and also learn to conform to the rules of the group. These are all by-products of early childhood socialisation.

Essa and Rogers (1992:35) agree with this viewpoint by saying that early school experiences teach children to get along with others and convey a sense of security in knowing oneself. This brings about significant changes throughout the preschool years. The preschool scenario, where children relate to one another, is very important for the social development of these young children. As Van der Zanden (1993:297) puts it, "...children are important to one another as reinforcing agents.
and behavioural models". As the children play with one another, a number of major contributions to their social development occur.

Preschool education can thus be a way not only of meeting and satisfying some of the basic needs of young children in the physical, social, emotional and cognitive areas, but also of offering them the opportunity of developing excellence in these areas.

4.3.7.5 Moral development

As has already been stated, the child is not born with a sense of right or wrong. He has to learn. He learns what is right and wrong from, firstly, his parents at home, and secondly, the other significant adults. When the child goes to preschool, it is the preschool practitioner who will influence his moral development. As has been indicated in sections 2.7.1.1 and 2.7.1.2, both Kohlberg (1963;1981) and Piaget (1932;1968) maintain that young children's moral development depends on other people. They state that children simply obey the rules because that is what the significant adult says is right, not what they (children) think is right. By implication, this means that children will obey the practitioners at preschool, and take their version of what is right and wrong. This in itself places great responsibility on the preschool practitioner.

4.4 PRESCHOOL INSTITUTIONS

Schools for young children vary according to the needs and educational philosophies of the communities they serve. Their programmes are different, depending again on the needs of a particular community - the purpose for which the
institution was set up, and the length of the school day. Funding of such institutions also varies; some depend entirely on the parents, some are partly subsidised by the government, some have private donors, and others are funded partly by non-governmental organisations. Preschool centres differ in quality depending upon the characteristics and training of the staff, the physical setting, funding, needs of the society and the support that they get from the community.

4.4.1 The situation in South Africa

It was and still is regarded as the parents' duty to see to it that young children receive preschool education. The Interim Policy for Early Childhood Development (1997:2) states that "...the current situation is inadequate, fragmented, uncoordinated, unequal and generally lacking in educational value. It is further characterised by a long history of discriminatory provision with regard to race, geographic location, special needs and funding".

The Interim Policy for ECD (1997:2) further states that at the moment only between 9 and 11 percent of all South African children from birth to the age of six have had access to preschool services. Most of these children are in the urban rather than in the rural areas; and also from advantaged rather than disadvantaged families.

However, no matter how involved the government is - or becomes, the parents should take responsibility for the early stimulation of their children. The ideal is to get very involved, interested and skilled parents, as well as good quality nursery schools for our children. The parents must not be made to think that the government must take responsibility for their children. A strong partnership is what is needed for early childhood education.
The children who never receive adequate preschool education (either at a preschool or at home), go to school without having received any kind of school readiness assistance. When they arrive at Grade one, instead of beginning with the Grade one programme right away, they spend a lot of time being prepared and made ready for school, which they have already started. In some cases this makes them lag behind permanently.

4.4.2 Types of preschool institutions

There are different types of preschool institutions; the following are some of them:

4.4.2.1 Crèches

In a crèche, care is provided for children between three months and six years. Crèches are established mainly to provide day-care for the children of working mothers. Most crèches in South Africa normally operate from 7:00 in the morning to 5:00 in the late afternoon. The practitioners in the crèche do not have to be professionally qualified and upgrading courses that may be provided are not meant to qualify them as preschool teachers.

The services that are offered in a crèche are more or less like those offered by child-minders who operate from their own homes. Usually the child-minder works with a small group of children while the crèche works with a large number of children. Private child-minders are not even registered and do not receive any government subsidies, whereas in most instances crèches are registered and also receive a government subsidy.
Some crèches have buildings that are predominantly funded by the parents of the children who attend or they may have donors that help with the funding. Most of them, especially in disadvantaged areas, make use of any building that they can get hold of. Church halls are used as crèches in most parts of the Northern Province. The private child minders use their own houses, irrespective of whether they have enough space or not.

Registered crèches receive subsidies from the government, and they are only registered if they satisfy certain requirements laid down by the Department of Health and Welfare. An unregistered crèche has to work on the funding from parents or private donors only.

4.4.2.2 Preschools or nursery schools

Preschools or nursery schools take care of children from the age of two or three to the age of six, and their primary task is that of providing preschool education. Usually they follow the time schedule of ordinary primary schools, for example 7:30 in the morning to 13:30 in the afternoon; and may even take holidays at the same time as primary schools. The preschool or nursery school must have at least one qualified teacher because its primary task is that of educating the children while also looking after them. The preschools are also run in a variety of settings, such as multi-purpose built facilities, classrooms within primary schools, churches, community centres, and at private homes.

According to the Policy Discussion document on Early childhood development (1997:19-20) the programmes that are provided in the preschools depend on the philosophy of the founders and the training of practitioners (teachers). There is a
wide range in quality of the learning environment, curriculum, programmes, management, methods and approaches.

The programmes in a preschool are educational in nature, with the emphasis on school readiness. The writer is of the opinion that it is here at preschool that we must continue laying the foundation for one of the most critical skills in life-long learning, that is, the skill of thinking. On a scale that is appropriate to their development, children at preschool must be taught thinking skills. In that way their cognitive development will be enhanced, and a foundation for life-long education will have been laid.

4.4.2.3 Crèche-cum-preschool/nursery school

Very often day care centres provide services that show the characteristics of both the crèche and the preschool. In such cases they operate as crèche-cum-preschool/nursery schools. It may be found that they take children from three months to six year olds, and they separate them into groups. The two or three to six year olds then form their own group that is educated and taught skills which are appropriate to their age, while the younger ones are taken care of and also educated at their level of understanding. Crèches-cum preschools/nursery schools usually operate from 7:00 in the morning up to 17:00 in the afternoon.

4.4.2.4 Preprimary school

The term preprimary school is sometimes used to refer to preschools or to the one year reception class attached to the primary school. Reception year is the introductory year of an integrated four-year Foundation Phase Programme. It is not
an institutionalised year of instruction in the ECD phase (Policy Discussion Document 1997:20).

The preprimary class is usually found in a primary school, and it works in accordance with the time schedule of the primary school within which it operates. At the moment, among the black communities in the Northern Province, such classes are usually found in private schools and in schools targeted for the pilot study to investigate the feasibility of introducing a compulsory reception class or Grade zero class in junior primary school. Only five or six year olds are admitted to such classes in order to prepare them for primary school the following year. At the moment receiving preprimary education is not a prerequisite for being admitted to Grade one.

4.5 THE PRESCHOOL TEACHER

In order for the preschool to succeed in teaching young children thinking skills, and in enhancing their cognitive development, suitably qualified teachers are needed. Teachers of young children must be well trained. Eliason and Jenkins (1994:15) state: "Early childhood education may lose its intellectual thrust and its affirmative status and reputation in our society if it is unable to provide teachers who are specialists and experts in both theory and practice".

All these require a teacher who is suitably qualified to teach young children. Because this person will be the first teacher for the children outside the home - (that is, besides the parents who are really the first teachers), he or she will certainly leave a mark on them in every aspect of their development, and it will also give them an idea of what school will be like. That is why it is important to have suitable
people to teach preschoolers so that the children's first experience of school can be both educative and positive.

At the moment many preschools in the black communities are run by unqualified and underqualified practitioners. Many of these practitioners have only acquired basic literacy and others have grade 10 academic level. So far there is not nearly enough linkage between in-service and pre-service training at the universities and colleges of education. Some Non Governmental Organisations (NGO’s) are providing training for practitioners, but the training courses offered by different NGO’s are not harmonised and are not linked to further accreditation (Policy Discussion Document 1997:20).

Furthermore, currently, the situation with regard to the training of preschool teachers is fragmented, and not well-planned. Some preschool teachers hold three year diplomas from colleges of education; some hold degrees with specialisation in preprimary education; some hold one-year diplomas from universities and NGO’s; some are self-made teachers, who decided to venture forth and open up preschools.

In registered preschools there is usually at least one qualified teacher whose salary is paid by the department of education. Depending on the number of children in the preschool, he or she may then seek the assistance of other practitioners who may not be qualified preschool teachers, and who are paid from the funds paid by parents of the young children. In privately owned preschools, the practitioner may not even be a qualified preschool teacher. There is no control over who teaches the young children. As long as a preschool is established, and parents bring in their children, then there is no law to stop it from functioning.
Teachers of young children are very important because according to De Witt and Booysen (1995:52) they "...leave an indelible impression on them". They also influence the children's parents and the community in which they function. The teachers' authority is based on their knowledge and on personal qualities. Their measure of responsibility, enthusiasm, maturity and relationships with other people are relevant qualities.

4.5.1 Practitioners in preschool education

According to the Discussion Document on Early Childhood Development in the Northern Province (1997:20), the current situation is that Early Childhood services are run by a large proportion of unqualified and under-qualified practitioners. As has been said, many of them have only acquired basic literacy and others have grade 10 academic level. Some of the practitioners involved in early childhood care are the following:

4.5.1.1 Day-mother

Day-mothers usually operate from their own homes. They look after children during their mothers' absence. Usually they look after more or less five children and are paid by the parents of the children that they mind. They take children from the age of 0 to about three years. Such day-mothers are not registered by any government department. They provide their services from the morning, usually from 7:00 to 17:00 or 18:00, depending on the arrangements with the parents.
4.5.1.2 Day-carer

Day-carers look after more than six children. They do not normally use their own homes, but any other building that can be available, for example, a garage, a church hall, and others. They may even look after children in a crèche, and if the requirements of the Department of Health and Welfare are met, the day-care centre can be registered as a crèche. They operate from the morning to the late afternoon. Some day carers have undergone training in NGOs where they mostly study for diplomas in Early Childhood Education.

4.5.1.3 The preschool teacher

The preschool teacher usually holds a Diploma in Preprimary Education. These diplomas are then recognised by the Department of Education. Some universities are also offering a one year post graduate diploma in Preschool Education. This one year diploma also rests on a prior educational qualification as a teacher. These teachers practice in preschools where they take care of, and educate children from the ages of three to six. In some instances they teach the Grade 0 class or the reception class in primary schools where such a class is available. Some universities are offering a degree in Preprimary education or have specialisation in Preprimary education in their post-graduate degrees.

4.5.2 Tasks of the preschool teacher

The teachers of young children have some responsibilities that the teachers of older children do not have because the nature of teaching in the preschool is unlike that
of other age groups. Some of these responsibilities are the following: caring, recreation, teaching and managing.

4.5.2.1 The caring task

Preschool teachers and practitioners have the task of taking care of the young children while they are at the institution. The care required may be physical, social, emotional and moral. Irrespective of whether the curriculum is cognitive in nature, or whether the purpose of setting up the preschool is educational, the children have to be taken care of. When the children are engaged in activities, both indoors and outdoors, they need to be looked after. Children are great explorers, and they are venturesome, consequently to avoid terrible accidents, they need to be minded. Lay-Dopyera and Dopyera (1990:18) point out that the preschool teacher also has to help children in dressing, for example, tying shoe laces, zippers and buttoning up their clothes. Some of the children's fine muscles are not yet well developed, so they will need such help. They also have to take care of ill or injured children until the parents or medical personnel are available. Furthermore, they have to comfort those who are hurt or crying for one reason or another, supervise their toileting and may even serve lunches.

The preschool teachers also have to show warmth and love to the children. They have to be patient and energetic in order that they can give their attention to the children throughout the day.

4.5.2.2 Recreational task

Recreation refers to activities that children do to enjoy themselves. Play is one of
the most important such activity. Children need to play; for young children, play is "serious business". Play is also a vehicle for socialisation and cognitive development. As already stated, most of the thinking skills can be acquired through playing. It is part of the teacher's task, according to Lay-Dopyera and Dopyera (1990:18) to supervise or conduct playground activities.

The teacher's task is to care for the children while they are playing, and at the same time to direct them towards relevant stimuli that may stimulate them. The teacher can also help in conducting music activities, play and games in such a way that they not only have recreational benefit for the children, but they also offer intellectual stimulation.

Nutbrown (1994:7) says that "...all forms of play appear to be essential for the intellectual, imaginative and emotional development of the child and may well be necessary steps to a further stage of development". This statement points to the significance of play for preschool children. The preschool teacher should regard play as a necessary event in the life-world of the children.

**4.5.2.3 The teaching and mediating task**

As has been said, preschool teachers and practitioners also have the task of teaching the children. Lay-Dopyera and Dopyera (1990:17-18) state that the teachers have to lay down objectives and procedures, plan activities and time allotment and provide materials. They have to plan their lessons and prepare and select materials for use. They also have to conduct individual and group lessons and engage children in various learning activities, such as mathematics activities like counting, comparing and ordering. Another example is science activities, where
thinking skills such as observing, inferring and experimenting can be taught and mediated. The children should also be involved in skills such as drawing, colouring, cutting, pasting, and others, so that they can be made ready for school. The fundamentals of reading and writing can be taught to a certain extent - as long as the children are not put under pressure and it does not lead to stress on the children's part. It must be done in a playful and fun inducing way so that the children can feel relaxed.

The teaching task involves mediation or what De Witt and Booysen (1995:184) call cognitive accompaniment. Cognitive accompaniment implies that the educator educates the child while clarifying, helping him solve problems and trying by all means to make the child reach his learning potential. The educator also accompanies the child in the affective and normative spheres. This is only possible if the teacher/practitioner has a thorough knowledge of the child, his needs and stages of development and becoming.

In teaching the children, preschool teachers or practitioners are more involved in small group activity than many elementary and secondary school teachers. According to Gordon and Browne (1989:130) most of the teaching and learning in the preschool takes place through teacher-child interactions rather than through lessons and demonstrations. The medium of learning is mostly play. In this regard Thorne and Press (1991:xi) say that teachers should promote the process of learning through play in a way which generates discovery and questioning. The teacher encourages the children to arrive at their own conclusion, rather than to give them ready-made solutions. When the preschool children are taught they generally have a choice of activities.
The young children must also be taught factual knowledge in order to increase their conceptual knowledge which they will need for future learning. They need an adult to talk to them and provide factual knowledge. Merely playing and talking to themselves only is not enough. The preschool practitioner must really make an effort to talk to the children while they are under his/her care so that their conceptual framework can be extended. The teacher must also give the children a chance to listen to stories and retell the stories or tell their own original stories. As has been said, eye contact with the children is very important. Maintaining eye-contact is important in that it helps the child maintain focus and concentration on what is said, and it makes the child feel special because the adult acknowledges him or her as a person.

4.5.2.4 The managing task

The preschool teachers and practitioners also have to organise, manage and administer all events and activities that take place in the preschool institutions. Gordon and Browne (1989:131) state that the preschool teacher sets up the classroom to suit the needs of the children, for example, the desks or chairs are put in such a way that is not intimidating to the children and there is also an abundance of materials and child-sized equipment to invite the young children's interest and interaction.

If the children come to school by cars, buses or taxis, then the preschool teacher becomes involved in this transport management. Although this is primarily the parents' task, in most black communities it is not the parents themselves that bring the children to preschool, but they come in groups, mostly in taxis. The teachers see to it that the children are not left behind after classes; if it happens, they have to find
ways and means of seeing to it that the child goes home. The preschool teachers have to maintain close contact with the parents of the preschoolers because the preschool and the home are partners in caring for and educating the children.

4.5.3 Qualities of a good preschool teacher

Both men and women can be excellent preschool teachers. The personal qualities and characteristics are the most important factors, not the gender. There is, however, a lot of overlap between the qualities of a good teacher and the tasks. Some of the qualities of a good preschool teacher will now be discussed.

4.5.3.1 Professionalism

Lindberg and Swedlow (1985:284) state that "...a person becomes a professional by virtue of the training he receives and his mastery of a body of knowledge, as well as the feelings he has about himself as a competent person" in a particular field. The preschool teacher, like other teachers, must be trained to do his or her work professionally.

Because teaching in this field appears to be "free for all", the status of this profession has suffered a blow. Spodek et al (1991:56) are of the opinion that a lot of preschool teachers are concerned about being regarded as baby-sitters and child-minders with no specialised training. However, in reality being a preschool teacher requires a core of skills and knowledge related to planning, implementing and evaluating programmes that are appropriate to the developmental level of the children.
At this point in time in South Africa, the field of preschool education lacks a set of common requirements for teachers or practitioners. This has led to the field having teachers who are not professionals and therefore lacking the skill to deal with these children appropriately - teachers who do not teach these children how to think effectively. Nickerson (1986:93) is of the opinion that the degree of skilfullness of the teacher is the most important determinant of the degree of success or failure of any programme. Skilled teachers can often get impressive results despite poor media, whereas good media used by an unskilled teacher will certainly not yield impressive results.

In order that preschool education can facilitate cognitive development and facilitate learning in later years, skilled and professional teachers are needed, otherwise the service will be just that of minding and caring for children without impressive educational value.

4.5.3.2 Patience, love and care

Besides being a professional, the preschool teacher has to exercise patience, love and care towards the children. As children learn, they make mistakes, so the preschool teacher needs to be patient in dealing with them. According to Eliason and Jenkins (1994:16) children (and especially young children) do not establish a rapport with cold and uncaring teachers, however they relate very well with loving, patient and caring teachers. When children feel that the teacher loves them and cares for them, they develop a way of living up to the teacher’s expectations (self fulfilling prophecy). This means that in order that the preschoolers may flourish in and benefit from their classes, they need loving, caring and patient teachers.
DeCoster et al (1986:152) point out that cognitive development is only possible where personal contacts are highly valued. When the child makes mistakes, this must be regarded as an opportunity to open a dialogue with the child and not be taken as a stimulus for making negative remarks. Teachers cannot force stimulation upon the child as a mere teaching practice. The child must be stimulated and taught within a general educational framework of love, care, acceptance and respect of the child as a human being. This seems to imply that preschool teachers cannot hope to enhance the development of cognition in children if they do not love them and care for them.

4.5.3.3 Energy and Enthusiasm

Preschool teachers should be energetic and enthusiastic in order to execute their duties properly. Eliason and Jenkins (1994:16) state that the preschool teacher must be alert all the time. Sometimes he or she must be very quick in order to avoid accidents. If the teacher is seen to be excited and enthusiastic, the more eager and enthusiastic will the children be.

Nickerson (1986:94) says that even if a program has great potential, if the teachers who are to use it do not apply it with enthusiasm and confidence, its potential is unlikely to be realized. However if teachers are enthusiastic and confident about the approach they are applying, it will probably yield positive and impressive results.

Impressive learning programmes and materials may be developed to teach children how to think, but, if the teachers are not enthusiastic, there is a very great possibility that there will not be any success. The teacher has a significant role to play in the success of any learning programme.
The preschool teacher is involved with children all day long in both indoors and outdoors activities. The tasks that he or she has to perform are varied and numerous, so in order to do all this effectively, he or she needs to be energetic and enthusiastic.

4.5.3.4 Adaptation (the ability to adapt teaching activities)

Teachers of young children have to adapt themselves to various teaching situations and to the developmental levels of the children in order to teach them effectively. Eliason and Jenkins (1994:17) maintain that developmentally appropriate teaching means that we approach children from where they are and not from where we think they ought to be. Teachers should strive to understand the developmental needs and characteristics of each age group as well the needs of each individual child.

DeCoster et al (1986:151) maintain that teachers have to adapt their teaching strongly to the ongoing activities of the children. Without careful adaptation of teaching activities to the children's activities, young children will have little or no benefit from the teaching, and their cognitive system will not be reached. Nutbrown (1994:13) adds on this by saying that children have schemas, or patterns of behaviour that they repeat again and again. If the activities in the class fit in with the children's patterns of thought, then cognition may be developed (this links closely with Piaget's concept of assimilation). Nutbrown further states that identifying the schemas is not sufficient, early education needs to challenge children's thinking and extend their learning (here Piaget's concept of accommodation is implied). "When a child appears to be paying attention to a particular pattern, he or she needs to be provided with a range of interesting and stimulating experiences which extend thinking along that path" (Nutbrown 1994:15). If for example, a child seems to be
interested in circular forms, she can be encouraged to play with tyres, visit a playground where there is a merry-go-round, play with balls, and other circular objects, naming and experiencing the shape. Later this can be extended to include games and songs and this will open up other patterns of thought.

Before teachers attempt to stimulate the cognitive development of children, they should be aware of the level at which the children operate. They must then adapt whatever activities they would like them to engage in, to that level. From there the teacher can move gradually with the children. For example, if the teacher realises that children have a problem with classification, due to the fact that they cannot stick to the same criterion, he or she must start where they are. He could give the child objects to classify. While the child is busy trying to classify, he could help by asking leading questions that will make the child aware of his thinking processes, for example, “Are you putting it there because it is a square?” Then the child will take notice of what is happening and he will be able to verbalise his actions and decisions.

4.5.3.5 Mediation

Mediation is a term coined by Feuerstein (1980;1986) (refer to sections 3.3.4.2 and 4.5.2.3). The writer is of the opinion that preschool teachers should be mediators. They should place themselves between the children and the environment. They should direct the attention of the children to the stimuli that they regard as appropriate for cognitive development. There are numerous stimuli in the environment, so in order for the child to benefit from such stimuli, mediators are needed. The teacher should organise material in the preschool class in such a way that it is suitable to the children’s level of thinking, to get the attention of the
children, and to make them involved and to train their thinking skills.

Even in the home situation parents and other family members are involved in interposing themselves between the child and the environment. Most times they do it incidentally and unintentionally. The preschool teacher must mediate for the child intentionally. He or she must have the intention of using the interaction to produce intellectual change in the child. If the preschool teachers could have such qualities, then the preschool years will have been used profitably as far as cognitive development is concerned, because these are the years that are crucial for the children's cognitive development.

4.6 PRESCHOOL CURRICULUM AND LEARNING PROGRAMMES

In South Africa, at this point in time, preschool curricula and learning programmes are mostly designed and developed by non-governmental organisations (NGOs). As already stated, preschool education has been, and still is regarded as the responsibility of the parents and not of the state, and the various stakeholders in the field are responsible for the curricula and programmes that are used in this area of education.

The present South African government, as indicated in the White Paper on Education and Training (1995) has shown its preparedness to take co-responsibility with parents for preschool education (section 4.4.1). This was motivated in the following way: "This development phase is particularly crucial in the current context of reconstruction and development as impoverished families are not able to meet the developmental needs of their children without assistance" (Interim Policy for Early Childhood Development 1997:1). Early childhood development is regarded as
an important area of development and preschool education is taken as fundamental and crucial for the total and optimal development of children. Although poverty itself does not lead to cognitive development deprivation on the part of the children, the parental ignorance, pedagogic neglect and poor quality mediation that often accompanies it are the factors which make it impossible for such families to meet the developmental needs of their children.

If preschool education is regarded as crucial and foundational to all future learning, this raises the issue of curriculum and learning programmes for this area. At the moment Curriculum 2005 is going to be phased in gradually in our schools, starting with Grade one and Grade seven, until all the classes are included by the year 2005. Preschool is not included at this stage, although there are pilot studies to determine the feasibility of including a preprimary class (Grade 0 or R) in the junior primary phase.

4.6.1 Curriculum

A curriculum includes all aspects of teaching and learning. According to the Policy Discussion Document (1997:34) the term "...curriculum refers to the planned learning experiences". This term is broad and encompasses all that will be done, and also the ideologies and philosophies underlying the particular teaching and learning aspects. A curriculum includes the philosophical and organisational framework that sets out guidelines for teaching and learning. It sets out a broad framework of all the aspects of teaching and learning.

Bayona (1995:12) draws our attention to the fact that the meaning of the word curriculum has been influenced over time and place by developments in knowledge,
social beliefs and teaching-learning processes. Curriculum is conceived in terms of a) everything that happens in a school, b) everything that is offered, and c) the planned "what" and "how". He further says that embodied in the curriculum is the learning programme. Curriculum however is broader and more all-encompassing than the learning programme, which is more specific.

Miller and Seller (1985:3) further state that "...curriculum is an explicitly and implicitly intentional set of interactions designed to facilitate learning and development and to impose meaning and experience". Print (1988:4) goes a step further by defining curriculum as "...all the planned learning opportunities offered to learners by the educational institutions and the experiences learners encounter when the curriculum is implemented. This includes those activities that educators have devised for learners which are represented in the form of a written document".

Curriculum as a plan for learning means that which is drawn from materials, learning situations performed inside and outside the classrooms, and priorities from local and national levels. Bayona (1995:16) further state the following as characteristics of curriculum: a) it is anticipatory and formalises intent, b) it involves the selection of values and the setting out of skills and content to be learned from a wide range of alternatives, and c) it makes explicit the basis for individual and collective responsibility and negotiation.

At the moment, in South Africa, in the black communities, curriculum for preschool education has been left in the hands of different stakeholders that are interested in preschool education. There is no broad framework stipulating the guidelines and philosophies for preschool education. In this area, the NGOs come up with learning programmes or the practitioners adapt learning programmes from NGOs.
4.6.2 A learning programme

The Interim Policy for Early Childhood Development (1997:3) states that a learning programme refers to "... any series of activities that is compiled, subject to the curriculum framework". The learning programme is more specific as it spells out specific outcomes and specific activities that will be undertaken to arrive at the specified goals. No programme should be set out without taking into consideration the guidelines as laid down in the curriculum.

"A learning programme is the vehicle through which the curriculum is implemented at various learning sites such as schools. They are the sets of learning activities which the learner will be involved in working towards the achievement of one or more specific outcomes" (The Policy Document for the Foundation phase 1997:14)

Some authors use these two terms, that is curriculum and learning programme interchangeably; a learning programme is referred to as curriculum and vice versa. When Gordon and Browne (1989:311) refer to curriculum as all the experiences of the children throughout the day, they could just as easily be referring to a learning programme. In most cases, in preschool education, we do not have a formal curriculum framework; the different NGOs come up with different learning programmes, depending on their goals and philosophies.

Early childhood programmes mostly deal with school readiness programmes, because making children ready for school is one of the goals of preschool education. In this thesis, the writer will refer to the learning programme as all the activities in preschool education that are planned for the attainment of specific
learning outcomes.

4.6.3 Curriculum and learning programme for preschool education

"From the types available to the numbers of children who attend these schools, the name of the game in early childhood programs is diversity" (Gordon & Browne 1989:32). This statement by Gordon and Browne also reflects the situation in South Africa. There are various preschools, and the programmes are many and diverse. Most preschools do not have programmes that have been developed according to explicitly stated guidelines. The practitioners use whatever they can get hold of, especially from NGOs.

Caruso et al (1992:27) state that some programmes and curricula in the different preschools are circumscribed by formal models or policies, but in many preschools the qualified teachers take on the responsibility of adapting programmes from other sources. There is relatively little information on how unqualified South African preschool teachers make their decisions about learning programmes, their reasons for the activities they provide, or their ideas about young children's cognitive development. In preschools, learning programmes are mostly designed and used without having been based on a curriculum framework or explicitly stated guidelines.

Nutbrown (1994:33) is of the opinion that continuity must be catered for in the preschool curriculum and learning programme. Early childhood is not to be seen as something separate and apart, but rather as a first step on the path into a relevant, coherent and integrated school curriculum. The preschool experience is to be seen as part of a continuum. At the same time it must not be seen as something replacing the home but rather as an extension of the home situation.
From what has been said, it is abundantly clear that there are problems with regard to preschool curriculum and programmes. In order to provide high quality preschool education, a preschool programme that is based on sound educational principles should be used. Some of the characteristics and principles that should underlie a preschool learning programme are the following:

4.6.3.1 It should be developmentally appropriate

A learning programme for preschoolers should match the developmental level of the children concerned. According to Ebbeck (1991:33) a developmentally appropriate curriculum "...takes cognisance of the unique abilities and needs of young children, including their experiential background. In addition, such a curriculum takes account of the physical, social, emotional and cognitive needs of children and at the same time challenges and extends the children's learning in appropriate ways".

Dodge (1995:1177) states that a major determinant of programme quality is its developmental appropriateness. If there is not adequate initial training and there is also no developmentally appropriate framework to guide staff members in their decision-making, they might easily implement practices that are inappropriate and even harmful to children. Having educationally well founded principles as a basis for the programme will also help educators not to take the focus away from the children. Rather than simply defining what to teach (activities, games, songs) the focus is on creating an environment - both social and physical - that nurtures the growth and development of each child.

According to Cassidy and Lancaster (1993:48) if the programme or a topic in the programme is not appropriate for the group, it might become obvious from the children's waning interest. However, if it is suitable, the children will be interested
and involve themselves in it.

In addition, teachers and preschool practitioners must recognise the fact that the child has the capacity to change, and as Garbarino (1989:68) states "...the worst we can do is to assume that all is fixed". This means that even though the programmes are developmentally appropriate, the developmental question to be asked, according to Katz (1994:23) must not be "What can children do?" but "What should children do that best serves their development and learning in the long-term?" If we do not believe that children can change and can be stimulated in their development, then it would mean that they should be left alone to develop at their present maturational pace only. However, as has been indicated by many authors, numerous research findings have shown that children can benefit cognitively by the stimulation that they get from the environment.

Although the developmental appropriateness of learning programmes must guide us, it should not restrict us. The researcher is of the opinion that doing only what the children can do is not enough, children should be stimulated and encouraged in a pleasant, playful and interesting way to go a step further, so that they can reach their highest potential.

4.6.3.2 It should be rich in variety, novelty and stimulation

The activities that are planned for the children should have variety. In order that the children's curiosity may be sparked, the activities that are provided should have an element of novelty as well as variety. Children's interest will be maintained and stimulated and they will be encouraged to explore. Brierley (1987:111) maintains that "...the brain thrives on variety and stimulation. Monotony of surroundings, toys
that only do one thing, a classroom display kept up for too long, are soon disregarded by the brain. The activities in the preschool class must be changed now and again to make children curious and to stimulate them. However if there are too many activities without an adult mediator, the whole exercise will be futile. Variety and stimulation, and the important experiences of talking to adults prompts questioning and thinking from the children. The teacher may ask them various questions, for example, "why do we have rain?" The seemingly funny and bizarre answers that the children may give will stimulate their thinking. Preschool teachers and practitioners should also ask open-ended questions that will probe and stimulate the child's natural curiosity for knowledge and further questioning.

Clark (1992:107) states that for the fast developers, variety and stimulation are more necessary. The children must be engaged in different kinds of activities. Some activities should allow for more self direction; some should train the skill of observation; some could move towards training seriation, and many others. Different activities can also be used to train a single thinking skill. In that way the children's interest will always be maintained. This would then lead to a well-ordered cognitive structure which is ever expanding as far as concepts and associative links are concerned.

The activities should also be planned in such a way that children can be able to discover some basic concepts on their own. Different materials should be made available, for example, scissors, paper, coloured pencils, ribbons, blocks of different sizes and shapes, scraps of wood and others. The materials on their own cannot stimulate the children, but (as has been indicated) the presence of the preschool teacher or practitioner as mediator is very important so that he/she may ask questions to set the young minds going and to stimulate cognitive development.
4.6.3.3 It should be decentralised

Decentralisation refers to the fact that children should be allowed, and be given the opportunity to choose activities that they would like to engage in. Clark (1992:107) says that choice making can be developed and used by children as young as 2 years old and gives the children a sense of competency and achievement. Children should be allowed to choose activities in the preschool class in which they would like to engage themselves in. Some children may want to play with blocks, or dolls or even to “read” books.

The learning programme should not be prescriptive, but should give the learners a chance to choose what they would like to do. Caruso et al (1992:28) say that children should pursue activities based on their own interests within the context of play. Teachers should then play a facilitative rather than direct instruction role. Children should be taught in an informal way that gives them freedom and which does not pressurise them toward doing what they do not seem to like and enjoy. For example if children are not ready for an activity, forcing or pressurising them may lead to their being frustrated and consequently not liking preschool and maybe any other thing that has to do with writing.

A Maria Montessori programme (Gordon & Browne 1989:49-50; Flynn 1991:117-123) can be cited as an example in this regard. The programme has the following as its broad dominant features.

a) Adapting activities to the child rather than moulding the child to fit the programme. Even the prepared environment has child-sized furniture and equipment put in an orderly fashion to encourage children’s independent use.

b) Insisting on freedom for children in the selection of materials and choice of
activities. In a Montessori programme children work by themselves at their own pace. They are free to choose the materials with which they want to work. The teacher's role is to observe the children and there is little teacher intervention.

c) Training of the senses and practical life issues.

The Montessori programme gives children a lot of freedom to choose the activities in which they would like to engage, so that learning can be interesting for children, and they can move at their own pace. Montessori seems to believe that the child can learn from the environment even in the absence of an adult mediator. But studies (like those done by Feuerstein) have shown that mediation is important and necessary so that the child can benefit from the environment. Adult intervention is very important from a very early age. The use of selected materials, plus the presence of an adult mediator is what is ideal. That is why toys, even those that are termed educational, cannot stimulate mental development on their own.

4.6.3.4 It should be well planned

Even though children can choose their own activities at times, the preschool teacher must still set goals and objectives for her class. Gordon and Browne (1989:316) say that a decision must be made as to what children are to learn. The teacher/practitioner should decide and know what she wants the children to learn. The priorities need to be established and the resources must be identified.

Although the children will not be pressurised in any way, the practitioner or teacher must have a well formulated plan in mind, so that the play activities and any other activity in which the children are engaged (other than their free play) can be directed towards achieving a goal. The activities must be planned in such a way that the child will learn through the activity. From seemingly frivolous activities, the children's
attention can be directed in such a way that they develop physically and psychologically. The children must also be taught factual knowledge because thinking cannot occur in a vacuum, but will be based on knowledge.

4.6.3.5 It should lead to interaction

For young children, learning is most effective when they are engaged in interaction rather than when they are passive and receiving information. Katz (1994:23) says that there must be interaction between children and adults; they must also interact with materials and their surroundings in ways which help them make sense of their own experience and environment. They should be investigating and observing aspects of their environment worth learning about, and recording their findings and observations through talk, paintings and drawings. This interaction, which arises in the course of such activities gives rise to much social and cognitive learning.

4.6.4 Types of learning programmes

Children's development falls into five main areas, that is, the cognitive, the social, the emotional, the moral and the physical. Jording et al (1992:84) say that this provides programme developers and teachers with categories on which to build learning experiences and activities that foster growth and development. However, it must always be remembered that, as stated by Nutbrown (1994:3) ".....young children cannot be taught effectively if planned learning is divided into man-made compartments called subjects. Children will explore science, learn about maths and develop language skills through activities and experiences which are planned to encompass these and many more elements of thinking and learning". For example playing with water in a water trough can teach different thinking skills to different
One child may learn that pouring water in a wheel at different speeds may make it move and the more the water is poured, the faster it moves; another one may learn that the nearer he is when he points a spray of water to a dirty object, the more the dirt disappears (Nutbrown 1994:3-4). The possibilities are endless. Some may even learn measurement by using different sizes of jugs of water.

Depending on the goal of the preschool, the learning programme will take into consideration the five areas of development. However the child cannot be compartmentalised, and therefore all the areas of development are considered when they are taught.

4.6.4.1 The cognitive curriculum or learning programme

Such a programme places strong emphasis on cognitive development of the children. According to Lay-Dopyera and Dopyera (1990:188), it includes emphasis on the way children organise and interpret relationships between objects and events in the environment.

In her study, Seefeldt (1990:19) found that a cognitive curriculum is appropriate for young children. According to her, cognition, which is an act of knowing, involves the whole child and is based on curriculum that is based on first-hand, child-initiated, and meaningful experiences. These experiences involve the use of spoken language, written language, social interaction, and reflection. In a study by Bishop (1990:111-112) it was found that as children venture forth, objects of challenge should command their attention. The children should be urged to manipulate objects at hand and engage in fun processes that incite their awareness of the world. They must not just be told about them, but must be carefully guided with patience and
understanding. The teacher's probing questions should be geared towards making children wonder about their observations. Children should be encouraged to predict possible solutions to problems. In this way children will be helped to hypothesize and to try out new solutions.

In order for children's cognitive development to be enhanced, and for them to learn thinking skills, a cognitive curriculum is important. Atmore (1993:125) says that a cognitive curriculum provides opportunities for optimal intellectual functioning through looking, listening and doing. The child's individual potential is focused on, and curiosity is encouraged so that the child may discover concepts, and school readiness is fostered.

Seefeldt (1990:20) explains that a) a cognitive curriculum reflects the fact that cognition is an undivided process, and as such a cognitive curriculum is an integrated, unified whole. The wholeness of the child is therefore respected. The child is not divided into segments for social, emotional, physical, moral or intellectual learning. The curriculum is also not divided into separate subject approaches, it is integrated as has been explained previously. b) A cognitive curriculum is also individualised as each child is challenged as an individual. Experiences match each child's abilities, interests and understanding. c) In a cognitive curriculum the children are active intellectually, physically and socially. They are allowed to initiate their own learning, they talk and argue with each other, and take part in a variety of activities. They think, solve problems and make decisions appropriate to their ages. But while doing all this they also need an adult to guide them and to talk to them.

A cognitive curriculum or learning programme is very important because the focus is on the teaching of thinking skills and the enhancement of cognitive development.
It is cognitive in the sense that in all the activities that they do, the teacher has or should have a goal of teaching a thinking skill. The assumption is that if a cognitive curriculum is used in a preschool, then the children's cognitive development will be enhanced. However, because the child is a whole, the other areas of development are important.

4.6.4.2 The physical development curriculum or learning programme

Physical development is also an important goal of preschool education and therefore activities that cater for physical development are regarded as very important. Health, safety and nourishment are regarded as important elements.

Atmore (1993:125) is of the opinion that the curriculum or learning programme must offer the children an opportunity to be aware of their bodies and to control themselves. Activities designed to develop fine and large muscles must be provided. In a preschool there should be space for indoor and outdoor activities. Mwamwenda (1995:48-49) states that motor skills in preschoolers take time to develop and success in one motor skill does not necessarily mean success in others, for example knowing how to run does not mean that the child will also know how to jump or ride a bicycle. Each motor skill has to be developed through training and practice. The preschool teachers/practitioners should train motor skills intentionally.

Puzzles, using scissors, drawing and painting are examples of activities which may help in the development of the young child's fine muscles. At preschool the fine muscles are not yet well developed, and that is why the children have a problem in activities such as tying shoe laces and buttoning their clothes. Activities that will
train the fine muscles are important so as to make the child independent in self care activities and also ready for activities in primary school.

Nutrition contributes to physical development and therefore it is important to see to it that children are fed or bring lunch boxes to preschool. At a preschool where the children spend the whole day, it advisable that they receive a balanced meal as well as adequate rest. The physical development of the children is important in its own right. However, it may also contribute to, and affect cognitive development. "A healthy mind is usually found in a healthy body" - to quote an old Latin proverb.

4.6.4.3 Social development curriculum or learning programme

As has been mentioned in Section 2.4, social development means learning to live with other people, both adults and children, and learning how to get on with them. Included in social development is the behaviour of the child in the presence of others, in a group, in his community, and the way in which he/she is influenced and attempts to influence other people.

The young child's social development is directly dependent on his social relationships with other people. As has already been mentioned, the home is the first and most significant socialisation agent of the child. However, preschool extends or should extend this socialisation.

Children must be given opportunities to develop relationships and to learn to relate to other adults and children. There should be activities to help them develop self-esteem and a sense of worth. Dodge (1995:1173) states that the quality of programmes for preschool education is very important because it is during this time
that children are forming a sense of identity, learning to trust others and acquiring a sense of their own competence. If the programme succeeds in fostering these qualities, the children are more likely to succeed in school and in life. Characteristics such as self-confidence, ability to cooperate with others, strong self-esteem, curiosity, eagerness to ask and answer questions, the ability to use materials in a variety of ways and factual knowledge that children get at preschool, are identified as being keys to success in school.

A social development learning programme will also teach children social skills in relation to their relationships with adults, with other children, with the group and also as individuals.

In this regard, the writer would like to cite the Head Start programme as an example. Head Start defines social competence as the child's everyday effectiveness in dealing with his or her environment and later responsibilities in school and in life. Educators believed that if disadvantaged children are given appropriate services outside the home situation, they could to a certain extent compensate for the disadvantaging experiences in the early years. These programmes provide special readiness instruction prior to first grade. It was indeed found that children who were involved in Head Start programmes were able to perform better in school, had fewer grades retentions and special class placements (Myers & Myers 1995:243; Van der Zanden 1993:294-295). However, the Head Start programme was not very successful in the long run because it was started too late in the life of the children. The first three years are the most important in improving intelligence; nevertheless, for the sake of acquiring concepts for those children who did not get stimulation during the first three years, it could still provide some improvement.
4.6.4.4 Emotional development curriculum or learning programme

Emotional development and social development are related. This was acknowledged by, amongst others, Erikson who came up with socio-emotional stages of emotional development. It is during this stage that children must resolve crises such as trust versus mistrust, autonomy versus shame, and initiative versus guilt.

Piaget (1969) says that emotions cannot be separated from cognition. Both cognition and emotions, combined together, form symbolic schemes which are the basic building blocks of intelligence. Emotions supply energy to the schemes in the form of interest or lack of it, as well as the tendency to avoid or approach a situation. Cognition is enhanced or hampered by emotions.

According to Atmore (1993:125) activities that offer opportunities for children to develop their individuality, positive self-concept, independence, feelings of security and freedom, self-confidence, self-control and self-discipline may be provided at preschool. These may help by providing a good basis for other activities that may stimulate the brain. If the child is self-confident and emotionally stable for example, he or she can participate in activities especially geared towards stimulating his or her cognitive development.

4.6.4.5 The moral development curriculum or learning programme

As has already been stated, moral development refers to the way children learn to determine what is right and what is wrong. De Witt and Booysen (1995:321) say that moral development refers to the child’s mastery of his life-world in respect of the
values and norms underlying the educative situation. It includes the development of voluntary obedience to certain norms of what is true and false, good and bad, right and wrong, and proper and improper.

Preschool children depend on their parents and other significant adults for their moral behaviour. They take their cues from the adult. While interacting with adults children learn to know that certain behaviour is right or wrong and unacceptable, while certain behaviour is right and acceptable. From this interaction they learn the notion of right or wrong.

4.7 CONCLUSION

This chapter highlighted the need and significance of preschool education and its contribution in the development of the whole child. The preschool learning programmes that take developmental areas of children into consideration, as has been discussed, do so separately and in a fragmented way. It is only for the sake of studying that there are these fragmentations. In reality, a learning programme integrates, or should integrate all the areas of development in their activities, as children learn holistically. While the researcher thinks that it is very important to teach thinking skills to preschool children, it is however acknowledged that the child is a whole. As cognition is being developed, the other aspects, for example, social, emotional, normative, physical and others, must also be developed, so that there can be total development of the child. In reality a preschool learning programme should encompass all areas of development, not one at a time.

In the next chapter, the planning for the empirical investigation will be laid out. In the empirical investigation the writer would like to observe some of the preschools in the
Northern Province, to see how and whether they train the thinking skills of the children. The role of the parents as the first teachers of their children in stimulating the brain growth of their children (especially because it is crucial in the first three years of life) will also be examined. The role of preschool teachers and practitioners will also come under investigation.
CHAPTER FIVE

RESEARCH DESIGN

In this chapter the design and procedures of the empirical investigation are outlined.

5.1 AIM OF THE EMPIRICAL INVESTIGATION

The main aim of the study was to examine the attitudes and perceptions of parents and preschool teachers and practitioners with regard to preschool education and the teaching of thinking skills in the preschool years.

In order to accomplish this the following was done:

- A literature study was undertaken in order to develop a conceptual framework, and get information pertaining to the preschool child in totality. The theory helped to guide the researcher and give a starting point for interpreting the data, and it also helped to enhance the credibility of the study.
- An empirical survey was undertaken to gather data that can be interpreted and also enhance the validity of the study.
- Furthermore, a connection between the literature survey (the theoretical part) and the empirical study (the practical part) was sought.

5.2 PLANNING THE RESEARCH STUDY

The method of research chosen for this study was qualitative in nature. In simple
terms, qualitative research is the gathering and analysis of extensive narrative data so as to obtain insights into a situation of interest not possible using other types of research (Gay 1996:208).

Creswell (1994:2) defines qualitative research as "...an enquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting".

To shed more light on the nature of qualitative research, some basic assumptions of this method are mentioned.

5.2.1 Basic assumptions of qualitative research

- Qualitative research occurs in naturalistic situations. According to Gay (1996:208), the variables under study are examined where they naturally occur, as they naturally occur, not in an environment controlled by the researcher. Miles and Huberman (1994:7) further state that the main task of the qualitative researcher is to explain ways in which people being studied understand, account for, take action and manage their everyday life situations. If the people being studied are removed from their life situation, then there will be distortion of information.

- In a qualitative research hypotheses and questions are not established beforehand. Researchers do not go into the situation with predetermined questions, but, according to Bogdan and Biklen (1992:2), they develop a research focus as they gather information. Questions come up as
researchers interact with the researched, and hypotheses emerge as the research progresses. This makes qualitative research inductive in nature.

• The qualitative researcher's role is to obtain an overview of the situation under study. It is based on holism, as it is assumed that the whole is more than the sum of its parts. Miles and Huberman (1994:162) state that the researcher's role is "...to gain a holistic (systematic, encompassing, integrated) overview of the context under study: its logic, its arrangements, and its explicit and implicit rules". This means that the researcher pays attention to detail, and tries not to eliminate perceptions about the phenomenon being studied. Mouton and Marais (1988:204) believe that people perceive reality in different ways, and that these perceptions are significant for understanding a phenomenon in its complexity. Context is therefore very important for understanding the meaning of behaviour in qualitative research. Neuman (1997:331) states that the meaning of an action or observable behaviour depends to a great extent on the context in which it appears. The idea here is that human nature is complex, and to gain a fuller understanding of this phenomenon, the perceptions, ideas, beliefs, aspirations and hopes of the people being studied must be taken into consideration.

• In a qualitative study researchers have to deal with an immense amount of data, as they have to collect every detail in the situation being observed or in the interviews. Data gathered is descriptive and reported in words and sometimes also in pictures.

• The researcher collects data personally, rather than using what Creswell
(1994:162) calls "some inanimate mechanism". The researcher therefore becomes familiar with the subjects' lives and ways of doing things. The researcher is the main data-gathering instrument.

- The qualitative researcher works with a small group of subjects.

- In order for the qualitative researcher to gain in-depth understanding of the phenomenon under investigation, qualitative research makes use of a variety of methods and data collection strategies. This often characterizes it as being "multimethod". The most common strategies used are participant observation, collection of relevant documents and extensive and informal interviewing (Gay 1996:209). This helps in making the results credible or valid.

- Most analysis of data in a qualitative research is done descriptively by means of words. According to Miles and Huberman (1994:7) "...the words can be assembled, subclustered, and broken into semiotic segments. They can be organized to permit the researcher to contrast, compare and analyse". Qualitative researchers interpret data by giving them meaning, translating them, or making them understandable. This meaning should begin with the point of view of the people being studied. The researcher is the primary instrument for analysing the data.

5.2.2 Some criticisms pertaining to this method

Although qualitative research method is widely used in human sciences, there are some criticisms levelled at it. Some of these criticisms will be described in this
Because the researcher personally collects data, Miles and Huberman (1994:2) state that "...the labor-intensiveness of data collection, frequent data-overload and distinct possibility of researcher bias", are definitely a problem. This also leads it to being a costly and time-consuming method. The researcher's own preconceived ideas may also interfere with the findings.

According to Gay (1996:246) another problem is that the results are difficult to analyse, conclusions are highly tentative, and generalizations are minimal or nonexistent. Miles and Huberman (1994:2) go on to say that the methods of analysing data in qualitative research are not well formulated. There are very few guidelines for protecting the researcher against self-delusion and presentation of unreliable and invalid conclusions. This makes it difficult to generalize findings and conclusions of qualitative research, and it therefore also makes it difficult to use them for making policies.

However, although there are such shortcomings, qualitative research leads to great understanding of a phenomenon. According to Gay (1996:246) it also yields an abundance of potentially useful data that would not have been possible using other methods; and the hypotheses generated by such research are in most instances more valid than those based on theory alone, that is, those that are predetermined beforehand.
5.2.2 Rationale for choosing the qualitative method in this study

For this study a qualitative research paradigm was chosen because of the following reasons:

5.2.3.1 The researcher wanted to observe and study preschool children and their educators in their day-to-day situations. The context in which the educators and the children interact was regarded as important and no artificial situation was constructed.

5.2.3.2 From the literature study it emerged that children function as a whole and that each aspect of development affects other aspects. It was therefore necessary to get a holistic view of the children’s development and the role of parents and teachers/practitioners in this development. The researcher needed to get an overview of the preschool setting, the arrangement of materials, the rules governing activities and interactions, the routines and also to observe the situation intensely. Brotherson (1994:101) states that qualitative research can provide a holistic analysis of early intervention practices and also increase our understanding of the many and different issues that face families and preschool institutions. Thus in order to get an understanding of preschool activities, the researcher decided on the qualitative paradigm of research.

5.2.3.3 The researcher interacted personally with preschool teachers/practitioners and parents. Interviews were done personally by the researcher, and interpretations were made from the researcher’s point of view.

5.2.3.4 The research aimed at being generative. By using qualitative research a lot
of data was gathered and unforeseen issues came to light and helped in generating theory concerning preschool children and education.

5.3 SUBJECTS

In this section the subjects under study and the sampling procedures are described.

5.3.1 Sampling

The researcher decided on purposive or judgmental sampling as a method of selecting subjects for the study. Bless and Higson-Smith (1995:95) state that this method of sampling is based on the judgement of a researcher regarding the characteristics of a representative sample. The idea is to choose units that are judged to be typical of the population to be investigated.

According to Singleton et al (1993:329), purposive sampling maximizes variation in that units of analysis are carefully selected on the basis of assumptions and knowledge about the population in order to intensify generalizability. The researcher has chosen purposive sampling because there are many variations in preschool education.

There are various strategies embedded in purposive sampling. The researcher has chosen maximum variation sampling. According to Gall et al (1996:232-233), maximum variation sampling "...involves selecting cases that illustrate the range of variation in the phenomena to be studied". The researcher deemed it appropriate to use maximum variation because of the fact that subjects and phenomena studied in this research were numerous as the following indicates:
Parents of preschoolers were interviewed. There were parents who could not read and write; parents who were highly educated; young parents whose preschool child was the first-born child; older parents; professionals; and also urban and rural dwelling parents. Had random sampling been used, the sample might not have been representative, and to cater for these variations, purposive sampling was used.

Preschool institutions in Region 3 of the Northern Province are numerous and diverse in nature. There are state-aided and private-owned preschools; some have appropriate buildings and some operate in any building that is available, for example, a church building; some have multicultural children; some are found in affluent areas whereas some are in poor areas; some are attached to primary schools; some take children as young as three months to five years, whereas some take the two to five year olds only. Although it would almost be impossible to cater for all variations, the researcher rationalized the variations and came up with a sample that took these variations into consideration.

Preschool teachers/practitioners are also a diverse group. Some practitioners do not have any form of professional qualification; some were trained to teach in primary schools; some have an appropriate qualification; some obtained their qualification from non-governmental organizations, some from colleges of education, and others from universities; some work alone and some are in fully-fledged preschools with other teachers and a principal. The variations had to be rationalized, but purposive sampling helped to make it representative.
5.3.2 Subjects studied

The study was undertaken in Region 3 of the Northern Province and the subjects came from that area.

- **Parents**: Parents who have children who are preschoolers were interviewed. Mothers, rather than fathers were interviewed, as mothers are the ones that take care of children most of the times. Six parents were interviewed, each from the different units identified by the researcher. The units are i) illiterate parents, ii) educated parents, iii) young parents, iv) older and more experienced parents, v) urban-dwelling parents, and vi) rural-dwelling parents.

- **Preschool teachers/practitioners**: Six preschool teachers/practitioners in the region were interviewed, each from the units identified by the researcher. The units are the following; i) qualified preschool teachers, ii) unqualified teachers/practitioners, iii) those who teach within a multicultural context, iv) those who teach a preschool class attached to a primary school, v) those who work in fully-fledged preschools and are part of a team, and vi) those who work alone.

Each of the six preschool teachers/practitioners chosen was interviewed individually by the researcher. Six others from the same units formed a focus group and were interviewed as a group. The idea was that the interaction and discourse they might have with each other, albeit in the presence of the researcher, will bring other issues not dealt with in individual interviews, to the fore.

- **Preschool institutions**: The researcher observed the activities in four preschool
institutions in the region. Although they are numerous and diverse in nature as indicated in 5.3.1 (b), the researcher rationalized some of the variations and came up with four units. They are the following: i) state-aided preschools, ii) private-owned preschools, iii) multicultural preschools, and iv) those attached to primary schools.

5.3.3 Data gathering procedures

The data gathering procedures that were employed in this study are discussed briefly in this section. The procedures are described, whereafter the rationale for their choice is given.

5.3.3.1 Observation

In observation, the researcher consciously and purposively observes the behaviour and environment of the subjects under study. Mouton and Marais (1988:162) describe observation as "...a process by means of which researchers establish a link between reality and their theoretical assumptions". According to Bailey (1987:239), observation mostly involves visual data collection, but it could also include data gathering through the other senses, for example, touch or smell.

There are two common types of observation. They are simple observation or non-participant observation and participant observation. Babbie (1992:289-290) states that in non-participant observation the researcher observes a situation without being a part of it in any way. The subjects may not even realize that they are being studied. This kind of observer is less likely to affect the situation, but at the same time he or she is less likely to develop a full appreciation of what is being studied.
On the other hand, participant observation means that the observer identifies himself or herself as researcher and participates in what he or she observes. In participant observation the researcher observes actions and interactions of subjects in their setting. It is taken for granted that understanding the inner perspectives of subjects can only be achieved by participating in their world and gaining insight by means of examining one's (the researcher's) own thoughts and feelings (Mouton & Marais 1988:211).

In this study participant research was undertaken. Although the researcher did not fully participate, what was done is what Bless and Higson-Smith (1995:106) call modified participant observation; and what Babbie (1992:289) calls observer-as-participant. In modified participant observation the researcher only participates in major events; and in observer-as-participant the researcher identifies himself or herself as researcher and interacts with the participants in the situation but makes no pretence of actually being a participant.

The present researcher chose to be a participant observer, but combined the last mentioned versions of participant observation, that is, modified participant observation and observer-as-participant version. She identified herself as observer at the preschools observed, but did not participate wholly in the activities. The reason was that she wanted to give herself the chance of observing the interactions in the preschool class without really influencing it, but at the same time to get a chance to participate in events that she thought would be more meaningful to her if she were actually involved.

The researcher planned beforehand what was going to be observed in order to give herself direction and so as to have clearly formulated purpose. However she was
always on the lookout for any incidental occurrences which had not been planned for. The researcher also recorded systematically what was observed.

Four preschools in Region 3 of the Northern Province were observed as stated in Section 5.3.2.

5.3.3.2 Individual interview

Data was gathered from preschool teachers and parents by means of individual interviews. An interview is a direct way of obtaining information, and there is direct personal contact with the interviewee. According to Gay (1996:223) "... a typical qualitative interview is a one-on-one session in which the researcher asks a series of open-ended, probing questions".

The researcher personally interviewed each subject chosen for the study, that is, six preschool teachers/practitioners and six parents. As these interviews were held on an individual basis it was necessary for the researcher to structure the questions, so that each respondent could give his or her perception and answer on the same issue so that parallels could be drawn. The questions were open-ended to allow freedom for subjects to give their opinions. Specifically, the researcher used what Bless and Higson-Smith (1995:107) term a non-scheduled structured interview. According to these authors this kind of interview is used when there is a need for specific and detailed information which can make it possible to compare reactions of different subjects. It was structured in the sense that the researcher made a list of issues to be investigated beforehand. There were precise questions to be answered by all subjects. There were also alternatives and/or sub-questions, depending on the answer to the main question. But it was also non-scheduled in
that the researcher was free to formulate other questions as the situation warranted. The researcher deemed it necessary to use this kind of interview because of the variations among the subjects, the fact that she started from the specific where there were unexpected and unforeseen events and issues, and the fact that she was on the lookout for any emergent situations and ideas.

Mahlangu (1987:88-90) cites the following as advantages of an interview:

- There is flexibility because the researcher can probe more specific answers and modify the question if there seems to be misunderstanding on the interviewee’s part.

- Even people who cannot read and write can answer interview questions.

- The interviewer can observe the body language and assess the validity of the answers given by the interviewee.

- The interviewer can make sure that all questions are answered.

- The interviewee cannot retract an answer once it has been made and cannot ask someone else to help or even answer on his/her behalf.

5.3.3.3 Focus group

A focus group is a group interview. Instead of interviewing people separately and individually, they are interviewed as a group. According to Gall et al (1996:301), in this type of interview the researcher addresses questions to a group of participants
that have been specifically chosen for that purpose. A focus group usually consists of about six to twelve people.

The following are some characteristics of focus group interviews:

The researcher and the participants convene to discuss one or more issues.

- The researcher introduces issues or asks questions and makes sure that all participants take part and no one person dominates.

- The researcher is flexible, ensures relevance and encourages discussion among participants.

- Responses are put on tape recorder and/or recorded by someone other than the researcher. The present researcher put the responses on tape recorder.

- Group members should have the same interests or be involved in the same kind of activity to reduce conflict but should not include friends or relatives (Neuman 1997:253). In this study the members of the focus group were all preschool teachers and as far as possible the researcher avoided friends.

Brotherson and Goldstein (1992:335) give the following as characteristics of focus group interviews:

- A focus group tries to convey meanings that people construct from shared and individual experiences.
The design of a focus group interview is emergent and flexible because the researcher builds on continuous analysis that gives rise to the next set of questions to be asked and issues to be discussed.

The researcher listens, observes and responds analytically, perceptively and with inquiry to what he/she sees.

Gay (1996:224) states that in a focus group subjects share their opinions, and the aim is not debate, argument or consensus, but rather expression of ideas and feelings.

5.3.3.4 Rationale for the choice of these techniques

In this study the researcher chose observation because of the following reasons:

a. It is open and made it possible for the researcher to record unexpected events and also get spontaneous examples. The researcher wanted to get a deeper understanding of preschool activities, and needed to observe the teachers and children in their setting.

b. The researcher also needed to observe the specific situations in order to find general patterns and come up with hypotheses. There was no other way that the researcher could get this specific and peculiar information about the interactions between preschool teachers and children.

c. The researcher was also able to get a chance to perceive experiences and gain insight and understanding from those perceptions. The feelings and thoughts of the researcher concerning the experiences were also recorded and added to the full perceptions of the situation.
The individual and focus group interviews were chosen because of the following reasons:

a. The researcher aimed at generating useful information with regard to preschool programs and curriculum. As a result she needed to interview participants personally and get the various perceptions that the preschool practitioners and parents of preschoolers have on the subject.

b. Even parents who could not read and write could be included in the sample. It was necessary to get their perceptions concerning the education of their children because they also influence their children’s total development and also their cognitive development.

c. A focus group brought out the interaction amongst the various practitioners, which was enriching and gave different perspectives about preschool education. It drew out multiple perspectives from preschool practitioners. Brotherson (1994:104) seems to agree with this when he says that focus group interviews can lead to interaction that makes it possible to understand attitudes, behaviour and contexts from many points of view and perspectives.

In conclusion, the individual and group interviews gave credibility to the observation method that was used to gather information about preschool programs. Teachers/practitioners’ interviews substantiated the information that the researcher had gathered through observation. According to Gay (1996:223), the interviews "... will serve triangulation objectives", that is, the use of several methods to improve validity.
5.3.4 Data analysis

As has been said, data was gathered by means of observation, individual interviews, and focus group interviews. Raw data was in the form of words; the actual field data was taken during observations and interview transcripts. Gay (1996:227) has the following to say about data analysis in qualitative research: "In a simplified nutshell, qualitative analysis involves making sense out of an enormous amount of narrative data". The qualitative researcher ended up with a whole bunch of notes and in order to make sense out of them, she had to look for patterns, themes, and categories to make the synthesis of the data possible.

Another important characteristic of qualitative data analysis is that it is a continuous process. Miles and Huberman (1994:12) state that qualitative data analysis "... is a continuous, iterative enterprise. Issues of data reduction, of display, and of conclusion drawing/verification come into figure successively as analysis episodes follow each other". Thus in order to arrive at meaningful conclusions, there are necessary steps that must be undertaken in dealing with qualitative data.

5.3.4.1 Data reduction

Data reduction means the process of selecting, simplifying, focusing, making abstractions and transforming the massive information of written words that appear in notes from observation and interview transcripts (Miles & Huberman 1994:10).

In short, data was summarized by coding, finding out themes to make it coherent, making clusters and partitions, and organizing it. For example, the researcher made observations in four preschools. She therefore had four separate documents on
which notes were written. In the notes there was a column indicating what had actually happened in the preschool class and also a column for the researcher’s reflections. This is in line with Babbie’s (1992:296) statement that “… you should record what you know has happened and what you think has happened”.

Likewise there were documents for individual and focus group interviews. They also had to be reduced. In reducing them to be manageable, the researcher used strategies suggested by Creswell (1994:155).

• First the researcher got a sense of the whole by reading through all documents. This was done progressively as analysis is a continuous exercise in qualitative research. Some ideas were jotted down.

• Each document was read, looking for meanings and thoughts, which were then written in the margin.

• After each document had been scrutinized, the topics in the margins were listed. Similar topics were clustered together. The topics then formed columns which were labelled as major topics, unique topics, minor topics, and others.

• The most descriptive words were found for the topics, which were then turned into categories. To reduce the list of categories, topics related to each other were also grouped together to form one category. Lines were then drawn between categories to show their relationships, and this further reduced the data.
The different categories were then given different colours after they had been finalized. This was done in order to make identification of different categories easy.

The data belonging to each category was assembled and a preliminary analysis was performed.

All this was done on an on-going basis until all the data that came in had been categorized and "saturated" for the purposes of this study.

5.3.4.2 Data display

After the data was reduced it was displayed in order to permit the drawing of conclusions. The researcher used the ideas of Miles and Huberman (1994:11) and Creswell (1994:154) to display data in the following way.

- Data was arranged into organized, compressed and simplified wholes or configurations that made it possible to draw conclusions.

- A spatial format presenting information systematically in the form of tabular information was drawn. There were different rows and columns and the researcher entered data in the cells.

- The relationship among categories of information was indicated.

- As the table(or matrix) drawn, filled up with information, preliminary conclusions were drawn.
5.3.4.3 Conclusion drawing and verification

From the start of data collection the researcher began to decide on the meanings of certain things. Miles and Huberman (1994:11) state that the researcher notes regularities, patterns, possible outlines, explanations, causality and propositions, right from the beginning of data collection. That is the reason why Gay (1996:229) says that conclusions are tentative and reviewed on an on-going basis.

Gay (1996:229) goes on to mention that the conclusions in a qualitative study are the insights the researcher believes she has picked up as a result of the intensive effort. Miles and Huberman (1994:11) add that the conclusions are held lightly at first, and the researcher maintains openness and skepticism. The conclusions are there right away, vague at first, then increasingly grounded and explicit. Only until data collection is over can we talk about somewhat final conclusions. This means that as the researcher reduced and displayed information, tentative conclusions were drawn, until data collection was finally over.

It is difficult to generalize from the findings of a qualitative study. The reasons why it is difficult to generalize findings in a qualitative study are, amongst others, the fact that the sampling procedure is purposive and may therefore not represent the whole population, and the fact that the sample is small. In this regard Creswell (1994:157) states that the intent of qualitative research is not to generalize findings, but to form a unique interpretation of events. The essential aim is understanding a phenomenon in great depth, generating information, and contributing to theory about it.
Verification of conclusions took place as the researcher proceeded. The researcher verified according to Miles and Huberman's (1994:17) suggestions, that is: going back to field notes if there was any doubt, and replicating a finding with another data set. Creswell (1994:157) suggests that to verify the conclusions the researcher might, a) use different methods of data collection, b) receive feedback from informants by taking categories or themes back to the informants and ask whether the conclusions are accurate.

The present researcher verified by triangulation, that is, comparison of data sets from observation, individual interviews and focus group sessions.

5.4 CONCLUSION

As indicated, in this study data was gathered and analysed by means of the qualitative method. Data-gathering in such a study was an on-going process and the researcher will finalize and present it in the next chapter, where it will be analysed and findings made.
CHAPTER SIX

DATA ANALYSIS, FINDINGS AND INTERPRETATIONS

6.1 INTRODUCTION

In this chapter the data that was collected is analysed and interpreted, and the findings are made. As mentioned in the previous chapter (section 5.2), the method of research that has been used for this study is qualitative in nature. As a result of its being a qualitative study, "... data analysis is a constant comparative method where formal analysis begins early in the study and is nearly completed by the end of the data collection" (Bogdan & Biklen 1992:72).

While the researcher collected data using the different data gathering procedures (section 5.3.3), the data was continuously analysed. As Merriam (1991:119-120) states, data gathering and analysis occur simultaneously in qualitative research. It is an interactive process throughout in which the researcher is concerned with producing believable and trustworthy findings.

In fact data analysis had already begun even before the data was actually collected as the researcher decided upon the conceptual framework, research questions and data collection procedures. These theoretical perspectives shaped how the researcher approached and made sense of the data - even though it may have been to a very small degree.

As already mentioned in section 5.3.4, analysis of data involved making sense out
of an enormous amount of narrative data. The approach to data analysis in this study was based on the procedures outlined by Miles and Huberman (1994). Data analysis, according to these authors, is a process consisting of three phases, namely:

• Data reduction (which appears in section 6.2.1)
• Data display (which appears in section 6.2.2)
• Conclusion drawing and verification (which will appear in chapter 7)

6.2 DATA ANALYSIS

The following is a discussion of the data analysis activities to the raw data. Data was reduced, displayed and findings were drawn and interpreted.

6.2.1 Data reduction

In section 5.3.4.1 it was stated that data reduction implies selecting, simplifying, focusing, abstracting and transforming information of written words that are in notes from observations and interview transcripts. The large amount of data gathered had to be consolidated in order to arrive at categories. To demonstrate how categories were obtained, relevant examples of extracts from interview schedules are shown.

6.2.1.1 Interviews with parents

This section deals with categorizing the data obtained by means of interviews with parents (mothers) (see appendix A) who have preschool children. Six parents were interviewed (section 5.3.2). As mentioned in 5.3.4.1, the researcher first got a sense of the whole by reading through all the documents (interview schedules and
transcripts). As this was done, ideas, meanings and thoughts were jotted down. Topics were written in the margin and later clustered together. The most descriptive words were found for the topics which were then turned into categories.

The major categories that the researcher came up with, together with the relevant examples of answers from the interview schedules or transcripts, will be mentioned in this section. The first answer will be the most common answer given by respondents (more than 50%), and thereafter the other thoughts are given. The most unusual or unique answer (if there is such an answer) will be written last and will be put in quotation marks as it will be written just as it was given by the respondent. Each respondent was free to give more than one answer.

# Parents’ opinions about the origin of the child’s intelligence
- The child inherits intelligence
- He/she gets it from the environment
- “He/she gets it per chance, some children are intelligent while their parents are not”.

# Parents’ opinions about their role as parents in mental stimulation of the child.
- The parents should encourage the child by talking to him/her and this will make him/her think.
- Parents should send children to early childhood institutions.
- Parents should buy toys for their children, and the toys will make them imagine.
- Parents should love and protect their children, this will lead to emotional stability which will in turn lead to development in all areas and
intellectual development in particular.
- They should also tell the children stories, play with them and ask them questions that will develop them mentally.

# Parents’ perceptions about the role of preschool in cognitive development.
- Preschool makes children brighter.
- It makes children cope well with school.
- It gives the children a good background for school.

# Parents’ opinions about the role of food in cognitive development.
- The child who is well fed becomes active and therefore clever.
- Malnutrition lowers the standard of thinking.
- "Food like fish and eggs are brain food, they stimulate brain growth".

# Parents’ opinions regarding the role of talking to the child.
- This helps in the development of speech and children learn to think when they have opportunity to speak and answer questions.
- "Even children who are one day old understand language".

# Parents’ opinions regarding the role of children’s television and radio programmes in cognitive development
- The children learn language which helps them to think.
- Their minds are stimulated.
- The child relates to other children in the programme and copies some of their strategies of solving problems.
- "The child enjoys watching and I do not interfere").
# Parents' ideas about intervention in the children's play.
- Only when the children do something that will hurt them or others.

# Parents' opinions about sex-role among preschool children.
- Boys and girls are different so they cannot be treated in the same way.
- They are treated in the same way, but they get different toys.
- "I would buy them exactly the same toys".

# Parents' opinions regarding men as preschool teachers.
- They cannot be suitable preschool teachers because they are not patient enough.
- They do not know the needs of children.
- "They appear too big and harsh for preschool children".

# Parents' opinions regarding the role of playmates in the children's development.
- They give the children opportunities for social and communication development.
- They give children the opportunity of playing with members of their own sex.

# Parents' opinions regarding the medium of instruction at preschool institutions.
- English is better because it will be used at school.
- Both English and mother-tongue, because the children understand mother-tongue better, but they also need English for school.
“Definitely English only, then they will not have problems when they go to school”. (This response was included because of its vehement emphasis and not because of its unique character).

# Parents' ideas about the importance of preschool even though the child could stay at home.

- It is very important to take the child to preschool as this builds self-confidence in the child.
- The child gains more at school than at home.
- “He learns a lot at preschool, with me as a housewife he will learn nothing”.

6.2.1.2 Interviews with preschool teachers/practitioners

As stated in section 5.3.2, six preschool teachers/practitioners were involved in a focus group interview and six in individual interviews. The data from both focus group interviews and individual interviews were reduced and put into common categories. When the researcher read through the transcripts she found common categories, and repetitions of themes and ideas. That is the reason why the focus group responses and the individual interviews' responses were reduced to the same categories.

The following are the common categories and examples of relevant extracts from interview schedules (see Appendix B). In most cases the respondents were interviewed on the present position at their preschools. Occasionally they were asked to give their views about what they think should be the position. The same procedure as explained in section 6.2.1.1 will be used as far as the answers of
respondents are concerned. The first answer given will be the most common answer given by the respondents (more than 50%), and thereafter the other thoughts are given. The most unusual or unique answer (if there is such an answer) will be written last and will be put in quotation marks as it will be written just as it was given by the respondent.

# Professional qualifications which the teachers/practitioners had.

- Diploma with NGO
- Incomplete diploma with NGO
- Diploma with teacher training college
- Diploma with Technikon
- No professional qualifications at all

# Type of preschool at which the respondents work.

- Private, depending entirely on funds paid by the children
- Government-aided, with salaries of qualified teachers being paid by the government.

# Age groups of children in the preschools at which teachers/practitioners work.

- 3 to 5 years old
- 1 to 5 years old

# Teachers/practitioners' opinions regarding whether children are taught or cared for in preschool institutions.

- Both caring for and teaching the children. The younger children need more caring, and the older ones need to be taught.
- It's more caring for the children than teaching them.

# Type of learning programmes used in the teachers/practitioners' preschools.

- The practitioners decide on the kind of programme that they would like to use.
- Our own programme adapted from the ones in books.
- We got learning programmes from colleges where we were trained.
- We get ideas from workshops that we attend regularly.
- "We are free to do what we think is right".

# The teachers/practitioners' opinions regarding the importance of preschool education.

- Preschool prepares children for school
- Preschool develops the child mentally, because all activities in the preschool make the child think first.
- "Preschool is child-centered, unlike the home".

# The teachers/practitioners' opinions regarding non-trained practitioners.

- People who have not been trained do not have knowledge about child development and therefore cannot handle children properly.
- Preschool children are a special group and people have to be trained in order to understand them.
- As long as one understands children, one can be a preschool practitioner even without being trained.
- "People who are not trained want to please parents by teaching formal education to children when they are not yet ready".
# Teachers/practitioners’ opinions with regard to men as preschool teachers.
- They lack patience
- It is a woman’s job as it involves looking after children.
- “Sometimes men can be, but it is rare. I know one who carries a child even though the child is dirty”.

# Teachers/practitioners’ opinions regarding the role of play in cognitive development.
- It develops the whole child.
- It makes children fit physically, and therefore they will participate in activities that will in turn make them think...
- It helps children to socialize and teaches them to share and engage in interactions that develop their minds.
- Play helps children to imagine, to solve problems and to reason.
- Children like playing.

# Teachers/practitioners’ perceptions regarding the origin of intelligence.
- Intelligence is inherited.
- It is inherited but preschool helps to develop it to the full.

# Opinions of teachers/practitioners regarding the role of social development in cognitive development.
- The child learns language, norms and values of society and this helps in mental development.
- The manner in which parents handle their children contributes greatly and affects brain development. For example children who come from very strict homes act and behave differently from those who are spoilt.
and come from permissive homes, and this will affect their behaviour in the preschool class, and therefore will affect their thinking.

# Opinions of teachers/practitioners regarding the role of emotional development in cognitive development.
- The child's emotionality starts from reasoning, for example, he/she may try to solve a problem and cries when he/she fails to do so.
- "Emotions also use the power of mind. You cannot hate without reasoning".

# Teachers/practitioners' opinions regarding the role of food in cognitive development.
- Children need food so that they can be active and involve themselves in activities that will develop their intellect.
- Food nourishes the body, and therefore the brain.
- Well-nourished children who are strong physically will cope well with daily activities, and the daily activities will train them to think.
- "Many children come from poor families, and giving them food will encourage them to come to preschool".

# Teachers/practitioners' perceptions regarding sex-role among preschool children.
- Boys and girls do the same activities and seem not to mind.
- They share the same toilets and even wear the same kinds of aprons.
- Girls are more serious with their work, whereas boys are more playful.
- Sometimes children want to sit near members of their own sex only.
# Teachers/practitioners' opinions with regard to the role of language in cognitive development.

- Language helps in socializing and communication which in turn will lead to the development of the intellect.

# Teachers/practitioners' perceptions about medium of instruction in preschool institutions.

- Children should be taught in their mother tongue because they should first know and understand their mother tongue before other languages. Activities in English can be included.
- In order for them to grasp concepts they should be taught in their mother tongue and they will feel secure.
- If they are taught in English, the practitioners concentrate on the language and forget about the other areas of development.
- Children should be taught in English because they understand and learn language very fast.
- "Children must think in their own language. Normally we think in mother tongue".

# The teaching of thinking skills in the teacher/practitioners' preschool institutions.

- Thinking skills are taught in preschool in various ways to a greater or lesser extent.

# Teachers/practitioners' opinions with regard to storytelling.

- Stories help children to be able to pay attention.
- Stories help in vocabulary building and in the understanding of
language.

# Teachers/practitioners' opinions about the role of intervention in children's play and other activities.

- They only intervene to show children how an activity is done.
- They also intervene if an activity is perceived as dangerous, in order to avoid accidents.

6.2.1.3 Observation

As already stated in 5.3.3.1, in this study four preschools in Region 3 of the Northern Province were observed. The researcher was a participant observer. This helped her to gain insight into the situation without really influencing it. On the other hand she got a chance to talk to some children if the need arose and to participate in some activities that she deemed extraordinary.

The information that the researcher obtained through observations was mostly used to supplement and verify the information from the interviews. In most cases what was observed confirmed the preschool teachers/practitioners' responses. However some observed data deserves mention here.

# Arrangement of the classes

- In Preschools A and B there were clearly demarcated areas. Five areas were identified: A) Block area; b) Quiet area; c) Book area; d) Fantasy area; and e) Creativity area. Different activities were carried out in the different areas. In the Block area there were blocks of different shapes,
and the children could build whatever took their fancy. On all the occasions when the children were observed it was mostly boys that frequented this area and in most cases were building cars and “driving” them. In the Quiet area, children play as individuals, not as a group. In the Book area there were story books and children could “read” whichever they wanted. Almost always there were very few children there. In the Fantasy area children play make believe roles. Almost always there were mostly girls in this area. They played with dolls and pretended to be mothers. The researcher even got a chance to chat to some of them. They clearly know that the dolls are not alive, but all agree that they would not throw them on the floor as they are their “babies” (refer to section 3.3.2.2 - animism). Lastly, in the Creativity area there are pencils, books and crayons. Different themes are reflected weekly. Each child is made to use this area at least once everyday. There are, however, other children who frequent this area all the time. (According to the teachers/practitioners the children who frequent this area are the bright ones).

In Preschool C, there were no clear demarcations like in the other preschools. Lack of space could have been one of the factors that led to this. However the children were also involved in different activities but were not given the opportunity to exercise free choice as it happened in the other preschools.

- Preschool D concentrated on child minding and care-giving. The hours were from 7:00 in the morning, until 16:00 in the afternoon. Different activities were also done, but most of the time the children were
playing and singing.

# Division of children

- Preschool A had three age groups, that is, the 2-3 year olds, the 3-4 year olds and the 5 year olds. The five year olds were clearly being prepared for school.
- Preschool B had two main groups, that is, the 3-4 year olds and the 5 year olds.
- Preschool C also had two groups, that is, the 3-4 year olds and the 5 year old category.
- Preschool D had two main groups, that is, the young ones, that range from as young as 18 months to 3 years (this is a creche facility); and the older group that comprised the 4 to 5 years old children. The older ones were taught to "write", draw, colour and use scissors, just like in the other three preschools.

# Feeding

- Preschools A and B, which are government aided provided food for the children. The children did not have to bring lunch boxes.
- Preschool C, which is a private funded preschool did not provide food, the children had to bring their own lunch boxes.
- Preschool D, which is also a private preschool, provided food for the children, as they stay the whole day (from 7:00 to 16:00). The other preschools close at 13:00.

# Play

- In all four preschools play took a central place. Mostly the children play
without any intervention from the teachers. In Preschool C, they also have what they call directed play, where the teachers are greatly involved. According to the teachers/practitioners this is done especially to teach them to take instructions. There is also free play without intervention by the teachers.

In Preschool A the researcher observed children playing see-saw on a plank that goes up and down depending on the weights of the two children sitting on opposite ends. The children did not know why this was happening, it was just a form of entertainment. The researcher's own perception is that this situation could have been taken advantage of to teach weights to the children, but generally there was no intervention or mediation in children's play.

# Gender differences and sex-role stereotyping
- Girls and boys played very well together, and they also sang well together. However what the researcher noticed was that when it came to sitting down for the more "formal lesson" children had a tendency of sitting next to members of their own sex.
- The researcher also observed that whenever a fight erupted, it was found to be boys fighting.
- The children are conscious of being male or female as is evidenced in the type of play activities they choose when they are given the choice.

# Singing
- Singing was a common activity in all four preschools. They sing at the beginning and the end of all activities. The songs are in both mother tongue and English. The children seem to enjoy singing very much.
They couple the singing with appropriate actions.

# Poetry

- In all four preschools poems are dramatized and are done with a lot of actions. Even in preschools where the medium of instruction was mother tongue, a lot of English poems were done.
- However, in the preschool where the medium of instruction is English, no mother tongue poems were done.

# Story-telling

- In preschools where the medium of instruction was mother tongue, stories were told in mother tongue.
- In Preschool A, the teacher had the children make eye contact with her while she was telling the story. (This was to facilitate concentration).
- In Preschool B they all had to fold their arms and look at her.
- In Preschool C stories were told in English. The older children understood, but the new ones had a problem. The researcher's own observation was that most of the time the teacher was concentrating on teaching vocabulary, instead of following up thoughts that would develop the children's thinking skills, for example, problems to be solved in the story. Sometimes it also appeared difficult for children to grasp certain concepts that wouldn't have given them any problem had the story been told in their mother tongue. For example "son" and "daughter" - when the teacher asked then if their parents call them "son" or "daughter", the children said "no", and proceeded to give examples of how they are addressed, in their mother tongue.
- In all four preschools stories are illustrated with pictures to ease
understanding. Sometimes children create their own stories by looking at the pictures.

- While the story is progressing questions are asked to see whether the children do understand what they are being told.

# Lessons

- Various more "formal" lessons were given to the school readiness group (5 year old group), especially in Preschools A, B and C. In Preschool D, the lessons were not formally written down and planned like in the other three.

- Time-tables were drawn and followed. All activities were planned. Numbers, shapes, Scripture and life skills were taught. The researcher had the opportunity of observing lessons on themes from Scripture, or focusing on numbers and on shapes, and was impressed by how much the young children could grasp.

After having identified the categories, the data was displayed. The categories that emerged as a reflection of the final and common findings among the parents, the teachers/practitioners and observation are now displayed in section 6.2.2.

6.2.2 Data display

According to Miles and Huberman (1994:11) displays are designed and used in research to "...assemble organized information into an immediately accessible, compact form so that analysts can see what is happening". Common categories were clustered together. These categories feature in Table 6.1. The first column portrays the common category that emerged in all interviews and that was also
observed by the researcher. The second column - parents. - reflects a brief synopsis of the parents' responses concerning that particular category. The third column - teachers. - reflects a summary of the teachers/practitioners' responses. The fourth column - observation. - reflects a summary of what the researcher observed.

**Table 6.1**

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<thead>
<tr>
<th>CATEGORY</th>
<th>PARENTS</th>
<th>TEACHERS</th>
<th>OBSERVATION</th>
</tr>
</thead>
</table>
| Opinion concerning mental Stimulation | - Encourage children by talking to them  
- Buy toys  
- Send to preschool            | - Activities in preschool develop cognition                           | Activities are geared towards cognitive development     |
| Role of Preschool                  | - Makes children clever  
- Gives background for school  
- Children get what they would not get at home | - Prepares children for school  
- Preschool is important because it is child centred | - School readiness  
- Development of the whole child  
- Care-giving                             |
| Intervention                       | To avoid danger and to reprimand                                       | - To avoid danger, and to show how an activity is done                 | Most of the time there is no intervention in children's play |
| Gender Differentiation and Sex Role | - They are different and should do different activities  
- Same treatment, e.g. love  
- Different toys as behaviour is different | - Same activities  
- Girls more serious whereas boys are more playful | - Show preference for members of same sex as playmates.  
- Girls love dolls, boys love blocks to build e.g. cars |
| Men as Preschool Practitioners     | - Not patient enough  
- They do not understand children's needs | - They lack patience  
- It is rare, but they can become good preschool teachers | - Most preschool teachers are women  
- All that were interviewed are women |
### Medium of Instruction

<table>
<thead>
<tr>
<th>English Medium</th>
<th>Mother Tongue</th>
</tr>
</thead>
<tbody>
<tr>
<td>- English is preferred as it will help in school later. - Both, as the children understand mother tongue better, but also need to acquire English.</td>
<td>- Mother tongue helps children feel secure. - Mother tongue teaching gives the teacher a chance to concentrate on teaching thinking skills and deeper discussion.</td>
</tr>
</tbody>
</table>

### Teaching or Caring

<table>
<thead>
<tr>
<th>Both caring and teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Children are cared for at preschool and they are safe. - They are also taught.</td>
</tr>
</tbody>
</table>

### Play

<table>
<thead>
<tr>
<th>- Play develops the whole child. - It helps children to imagine, reason and solve problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Children enjoy playing.</td>
</tr>
</tbody>
</table>

### The Role of Food

<table>
<thead>
<tr>
<th>- To be active and involve in activities. - Food nourishes the body and therefore the brain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Children need food to develop well. - Food makes children active and clever.</td>
</tr>
</tbody>
</table>

### 6.3 FINDINGS

The following findings were drawn from the study after the data had been reduced and displayed. The findings emerged right from the beginning, but were held lightly.
and with an open mind at first. As the data was reduced and displayed, findings were drawn, until data gathering was finally over.

FINDINGS OR FINAL RESEARCH THEMES

The following main findings or research themes emerged as a result of the consolidation process of parents' interviews responses, teachers/practitioners' interviews responses, observations and literature survey.

1. Both parents and teachers/practitioners are of the opinion that the child's intelligence is inherited. Almost all respondents mentioned this, even those who also mentioned the environment and preschool as playing a role.

2. Both parents and teachers/practitioners think that significant adults can enhance cognitive development of children in various ways. It was also found from the various literature in the subject that significant adults can enhance cognitive development of children by being mediators of learning and of thinking skills.

3. Both parents and teachers/practitioners are of the opinion that preschool education is important as it stimulates cognitive development and prepares children for school. In the literature study it was found that a well-informed parent can create an environment that can stimulate a young child's intellect.

4. Both parents and teachers/practitioners do not think that it is important to intervene in children's play if there are no problems or the children are not exposed to danger. The literature survey on the other hand indicated that intervention is very important and necessary in order to direct children to stimuli that may enhance their cognitive development.

5. Gender differentiation and sex-role stereotype are in evidence during the
preschool years, and most parents feel that children should be treated differently. The researcher observed that most teachers/practitioners treat the children in the same way at preschool, but the children themselves showed preference for playing with members of their own sex and playing certain games “appropriate” to their own sex.

6. Both teachers/practitioners and parents are of the opinion that men cannot be suitable preschool teachers. The researcher observed that most preschool teachers/practitioners are women.

7. Most teachers/practitioners felt that mother tongue as the medium of instruction has more advantages than second language teaching. Parents however felt that English medium should be used because of its long-term benefits for the child.

8. Teachers/practitioners are of the opinion that preschool education involves both caring for, and teaching the children. The literature survey in the subject also indicates that preschool teachers' role includes both caring and teaching. During observations it was also found that the preschool teachers/practitioners taught and also cared for the children.

9. The researcher observed that play is a very important and dominant activity in early childhood institutions. The teachers/practitioners and the parents also thought that play is very important in children's lives. The various literature in the subject also indicated the important role that is played by “play” in children's development.

10. Activities in preschool cater for all areas of the child's development, that is, physical development, social development, emotional development, cognitive development and moral development, as evidenced in observations and also from the teachers' responses.

11. Teachers/practitioners are of the opinion that thinking skills are taught to
varying degrees in preschools. The researcher also observed that thinking skills are infused in the activities in preschool, but most of the time the teachers/practitioners did not deliberately and intentionally teach or mediate the thinking skills.

12. The choice of learning programmes in preschools is not necessarily informed by uniform guidelines or a particular curriculum framework. The teachers/practitioners said that they made their own choices as far as learning programmes for their preschools are concerned.

6.4 INTERPRETATION OF THE MAIN FINDINGS AND THEMES

When interpreting, the researcher aims at illuminating the meanings of the findings. The consolidated analysis of the data is interpreted against the background of the existing theoretical framework and the literature survey. The interpretations are then integrated into a concluding discussion.

The interpretation is based on the theoretical propositions that led to the study. This means that the interpretation is based on the literature study and new insights that came to the fore as data was collected, analysed, displayed and verified. To support this, Le Compte and Preissle (1993:269) state: “In research informed by an explicit theoretical orientation, researchers begin the interpretative process by stepping back from the data and assessing whether the data collected mesh with the initial theoretical framework”. This means that the relevant theoretical framework is used to establish the credibility of the findings.

In this section the main findings of the study will be interpreted.
1. The opinions of the parents and teachers/practitioners were that the child's intelligence is inherited, although the environment and preschool play a role in developing it.

This finding brings to light the nature-nurture controversy that has always been persistent in studies of intelligence. The issue here is whether man is a product of his heredity or his environment. This also brings to the fore the question of maturation and learning. Does man simply reach cognitive maturity or will his learning experiences enhance this development? In section 3.3.1 of the literature survey the need for learning and environmental influences has been highlighted and various theorists have indicated that the potential (heredity) that the child has, should be nurtured so that the child can develop to the full.

An awareness of this heredity-environment controversy was evidenced by the answers that were given by the respondents. Although most of them seemed to believe that children inherited intelligence, they also recognized the role played by the environment.

2. Both parents and teachers/practitioners are of the opinion that significant adults can enhance cognitive development of children in various ways.

In the literature study (among others section 2.2.2), it was indicated that children's intellect can be stimulated by significant adults in the children's lives, for example parents, family members and teachers. Parents especially spend a lot of time with their children and therefore their role is significant.

However, from the research findings the parents themselves knew that they were
important in their children's lives, but their views were quite different from what the literature survey indicated in section 2.2.2. Among others, Burger regarded the mother as the primary caretaker who can play a crucial role in cognitive development of her child. In the present study some mothers seemed to think that preschool is more important than they are in the cognitive development of their children. The respondents therefore underestimated their own potential on their children's cognitive development.

The teachers/practitioners also regarded themselves as important in stimulating brain development of the children, in their capacity as teachers. They knew that the activities that they engage in at preschool are meant to develop the children's intellect.

3. Both teachers/practitioners and parents are of the opinion that preschool is important as it stimulates cognitive development and prepares children for school.

The main idea here is that preschool education is important for the overall development of children. Section 4.3 of the literature study demonstrates the importance of preschool education. It complements the education that children get in their homes.

The findings of this study demonstrate that both parents and teachers regard preschool education as very important. Some parents seem to regard it as being more important than the home (whereas literature seems to regard the home as being more important). The researcher's own perception in this regard is that because of the following reasons, most parents in the Northern Province regard preschool as extremely beneficial for the young children. The reasons are the
following:

- Physically absent caregivers - some children's mothers work very long hours and the children are left to fend for themselves, or to be cared for by a slightly older sibling.
- A caregiver who is uninvolved - Some children are left in the care of minders who are overworked because in most cases they may be looking after a group of children. They simply do not have the time to look after the children properly and enhance their development.
- Some caregivers are uninformed and ignorant concerning early child development.

This would then mean that at home the child is not getting high quality early intellectual stimulation which he so desperately needs during these formative years.

4. Both parents and teachers/practitioners do not think that it is important to intervene in children's play if there are no problems or the children are not exposed to danger.

Section 3.3.4.2 of the literature study demonstrated the importance of mediated learning experiences (Feuerstein 1980 &1986). This means that significant people in the lives of the children must at times interpose themselves between the environment and the children, in order to make the children focus on and observe different experiences in the environment. This directly refers to intervention in order to make children aware of the different stimuli in the environment. Stimuli on their own, for example, toys, children' programmes on television, and others, cannot effectively stimulate the children's cognition, but the adult intervention (in the form of mediation) that accompanies the stimuli may be more effective.
According to the findings of the investigation the respondents thought that if children are playing or doing any other activity that is “not dangerous”, they should be left on their own. The adults regarded their presence in such situations as “interference” rather than “intervention”. When the researcher observed preschools she gained the impression that the large numbers of children as compared to the number of teachers/practitioners made this situation worse. When children were playing the teachers regarded that time as their “time to rest”.

5. Gender differentiation and sex-role stereotyping are in evidence during the preschool years, and the parents play a significant role in sex role-stereotyping.

As already mentioned, Van der Zanden (1993:252) states that gender is one of the early attributes of self and that one of the major developmental tasks for the child during the first six years of life is to acquire gender identification (refer to section 2.4.1.1). Wiechers (1990:19) also stated that parents and family members treat children differently right from birth, and that this differentiated treatment of boys and girls emphasizes gender differences.

In the present study it was found that the parents especially, more than the teachers/practitioners, believed in treating children differently on the basis of sex. Even when the teachers wanted to treat them in the same way at school, the children themselves were aware of the fact that they had to play different roles. However, when the researcher observed the children this did not seem to affect them greatly as far as the activities planned by the teachers were concerned. The researcher's own perception is that the boys' activities (for example building cars and houses with blocks) may enhance spatial orientation; whereas the girls activities (for example, playing houses) may enhance language acquisition and
interpersonal relationships as they play and interact verbally.

6. Teachers/practitioners' and parents' opinions about men as suitable candidates for being preschool teachers.

Sections 4.5.2 and 4.5.3 of the literature study outline tasks and qualities of preschool teachers. The implication here is that if a person has such qualities, irrespective of gender, colour or race, then such a person can be a good preschool teacher.

From the findings of this study, the sex-role stereotyping is clearly apparent. Almost all respondents believed that practising or teaching at preschool is a woman's job, and not a man's job. It was hard for the respondents to believe that men could be good preschool teachers.

7. Teachers/practitioners' and parents' opinions about medium of instruction.

Most teachers/practitioners are of the opinion that children should be taught through the medium of mother tongue. On the other hand the parents feel that children should be taught through the medium of English as this will make schooling easier in later years.

The preschool years are regarded as the stage of preconcepts (Piaget) (refer to section 3.3.2.2). During this stage children do not have a logical grasp of concepts. It is the time when they are grappling with the acquisition of concepts. In order to understand concepts well, language is crucial. Therefore the teachers/practitioners felt that it was a better option to explain concepts in the language that they
understand better, which is usually the mother tongue.

In the present study most parents seemed to prefer English as medium of instruction as they perceived it as being important for preparing children for school. This can be interpreted against the background of medium of instruction at school and the changing life-style in society. It is regarded by parents as beneficial for children to be taken to English medium schools as the education in such schools is regarded and perceived by parents as being superior when compared to that of schools that teach through the medium of mother tongue. As a result parents want their children to get the basics of English right from preschool so that they may not have a problem when they go to school.

The literature study (section 2.5.1.2) indicated that young children in the LAD phase acquire language, and even more than one language with ease. Being in this phase enables them to process linguistic data from the environment. It was also stated that the earlier children learn a language the better. This means that it would also be advantageous to learn a language (also a second language) in the early years.

8. Preschool involves both caring for, and teaching children.

Teachers/practitioners, and observation findings, indicate that preschool education involves both teaching and caring. Amongst other factors, caring involves looking after the child physically, socially, and emotionally. For example, if a child cries for some reason or other, the teachers/practitioners comfort the child; and if there is a fight between two children, the teacher can be the peacemaker.

In section 4.5.2, among the tasks of the preschool teacher, both caring and teaching
are regarded as important. Young children have to be taken care of, and they also have to be taught. These tasks are both very important. Children need help in fulfilling many tasks due to their developmental level, and therefore they must be taken care of. The teaching task is also very important as it involves mediation of cognition and thinking skills. Depending on the type of preschool and the purpose for which it was established, any one of the two tasks (caring or teaching), may take precedence over the other.

The findings in the study also supported this observation. The respondents seemed to agree that both caring and teaching are important in preschool education.

9. The researcher observed that play is a very important and dominant activity in early childhood institutions; and both the teachers/practitioners and the parents also thought that play is very important in children's lives.

A large number of authors agree that play is associated with preschool children and that it is important in the children's lives (see section 2.4.2 of literature study). Harris et al (1989:26-27) also pointed out the effects of play in children's lives (section 2.4.2.2). Play is good for children for its entertainment value, but it is also good as a medium through which children can be taught. This would then imply that play can be made a medium through which mediation of learning experiences (MLE) can take place. This is in stark contrast to the teachers/practitioners' idea that it is their time to rest.

The findings of the study show that play is regarded as important by both the teachers and the parents. Its "entertainment value" is regarded by teachers as more important than its "mediation value". While the researcher was observing preschools
it was noticed that almost all the time, no intervention occurred in the children's play to make the children focus on stimuli that may develop their intellect. Intervention that occurred was to make them avoid danger and to reprimand the children when they did something wrong. Thus, the teachers/practitioners did not use play as a medium for learning, as much as they could have.

10. Activities in preschool cater for all areas of the children's development, that is, physical, social, emotional, cognitive and moral development.

Section 4.6.4 of the literature study serves to demonstrate to a lesser or greater extent that in preschool institutions, the different learning activities are geared towards enhancing some areas of the child's development.

Observations also showed that an effort (to varying degrees), is made to stimulate the children in all areas of development. For example, cutting with scissors, is used to develop fine muscles (physical development). They use blocks to create objects and so learn to solve problems by looking for alternative blocks to complete an object (cognitive development). They also do some activities in pairs or in groups (social development and communication skills), and many others. Usually there is an overlap, that is, one activity developing more than one area, or many activities developing one area.

11. Teachers/practitioners are of the opinion that thinking skills are taught to varying degrees in preschools.

When the researcher was observing preschools it was found that there were activities that were planned and done in order to teach children to think. The
thinking skills that were concentrated upon were mostly the following: paying attention, solving problems, classifying, sorting, comparing, recalling and synthesizing. For example, story telling was used to teach children to pay attention, and the problems that emerged as stories unfolded were used to teach children to solve problems. Children played with puzzles that trained them to synthesize; and they were also asked to compare objects on numerous occasions. Most activities that teach thinking skills were done in a routine-like fashion and the researcher's perception in some cases was that it was not a deliberate attempt on the part of the teacher/practitioner to teach thinking, it was just an extension of play.

12. The choice of learning programme in preschools is not necessarily informed by uniform guidelines or a particular curriculum framework.

Teachers/practitioners indicated that they were free to make their own choices as far as the learning programme to be used in their preschools is concerned. There were no guidelines or framework to inform their decisions. Mostly they discussed among themselves in “workshops”, or took programmes from other sources.

“Curriculum framework is a philosophical and organizational framework which sets guidelines for teaching and learning” (Interim Policy for Early Childhood Development 1997). These guidelines inform the choice of a curriculum to be followed or learning programmes to be used in a preschool. As has already been mentioned in Section 4.6, up to this point Preschool Education has been, and still is regarded as the responsibility of the parents and not of the State. The various stakeholders in the field are responsible for curricula and learning programmes that are used in this area of education. As a result of this the programmes used in preschools are numerous and diverse, both in approach and quality.
In the interview with preschool teachers/practitioners, it was found that in preschools there is a lot of diversity as far as learning programmes are concerned. Some of the practitioners adopt learning programmes that they randomly get from literature, and some take those that have been designed by the various NGOs involved in preschool education. There is no obligation to follow specific guidelines as far as the choice is concerned. The practitioners also attend workshops where they share ideas and then implement that which they learned there. This in itself wouldn't be a bad practice, if only there were guidelines or a curriculum framework followed by all practitioners. This would be in line with what happens in primary and secondary schools. There are guidelines and a curriculum framework that is national. However, the teachers are free to develop learning activities suitable for their classes, but being guided by the curriculum framework.

6.5 SUMMARY

This chapter presented the data reduction and display that was done in this study. The large amount of data was consolidated to reduce it to a manageable size. Several categories emerged from this exercise, and the findings were drawn. The findings were then interpreted against the background of the literature survey and the information that emerged as data was collected. In the final chapter conclusions of this study will be drawn, recommendations will be made, and guidelines for developing a preschool learning programme will be presented.
CHAPTER SEVEN

CONCLUSIONS, RECOMMENDATIONS AND GUIDELINES FOR A PRESCHOOL LEARNING PROGRAMME

7.1 OVERVIEW OF THE STUDY

This study revealed the attitudes of parents, and preschool teachers and practitioners regarding preschool education and the teaching of thinking skills and stimulation of cognitive development in the preschool years. The researcher further determined what was being done in preschool institutions to stimulate and enhance the development of preschool children in general, and to what extent these early childhood institutions try to teach thinking skills. The study also revealed the practitioners' and parents' attitudes regarding the role of parents and early caregivers in the cognitive development of the preschool children. Attitudes and perceptions concerning the role of physical, social, emotional and normative aspects in as far as they influence cognitive development were also determined. The study also contributed to preschool education by generating information with regard to educators' attitudes on preschool education and its role in teaching thinking skills and stimulating cognitive development in young children. It also suggested guidelines that can be used by NGOs or educators to develop learning programmes to be used by relatively unqualified preschool practitioners in predominantly rural areas.

In this chapter the findings and interpretations that have been illuminated in the previous
chapter will be integrated into the main conclusions of the study. Recommendations will be made on the basis of the conclusions, and guidelines will be suggested.

7.2 VERIFICATION

The data was verified by triangulation. Triangulation is based on the idea of convergence of multiple perspectives for mutual confirmation of data to ensure that all aspects of a phenomenon have been investigated (Yin 1994:91). In this study data was gathered by means of observation, focus group interview, and structured individual interviews. The different data gathering techniques served to verify the data.

7.3 VALIDITY OF THE STUDY

According to Marshall and Rossman (1989:145) the aim of the validity criterion is to demonstrate that the research inquiry was conducted in such a manner as to ensure that the subject was correctly identified and described. In a qualitative study, such as this, the validity is derived from the researcher’s presence; the nature of the interaction between the researcher and the subjects; the triangulation of the data; interpretations of perceptions and the comprehensive description.

The following arguments are presented to show that the data collected in this study are consistent and dependable, and therefore support the validity of this study.

• The researcher stated the characteristics of the setting, population and theoretical framework. This in-depth description helped to make the study valid.

• An important aspect of a qualitative study which contributes to its validity is the
credibility of procedures that are concisely expressed. The researcher has sought to ensure validity through a detailed step-by-step account of the research process. This consists of how decisions were made before the inquiry, how the data was collected, how the categories were derived, and how decisions were made throughout the research. Marshall and Rossman (1989:147) refer to this as an "audit trail", which serves to make available the entire body of research evidence for replication, thereby enhancing the reliability of the research findings. The researcher has described and stated the sequence of the research in detail in order that others may be able to duplicate the research.

However, as mentioned previously, in such a study, generalisation will be difficult. The research is aimed at being generative. It seeks to describe rather than to generalise, and to form a unique interpretation of events. The findings of a qualitative study such as this do not lend themselves to wide generalisability because every research context is made up of a particular researcher in a particular interaction with particular subjects, at a specific moment in time.

7.4 LIMITATION OF THE STUDY

An important limitation of this study is that it involves a small sample. As a result, the findings cannot be directly and widely generalised.

7.5 CONCLUSIONS

Findings from the literature and research studies have led to the following conclusions:
7.5.1 The teaching of thinking skills in preschool institutions

The preschools under investigation do teach children thinking skills. This emerged from the teachers/practitioners’ responses, and was also determined from the researcher’s observations. The thinking skills are infused in the learning activities which the practitioners have adapted from various sources. Some practitioners teach them without really being aware that they are in fact teaching thinking skills. In other words, the “intentionality” is missing - the role of the practitioner as intentional “mediator” is not there.

7.5.2 The role of parents and/or early caregivers in cognitive development

From the literature study parents and early caregivers are regarded as significant in stimulating cognitive development of the young children. In the research study parents do realise that they are important in their children’s cognitive development. However they do not regard themselves as the most significant agents in stimulating their children’s cognitive development. Some parents believe that preschool can do more than they (parents) in developing their children’s mental capacity. They also believe that toys and Television/Radio programmes for children are important in enhancing the children’s intellectual development. There is a tendency of undermining their (parents) own role as mediators, worsened by the fact that some parents do not really accept responsibility for the cognitive development of their children due to ignorance brought about by lack of information.
7.5.3 The role of the different areas of development in influencing cognitive development

From the literature survey it can be concluded that different aspects/areas of development, namely, physical, social, emotional, normative and cognitive, influence each other. The child develops as a whole and the different areas of development cannot be compartmentalized, and as a result one aspect influences, and is influenced by the others. Cognitive development is influenced by, and influences the other areas of development. The research findings also point to the fact that preschool activities potentially have an effect on all areas of development.

7.5.4 Training of preschool practitioners

The realisation that training of preschool practitioners is of the utmost importance seems to be a neglected area. Preschool teachers are a diverse group. They are trained in colleges, universities and numerous NGO's. They are also trained at different levels. In preschools, qualifications do not seem to matter to the parents in the rural areas especially, because they take their children to whoever ventures forth and establishes a preschool centre. It is as if parents take it for granted that everyone (especially every woman) can teach young children.

7.5.5 Preschool learning programme

The choice of learning programmes that are used in different preschool institutions is not necessarily informed by explicitly stated guidelines. In the preschools that have been researched, there is no obligation to follow specific guidelines when adapting learning programmes or generating activities for the preschools. The NGOs from whom most
preschool practitioners have adapted their learning programmes have no prescribed guidelines to follow in developing their learning programmes.

7.5.6 The role of preschool education

From the research study it can be concluded that in Region 3 of the Northern Province, preschool education is regarded by both parents and teachers/practitioners as being very important for the overall development of children, and specifically for cognitive development. Even if it was possible for the children to stay at home, parents feel that they would still take them to preschool. Parents feel that children who go to preschool will perform well at school. When some of them were asked to compare their older children who did not go to preschool with the ones that attended preschool, they maintained that there is a great difference. They said that the ones that had been to preschool were “brighter” than the ones who did not go.

7.6 RECOMMENDATIONS

In view of the conclusions that have been drawn from this study, the following recommendations can be made for NGOs that are involved in preschool education in the Northern Province, and for the Northern Province’s department of Health and Welfare and the department of Education, as they are involved in early childhood development.

7.6.1 Training of preschool practitioners

The quality in preschool education is directly affected by how well the practitioners are trained and motivated. The researcher acknowledges the fact that universities, technikons and colleges offer excellent degrees, diplomas and certificates in preschool
education. Furthermore, "Educare" programmes are also offered by various NGOs. However, in the study it was found that there are many caregivers who have preschools, or work in preschools who have not received any kind of training. To some caregivers, preschool is a money-making venture. It is recommended that the training of such preschool practitioners should be given attention by NGOs and the government. The researcher suggests that it should be done in the following ways:

• It should be regarded as in-service training where the practitioners do not have to stop work, but are trained after school hours at centres that are established by the government or NGOs. This is especially necessary in remote rural areas.

• Such in-service centres should also be established at colleges for practitioners who live near the colleges to attend after school. Even though some such colleges do offer diplomas for preschool education, there are colleges in the Northern Province that do not. Practitioners may be unwilling, or it may be impossible for them to go for full-time training. They could then still benefit by attending lectures on a part-time basis.

• Of the Early Childhood Development Officers (ECD officers) employed by the Northern Province Department of Education, one in each region should solely be responsible for the education of children who have not started formal school. Such ECD officers will then give their undivided attention to preschool education and inservice training for the underqualified practitioners involved in educating young children.

• Clusters of preschool practitioners who live in the same area could be formed. The smaller the cluster, the better. In each cluster there should be one Lead teacher. The lead teachers in each cluster can then attend intensive workshops given by ECD officers or NGOs. The lead teacher could then come back to the cluster and discuss with the others what transpired in the workshop. The ideal would be to in-service train every preschool practitioner, but time and funds may not allow this. In
this way, many practitioners may be reached by forming a training network or a training chain reaction.

Besides taking care of the children, the practitioners also "teach" them - although not as formally as they would do it at primary school. This however should be done professionally, by people who are professionally trained. The researcher is of the opinion that the children would benefit greatly from people who are well-trained rather than having the present situation continue. For example, the trained preschool practitioners would be able to understand, amongst others, the following:

- their role in intervening in the children's education,
- the value of teaching young children,
- the importance of stimulating cognitive development during the early childhood years,
- infusing thinking skills in the daily activities of the children,
- using methods and strategies that are developmentally appropriate.

7.6.2 Parents' support programmes

As already stated, literature supports the viewpoint that the very early years, that is, birth to three years, are crucial in intellectual development. This puts emphasis on the crucial role that parents can play in cognitive development. This means that if society reinforces preschool education with complementing parental education, then the children will benefit substantially. Parents can be taught the following:

- to give value to the education of their children,
- to give importance to the early years,
- to give support to their young children,
- to understand that some of their cultural activities like telling folktales to young
children can be beneficial to cognitive development,
• to see themselves as the most important educative force in the lives of their children.

They should be involved in their children’s education in the following ways:
• through newsletters informing them of their role,
• through direct links between parents and teachers or caregivers.
• When young mothers attend prenatal clinics (when they are still expecting their babies), they are given lessons on how to take care of their babies physically. They could also be “given lessons” on how to stimulate their children’s development in all areas, in particular cognitive development. They would then realise that as much as it is important to raise physically healthy children, it is also important to raise healthy children in other areas of development.

Parents should generally be assisted and empowered in their parental role. This should be done by the departments of Education and Health. The researcher further suggests that NGOs should also increasingly be involved in this training of parents and child-minders. However, there should be a considerable amount of control of syllabi that are to be offered in this regard.

7.6.3 Parent-teacher partnership

It is important to understand children within their natural environment. Children need to be understood within the context of their families. There are several preschools in the Northern Province where the practitioners belong to a different cultural background from that of the parents and children. It is therefore even more important that a strong partnership between the parents and the practitioners should be developed so that the
needs of the children can effectively be met within that context. The language issue can be taken as an example here. Children may be taught in second language at preschool (in fact from the research it was found that parents strongly desire that their preschool children should be taught in English as their second language, see section 6.2.1.1). This would mean that at home they speak a different language from the one used at school. This may have a negative effect on the children's learning and emotional development if it is not handled well. However, if the practitioner and parents support each other, by using both languages in dealing with the child, especially during the initial stages, then he/she could be helped to cope. It is therefore necessary that the teacher be trained in handling the situation.

7.6.4 Preschool learning programmes

The researcher acknowledges that there are preschools that have appropriately trained and qualified teachers. However, there are areas in the Northern Province where the early childhood institutions have underqualified and even unqualified practitioners. The researcher recommends that prescriptive guidelines and learning programmes based on the educational needs of young children should be given to such practitioners. They need such prescriptive guidelines and programmes (especially about cognitive development) so that the preschool years can lay the foundation for later development.

It is furthermore recommended that underqualified or unqualified practitioners follow in-service courses (as has been said), which may result in their using the prescribed programmes with greater flexibility.

Communities and the backgrounds of children are different, but a prescribed learning programme or guidelines will not destroy this. The uniqueness of each individual child
can be accommodated in the kind of activities that can be generated under the prescribed guidelines. In other areas of education like primary school education, there is a curriculum framework within which the teachers can develop activities. Likewise in preschool education, there should be a prescribed curriculum from which learning programmes can be developed by NGOs or by the department of Education itself. This would offer firm guidelines from which the practitioners can generate their activities once they have been sufficiently trained.

7.6.5 Rural education programme

In the Northern Province, where this study was conducted, most communities live in the rural areas where the poverty rate is higher than in the urban areas. This means that many of the children in the rural areas live in poor conditions. Most of the children in the urban areas do have access to preschool education, whereas those who are in rural areas do not readily have access to it. The question is: Is the need for preschool education not perhaps very high among the children who live in dire poverty, in remote rural areas, where parental illiteracy and ignorance concerning intellectual stimulation is high. It may even be higher than among those in urban areas where children are more likely to be exposed to educationally enriching environments. The researcher therefore recommends that an effort should be made to make rural communities aware of the value of preschool education. Perhaps the provincial government should increasingly become involved in setting up preschools in the rural areas. The envisaged compulsory reception class to be introduced in all primary schools in the Northern Province is but a start in solving this problem, especially in the rural areas where there is a scarcity of preschool institutions.
7.6.6 Thinking skills infused programmes

As already mentioned, brain growth is rapid during the early preschool years. It is therefore important to stimulate cognitive development during these years of accelerated growth. Preschool programmes should therefore include the teaching of thinking skills to these children so as to take advantage of the period of rapid brain growth. By teaching thinking skills at this age, cognitive development will be enhanced. The thinking skills should be infused in the different learning activities in which the children are involved throughout the day. This therefore means that there must be a practitioner who deliberately and intentionally intervenes in the activities, who can seize the correct moment to teach thinking skills.

The recommendations that have been made are not primarily aimed at the training of preschool teachers at tertiary level, because sophisticated training is being done there. The recommendations are primarily targeted at relatively untrained preschool practitioners in the rural areas, the parents of preschool children, the department of Health, the department of Education, and the NGOs that are involved in preschool education in the rural areas.

7.7 IMPLICATIONS FOR FURTHER STUDY

The findings and conclusions that emerged from this research, point the way forward for further research. The following considerations for research are recommended.

- Medium of instruction in preschool institutions. Should it be mother tongue or should it be a second language? Research must be done to investigate the advantages and/or disadvantages of teaching preschool children in their mother tongue or a
second language.

• Gender issues in the training and practice of preschool personnel. The role of sex role stereotype in the training of preschool teachers should be investigated.
• Support programmes for parents of preschool age children in which the parents can be made aware of their important role in the development of their children.
• Development and design of a core curriculum for preschool education.
• Multiculturalism in preschool education and how the preschool practitioners can deal with children from different backgrounds and cultural groups.
• The different ways in which children can be assessed in preschool education.
• The ways in which preschool practitioners can identify and cope with children with special needs.

7.8 GUIDELINES FOR DEVELOPING A PROGRAMME FOR PRESCHOOL EDUCATION

In the light of the findings, the conclusions and recommendations that have been made, the researcher would like to propose guidelines for a preschool programme that is targeted mainly at the relatively untrained preschool practitioners in the rural areas. Most of the topics that will be mentioned here have been in preschool education for decades, but will have to be repeated in this new context of the practical development of a programme for relatively uninformed practitioners in rural areas. The untrained teachers themselves cannot, and are not expected to develop a learning programme, but NGOs involved in preschool education are the ones that may (and have been) developing programmes. The guidelines will also serve to inform the Department of Education when they need to develop a learning programme for preschool education in the rural areas (the researcher recommends that it be prescribed because of the presence of uninformed practitioners who are in charge of preschools).
Preschoolers do not question the methods by which they are taught, and they do not wonder who has decided what they should learn at school. They just take what comes their way. When we consider the all-pervasive influence of education in our lives, it becomes important to question how preschools are organised, and how programmes are shaped.

The present researcher is of the opinion that to develop an appropriate preschool programme, and to adapt a learning programme, there are certain guidelines that should be followed. In this section guidelines and philosophical assumptions underlying a preschool learning programme will be put.

7.8.1 Developmentalism

A programme for preschool needs to be developmentally appropriate. It should take the developmental age and level of the child into consideration. According to Ebbeck (1991:34) the concept of developmental appropriateness has two dimensions, that is, age appropriateness and individual appropriateness. Age appropriateness refers to the fact that there are universal, predictable sequences of growth and change that occur in children - especially during the first nine years of life. The changes occur in all domains of development - physical, emotional, social, moral and cognitive. Knowledge of this developmental pattern will provide a framework for developing a programme of learning for preschoolers. On the other hand, individual appropriateness refers to the fact that each child is a unique person with an individual pattern and timing of growth, as well as an individual personality, learning style and family background. The programme should therefore also be responsive to these individual differences. In other words both the individuality and the universality need to be taken into consideration when a preschool programme is developed (Ebbeck 1991:34).
One of the principles of development is that, it proceeds in predictable steps and that learning occurs in recognized sequences - although there is a great deal of individual and social variability in children's rates of development and styles of learning. This means that it is important for adults to use methods that fit the child's growth pattern, not only in the cognitive area, but also in all the other areas of development (Evans 1998:9). This means that the activities at preschool must take the developmental level of the child into consideration, and should provide the children with developmentally appropriate challenges. Trying to push children to do activities that are ahead of their natural way of doing things may cause unnecessary stress, just as trying to make them function below their level may also have a negative effect.

In the same vein, Freidus (1993:6) has this to say about developmentalism: "Rather than fitting the child to the curriculum, students would be better served if the curriculum were fitted to the child's stage of development". In order to be able to do this, practitioners need a considerable knowledge regarding child development - which links closely with what has been said.

The reasons why it is so important to develop and design a developmentally appropriate programme of learning for preschoolers are among others the following:

- If we ignore the developmental level of the child, this may be disadvantageous to the child's development. But if we understand the range of abilities that children have at various ages, we can provide a programme that meets their needs and interests. Within the programme the teacher will have some freedom to accommodate individual children.

- Readiness to learn is also an important issue. Children who are developmentally
ready to learn will benefit much more than those who are not. This means that children must be placed in developmentally appropriate problem situations where they are allowed to have their own ideas, at their own pace, not at a forced faster rate. If the right questions are asked at the right time, then the children can be led to greater heights of thinking.

A preschool learning programme should therefore be fitted to the child’s needs and interests. The child should not be pushed too fast as this will only frustrate him. He/she learns better in an atmosphere where he/she is allowed to be a child.

7.8.2 Holistic approach

Development has several interrelated dimensions. However, the child is a whole, and therefore develops as a whole. He cannot be divided into different compartments that develop completely separately. As he develops physically, he also develops emotionally, socially, morally and cognitively. Each area of development influences the other. However, progress in one area may not necessarily lead to progress in other areas. The child may be growing very well physically because he may be fed and looked after very well, but may lag behind in cognitive development if there is no proper and adequate mediation. Nonetheless, the areas of development affect each other to a greater or lesser extent.

Evans (1998:10) states that there is unity in children’s needs. Therefore preschool programmes should be part of a broad conceptual effort that addresses the needs of children from birth through to the early primary years. Effectiveness requires integrated attention to children, and a maximizing of resources through multidimensional programmes that combine health, nutrition, education and social actions. A preschool
learning programme should cater for all areas of the child’s development. It is not desirable to teach thinking skills in isolation or separated from the other areas of the children’s development. However, although it is not desirable because of the fact that the child is a “whole”, it is nevertheless possible to give high quality mental stimulation while neglecting the physical development. The reverse is also possible. As already mentioned in section 4.6.4, a preschool learning programme should take into consideration all the aspects of children’s development.

The Interim Policy for Early Childhood Development (1997:6) acknowledges that a child’s development and growth is affected by a combination of inter-related factors which constitute the overall environment. It is further stated that, “... in constructing this environment the basic needs of a child must be met by ensuring adequate nutrition, good health, early childhood stimulation and a loving and secure environment”. This points to the fact that early childhood development should be approached within a wider and holistic context which will include multiple learning environments, namely the school, family and the community that influence the development of a child.

A good preschool learning programme should (as has been said) follow a holistic approach at different levels. Firstly, it should cater for the different developmental areas of the child. The different areas should be regarded as a whole. Secondly, the different stakeholders, that is, the teachers/practitioners, the families, the communities, and the government need to be involved in the education of preschool children.

7.8.3 Mediation

In order that a preschool learning programme can be beneficial and stimulate the children’s cognitive development, it should cater for, and support the Amediation” role
to be played by teachers. As has already been mentioned in 3.3.4.2, the quality and quantity of intervention by significant other people in the child's life will have an influence on the overall extent of mental stimulation which the child receives, and consequently also on the enhancement of the cognitive development of the child.

In order for children to benefit greatly from preschool education, the adult or practitioner should intervene purposefully in the children's activities in order to teach a thinking skill or to make them aware of a stimulus that will help to make them think. The presence of various stimuli in the environment, or a preschool class that is rich in various teaching aids and educational toys, or an educational programme on television or radio, will not be of great benefit to the children if there is no adult to mediate for them. Therefore, the teacher/practitioner is the most important educational factor.

The learning programme should pinpoint and suggest areas where the teacher can mediate the children's learning. For example, in play, in story telling, by directing and by explaining, the adult can stand between the child and the stimuli in the environment and facilitate learning.

Feuerstein (1980;1986) maintains that there must be three elements present for mediated learning experiences to occur. As already mentioned in section 3.3.4.2, the elements are the following:

- **Intentionality** - The mediator should consciously intend to structure the environment for the child.
- **Transcendence** - Mediators should link the present experiences to other experiences in the child's life, or to experiences that will come in future. There must therefore be lateral or vertical transfer.
• Meaning - There must be actual factual learning to be communicated to the child.

A preschool learning programme that takes into consideration the mediatory role of the practitioner will help in stimulating the total development of preschoolers, and in particular their cognitive development.

7.8.4 From the known to the unknown principle

A preschool learning programme will be sustainable if it starts from the known or what already exists in the life-world of the child, then moves to the unknown. It is always better to build from something that is there already - therefore first actualising prior knowledge. Children do not live in a vacuum, they are part of families, they are also part of communities. They do not come to preschool as “blank sheets” or as “tabulae rasae”. There are things that they know already. If children are taught ideas and practices that are too strange, they will not benefit much, they may be baffled and frustrated. The reason for this being that they will not have sufficient anchoring ideas or that they are not able to accommodate new knowledge continuously. There needs to be opportunities not only for accommodation, but also for assimilation - which is necessarily built on pre-existing knowledge.

Learning programmes should also be built on the strengths of the communities. These include traditional family units and social structures, traditional practices that support children’s growth and development, the strong desire of parents to provide the best for their children, and the general desire that people have for education and knowledge. Preschool can build on what is already available in the communities. As an example of traditional practices that support children’s growth and development the following can be cited: In most traditional black homes in the Northern Province family members tell
folktales to young children. This is done to entertain children. Preschool learning programmes could build on this. Stories told to children could be used to help them pay attention, focus, solve problems that may emerge in the story, and many other thinking skills.

According to Evans (1998:10) when people in the community feel that their current practices and beliefs are respected and recognised, it empowers them and gives them confidence to involve themselves in the education of their children. This means that the cultural background of the children should be regarded as very important, and this further underlines the fact that there should be a strong parent-teacher partnership in preschool education. This will also help in bridging the communicative and educational gap between the home and the preschool centre.

That is why the mother tongue should possibly be the starting point of teaching at preschool. Even in schools where the medium of instruction is a second language, it would be advantageous also to teach children in their mother tongue. In that way, what they know (mother-tongue) will form a basis for what they do not know (second language).

7.8.5 Play as a vehicle of teaching young children

According to Evans (1998:9) children are active participants in their own development and learning. Learning and related development should also involve the child’s construction of knowledge (discovery learning), not only an adult’s imposition of information (receptive learning). It is important for children to have opportunities to construct their own knowledge through exploration, interaction and imitation of role models. Preschool children are also explorers, discoverers and imaginers. They are
searching and experimenting with a new world every day. The duty of early childhood educators is on the one hand to provide the atmosphere and opportunities for a child to explore the world, and on the other to mediate learning while using play as a basic didactic principle liberally.

This clearly points to the fact that a preschool learning programme must recognize the fact that children learn well through constructing reality for themselves. They are able to construct reality for themselves through play. The children's development in all spheres can be enhanced if they are allowed to manipulate, explore and interact with the environment. As has been said, one of the ways in which this can be established at a preschool level is through the medium of play.

In section 2.4.2.1, various types of play are described. As already mentioned, what is of crucial importance is that there must be appropriate intervention at the right time by adults, and an environment which is conducive to exploration, if the children are to benefit through play.

Section 2.4.2.2 indicated the role of play in children's cognitive development. Amongst others, one of the points mentioned is that play permits children to transform reality and hence to develop symbolic representations of the world and their immediate environment. Being able to, or being afforded opportunities to be able to develop symbolic representations, has a positive effect on cognitive development.

A preschool learning programme should therefore take play as an important didactic principle and vehicle of learning, because indeed children learn as they play, and they also play as they learn. Every day there should be some time for free play in the preschool programme - a time when the child individually selects areas of involvement.
Play should preferably be both outdoors and indoors. Playing outdoors will help to foster gross muscle development, while indoor play activities may be geared to fostering fine muscle development.

Free play should be long enough for children to carry out their ideas. During free play the teachers/practitioners should not withdraw completely. They should be available to guide the children, give assistance, ask thought provoking questions, and help create meaning and purposefulness.

7.8.6 Flexibility

The learning programme should be flexible in order to cater for the social and individual variations in children’s needs. One of the principles of human development is that it follows a reasonably predictable pattern. This may be true, but children do not develop at exactly the same rate. There are variations, some children are fast developers, whereas some are slow. The learning programme must therefore not be too rigid, because it is neither necessary nor appropriate for all children to receive the same kind of early childhood activities.

No time table can be, or should be adhered to too rigidly in an early childhood classroom. The teacher will need to have a general idea of the time in which activities will begin and what the sequence of activities will be. After that it is necessary to observe, feel and determine the needs of the children. For example, free play may be scheduled for thirty minutes, but it may have to be extended for forty five minutes due to the children’s interests. This will lead to another activity being shortened or eliminated. A plan for activities has to be in place, but the amount of time spent on each activity should be determined by the children’s interest, needs and involvement. The children’s needs
should be given priority, rather than the caregivers' needs. This requires motivated teachers who will involve themselves in what the children are doing, and also observe them. The teacher/practitioner should not regard time as a time to rest.

7.8.7 Preschool learning programme and the Outcomes-based mode (OBE mode)

"The overall goal of Early Childhood Development is to provide children with opportunities to develop to their full potential as active, responsible and fulfilled citizens who can play a constructive role in a democratic, non-racist and equitable society. The development of the child in totality should lead to a balanced personality so that he/she may be equipped with the necessary life skills" (The White Paper on Education and Training 1995:33).

The present South African government regards preschool children as part of the foundation phase. The foundation phase covers the period from birth to nine years. As far as formal schooling is concerned, it covers Grade R (Reception class) to Grade three. Grade R or the reception class is the last year of the preschool stage, when children are being prepared for school.

During the empirical investigation, the school readiness group was found to be the five year old group - section 6.2.1.3. The researcher recommends that the school readiness group should follow a learning programme that has adapted the the OBE mode. The reason is that when these children go to school the following year, they will receive that same kind of education. In this way, continuity will be ensured.

In the OBE mode, the following are phase organisers for the foundation phase (Policy
Document for the Foundation Phase 1997).

- **Personal development** - Children need to know about themselves.
- **Health and safety** - Children need to know how to take care of themselves.
- **Environment** - Children need to know and care for the world they live in.
- **Society** - Children need to know and understand others.
- **Entrepreneurship** - Children need to know about the world of business.
- **Communication** - Children should know how to communicate with other people and their environment.

The researcher is of the opinion that the six phase organisers as stated in the Foundation Phase Policy Document should be taken as points of departure for organising content for preschool education. The activities that comprise the learning programme should be derived from these phase organisers. Thinking skills training must then be infused in the learning activities.

Although in a preschool class it is undesirable to follow rigid subjects, the following three learning areas are given as guidelines for developing learning content for children. The three learning areas are proposed in the Policy Document for the Foundation Phase (1997). The following three learning areas, together with the suggested learning content, can be used by preschool practitioners:

- **Literacy** - Focus in a preschool class should be on pre-literacy experiences. These would include listening to stories, being able to tell stories back, concentrating for longer and longer periods, and following the thread of the story. The children must also be acquainted with books and be made aware that they can get a story from the written word. The learning programme should provide a variety of activities that develop listening skills and receptive language, and that promote conversation...
skills.

- **Numeracy** - Children should begin to have a grasp of numbers. Being made to solve small appropriate problems with regard to numbers will help them to think numerically. The important thing here is the skills that can be derived from working with numbers - that is, counting, understanding concepts of more/less, larger/smaller and first/last, money, weight, height, and others.

- **Life-skills** - The focus should be on the following:
  * the development of coping skills that will help children to face future life situations with confidence.
  * the creation of an atmosphere of trust and acceptance so that sharing and frankness are encouraged.
  * development of the ability to interact with others.
  * development of the total well-being of the child.

Life skills that can be taught or mediated to preschool children are among others, the following:

* Cooperation and sharing - Children's awareness must be increased in terms of the importance of cooperation and inter-dependence. Children could also be given opportunities to practice sharing ideas and objects, for example, toys.
* Understanding feelings - Children should be taught to identify their feelings, and to recognise behaviour that reflects worry. They should also be made aware of emotions and be able to express them in a soundly appropriate way.
* Problem-solving - Children should be encouraged to make practical decisions about problems that affect them. They should be given opportunities, while they are playing or listening to a story, of solving problems that may arise.
* Social skills - Children should also be made aware of the skills that are necessary in order to live with other people harmoniously. For example, they could be taught amongst
others, good eating habits.

This list of life skills is by no means exhaustive, many more life skills that are developmentally appropriate, can be mediated to preschool children.

The suggested learning areas (or subject areas) are not to be regarded rigidly. However, for relatively uninformed practitioners, the learning programme should be worked out, and then within this programme the practitioner can accommodate individual children.

In order that preschool practitioners can teach children thinking skills, and also prepare them for school, it is once again suggested that the learning programme should take the phase organizers and learning areas as proposed in the OBE mode, as points of departure. This will have adequately prepared children for school as it is the approach that is adopted by schools in South Africa.

7.8.8 **Assessment**

The individual teacher/practitioner in each preschool institution should be responsible for the assessment of their pupils. The purposes of assessment in a preschool class are the following:

a. Assessment helps practitioners to plan work suitable for children because they will have an indication of what the children know.

b. Assessment also helps the practitioners when they have to hold parent meetings. They can give the parents structured information on the children's progress.

c. Assessment will also help the teachers to evaluate themselves. From the children's progress or lack of it, the teachers can get an idea about whether they are reaching the children or not. If the children are not coping well, the teacher may have to
review his/her methods of teaching.

Different tools or media that can be used by practitioners to assess children are suggested. Amongst others the following media may be used:

- **Direct observation** - The practitioner should observe children and write down observation notes systematically and regularly. In that way the practitioner will be able to know the developmental level of the children and how they are progressing in the acquisition of various skills.

- **Case studies of children** - There should also be weekly completion of children's case studies, wherein anecdotes of the child are written for that particular week, for example, achievements, regressions and concerns.

- **Group assessment** - Children should also be assessed as a group because there are some activities that are done in groups. In this way the ability of a child to work in a group is assessed, and at the same time the ability of the group to execute whatever activities they are expected to do is also assessed.

- **Portfolios of children's work** - Portfolios should be created for each child's work, wherein the child's work concerning art, numbers, counting, recognising colours and the other activities and skills can be filed. The information would then be readily available when needed.

Assessment is a necessary part of every programme. Assessment in preschool education should take place in a caring and non-judgmental environment. It should serve to gauge the developmental levels of the children, to acknowledge their achievements and competencies and to identify children who may need extra or special support.

The above discussion served to offer guidelines that can be used in developing a
preschool learning programme. These preschool learning programmes can be used by unqualified and underqualified preschool practitioners in rural impoverished and disadvantaged areas. These guidelines can also be used by relatively qualified preschool teachers who wish to adapt a learning programme from another source, for their preschools. The researcher further proposes that the guidelines be used to develop a learning programme that is prescriptive because the underqualified and unqualified teachers may not be in a position to develop their own learning programmes, and as a result, in the absence of such guidelines and consequently an appropriate learning programme, it will be the children who will miss out on the formative stimulation that they should receive during their preschool years.

7.9 FINAL WORD

This study highlighted the attitudes and perceptions of parents and preschool teachers/practitioners concerning the teaching of thinking skills in the preschool years to enhance cognitive development. It has contributed in preschool education by generating information with regard to developing guidelines for a preschool learning programme, that will help in teaching thinking skills and in stimulating cognitive development of preschool children. The literature study gave information on the fact that the child develops as a whole, and therefore a learning programme for preschool education must approach the education of these children holistically. The teaching of thinking skills, and consequently cognitive development can therefore not be isolated from the other areas of development. The empirical research indicated the attitudes of preschool practitioners and of parents. It also gave information concerning the practical situation in Region 3 of the Northern Province, a predominantly rural and disadvantaged area. This study has hopefully generated useful information in this regard, and opened up further discourse on the subject.
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APPENDIX A

PRESCHOOL TEACHERS'/PRACTITIONERS' INTERVIEW SCHEDULE

1. What is your professional qualifications?
2. Where did you obtain this qualification?
3. Do you think that it is important to be professionally qualified in order to be a preschool practitioner?
4. What is your opinion regarding unqualified preschool practitioners?
5. Is your preschool government-aided or privately funded?
6. Which age-group do you take in your preschool?
7. Do you regard your work as looking after children or teaching them? Give reasons for your answer.
8. Where do you get the teaching and learning materials that you use in your preschools?
9. Do you think that preschool education is important? Give reasons for your answer.
10. Do you think that men can be good preschool teachers? Give reasons for your answer.
11. Give your opinion about children's play in a preschool institution. What role does it play in intellectual development of the child in particular and in the development of the whole child in general?
12. What is the origin of intelligence?
13. What role does language play in the cognitive development of the child?
14. What role does emotional development play in the cognitive development of the child?
15. Do you give children food in your preschool? Give reasons for your answer.
16. Do you think that food is important in cognitive development of the child?
17. What is your opinion regarding the medium of instruction in a preschool institution? Should children be taught in mother tongue or English? Give reasons for your answer.
18. Do you think that thinking skills should be taught in preschools?
19. Why do you tell children stories in a preschool class?
20. When children are playing do you intervene in their play? Give reasons for your answer.
APPENDIX B

PARENTS' INTERVIEW SCHEDULE

1. Where does the child's intelligence come from?
2. Can the mental capacity of your child be raised by the way you care for him/her?
3. Can something be done to make children brighter?
4. Are there notable differences in the thinking skills of your children who did not attend preschool and the one who is attending? Motivate your answer.
5. Do you think that the food that your child eats plays a role in cognitive development?
6. Do you talk to your child? Why?
7. Did you talk to him even during the time when he could not understand? Give reasons for your answer.
8. Do you make your child look at television programmes, and listen to radio programmes especially designed for children? Give reasons for your answer.
9. Do you also sit and watch or listen with him? Give a reason for your answer.
10. Do you intervene in your child's play?
11. If your child was a different sex from what he/she is, would you treat him/her the same way as you are doing now?
12. What about toys, would you buy the same kind?
13. Do you think that men can be good preschool teachers? Give reasons for your answer.
14. Does your child ask you a lot of questions, and do you answer them?
15. What, in your opinion is the role of playmates (friends) in your child's development?
16. Do you think that children should be taught in mother tongue or English in preschool institutions? Give reasons for your answer.
17. If you were a housewife, would you still take your child to a preschool institution? (Let's just presume that you had no financial constraints)
18. Do you think that mothers have a role to play in making children develop intellectually? Give reasons for your answer.
1. Where does the child’s intelligence come from?
From the mother and the father, and also from the preschool because some children are more intelligent than their parents.

2. Can the mental capacity of your child be raised by the way you care for him/her? Yes. Parents should love and care for their children, this will lead to the child being bright.

3. Can something be done to make children brighter?
Yes. If you buy toys for your child this will make him bright. You should also talk to your child.

4. Are there notable differences in the thinking skills of your children who did not attend preschool and the one who is attending? Motivate your answer.
There are notable differences. The one who goes to preschool is clever and learns fast. He is also not shy.

5. Do you think that the food your child eats plays a role in cognitive development? The child who eats nutritious
16. Do you think that children should be taught in mother tongue or English in preschool institutions? Give reasons for your answer.

Children should be taught in English. At home we speak to them in mother tongue so the preschool should teach in English. This will also give a good background for school.

17. If you were a housewife, would you take your child to a preschool institution? (Lets just presume that you had no financial constraints).

Yes, I would. Children who attend preschool have no problem when they go to school.

18. Do you think that mothers have a role to play in making children develop intellectually? Give reasons for your answer.

To a certain extent, love, protection, sympathy, guidance given by the mother will develop the child's intellect.