

CHAPTER 3

Middle Childhood as Developmental Phase

Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning. ~Albert Einstein

3.1 INTRODUCTION

Middle childhood development signifies the phase between early childhood and adolescence. The focus of this study is on the development of emotional awareness within the child in this phase. It is therefore imperative to identify, explore and understand the vital elements that this developmental phase entails. In order to understand emotional awareness within middle childhood, this chapter will solely focus on the middle childhood phase before emotional awareness can be brought into the picture. Although emotional awareness is the essence of the study, in this chapter emotional development is addressed in general as it is present during middle childhood. A detailed investigation on emotional awareness is thoroughly discussed in chapter 4.

A child's transition from total physical and psychological dependency to self-sufficiency and independence occurs gradually. Development and maturing during childhood can be understood as periods of transition and reorganization – and is described by Thomson, Rudolph and Henderson (2004:11) as “a lifelong process of growing, maturing and change”.

Many different theories on the development of children are available and mainly describe the development and change in different stages of development. Finnan (2008:12) points out that for each of the stages theorists assigned a name and set an age range that should fall within each particular stage. Within several of these theoretical constructs the stage in which upper elementary school children resort is considered transitional, thus the intermediary between two other phases. This intermediary or “middle” childhood phase includes children of six to twelve years of age (Harold & Hay, 2003:7).

Cooper (2005:5) states that Freud called middle childhood the latency period. It was thought that in these years of innocence and tranquillity, children simply refined the skills they acquired in early childhood. Finnan (2008:12) states that the term latency brings to mind “dormancy or a rest from one extreme stage and preparation for future trials”. Cooper (2005:5) postulates that consequently, policies and programs focusses on providing support resources and opportunities from infancy to pre-school years and again in the risky years of adolescence. However in the middle-childhood years, children are left without structural provisions to accommodate their changing needs.

Finnan (2008:12) and Cooper (2005:5) corroborate that middle childhood is the phase where children’s worlds expand as they begin to experience the environment outside the home as it generally marks the child’s first significant entrance into institutions beyond the family. They begin school, learn to participate in their wider community and children and families increasingly navigate across multiple contexts such as home, work, school, peers, sports and religious activities. Cooper (2005:12) postulates that by giving attention to children in middle childhood we may take action to help children stay on track and also boost those who may otherwise never get back on track.

From the opinions voiced in the above it is evident that the middle childhood phase has an important part to play in the healthy development of children on their path to adulthood. This research study also focuses on middle childhood and it is of significance to take note of the theoretical viewpoints on child development with specific emphasis on development in the middle childhood phase, developmental areas, and developmental tasks which should be mastered during middle childhood.

3.2 THEORETICAL PERSPECTIVES REGARDING CHILD DEVELOPMENT

In order to fit the middle childhood phase in its proper place regarding the child’s development, we need to take note of the different theoretical viewpoints concerning childhood development per se.

Many theories of child development exist and many different perspectives and opinions are therefore offered. Taking note of the theoretical perspectives regarding different areas of child development is necessary to comprehend where middle childhood development and, later on, emotions and emotional awareness has its place.

Geldard and Geldard (2002:31) summarize the work of different theorists regarding child development as follows in Table 3.1:

Table 3.1: Summary of different theories of child development

Name	Summary of viewpoints of the theory
The work of the early pioneers (1880-1940)	
Sigmund Freud	Psychoanalytic psychotherapy and concepts of unconscious processes, defence mechanisms, id, ego, superego, resistance, free association, transference, psychosexual development.
Anna Freud	Sought an affectionate attachment with the child. Interpreted child's non-directed free play after an affectionate attachment with the child had been established.
Melanie Klein	Started to interpret the child's behaviour early in the therapeutic relationship. Interpreted child's non-directive free play.
Carl Jung	Introduced ideas about the symbolic representation of a collective unconscious.
Margaret Lowenfeld	Used symbols in a sand tray as a substitute for verbal communication.
Alfred Adler	Introduced the need to take account of social context.
Theories of child development (1920-1975)	
Abraham Maslow	Introduced the idea of a hierarchy of needs
Erik Erikson	Postulated eight stages of development. Believed that ego-strength was gained through successful resolution of developmental crises. Ability to solve own problems.
Jean Piaget	Conceptualize that children obtain particular skills and behaviours at

	particular developmental stages and recognized stages of cognitive development.
Lawrence Kohlberg	Looked at the relationship between Piaget’s concepts and the acquisition of moral concepts.
John Bowlby	Introduced theory of attachment whereby a child’s emotional and behavioural development was seen to be related to the way in which a child was able to attach to its mother.

Source: Geldard and Geldard (2002)

From Table 3.1 it is clear how theories on the development of children evolved through the years and signifies the valuable contribution each of these viewpoints made to the current field of knowledge on child development.

This is confirmed by Aldridge and Goldman (2007:96-99) in their reference to the numerous theories of development that have influenced educational practices during the 20th century and that postmodern conceptions have changed the way we think of children and how to educate them. Borland, Laybourn, Hill and Brown (1998:129) observed that the first stage’s theories concentrated on relationships and the later theories focused more on the intellectual development of children.

Three classical stage theorists, namely Freud, Erikson and Piaget, made a significant contribution to the fundamental perception of the development of children and are hence summarized as follows:

Freud

Aldridge and Goldman (2007:97) postulate that:

“ Freud's (1935) psychoanalytic theory served as the theoretical basis for analysis of behaviour disorders during the 1920s through the 1940s. Freud viewed behaviour problems displayed by children as symbolic manifestations of unresolved conflict which he said often emanated from early caregiver-child interactions”.

According to Gestwicki and Bertrand (2012:188) Freud believed that basic personality is formed in the first few years in life and he developed five stages of development from infancy to adolescence.

Erikson

Cherry (sa), a child psychologist with at Bachelor of Science in Psychology from Idaho State University and a Master of Science in Education from the Boise State University, highlights that Freud's famous work influenced a number of other psychoanalysts, including theorist Erik Erikson. While Erikson's theory shared some similarities with Freud's, it is dramatically different in many ways. Erikson believed that social interaction and experience played a decisive role in children's development.

Gestwicki and Bertrand (2012:188) state that Erikson was one of the first to suggest that children develop in the context of their societies, expectations and prohibitions. His eight-stage theory of human development describes this process from infancy through death. During each stage, people are faced with a developmental conflict that impacts later functioning and further growth. Cherry (sa) points to Erikson's indication that success or failure in dealing with the conflicts at each stage can impact overall functioning.

Piaget

According to Gestwicki and Bertrand (2012:188), Piaget's theories dominated developmental child psychology research and educational practices since the 1960s. Cherry (sa) states that "theorist Jean Piaget suggested that children think differently than adults and proposed a stage theory of cognitive development. He was the first to note that children play an active role in gaining knowledge of the world". Gestwicki and Bertrand (2012:188) indicate further that Piaget's theory suggests that children actively construct their own knowledge as they manipulate and explore their own world. He believed that children adapt their thinking to include their new ideas and that this additional information furthers their understanding.

The above discussion of a theoretical foundation for child development gives us a broad perspective of the academic thought regarding this issue. From this broad perspective the focus of the next section will be specifically on the middle childhood phase as this study concentrates on children in their middle childhood developmental phase.

3.3 MIDDLE CHILDHOOD AS DEVELOPMENTAL PHASE

In the previous discussion it was indicated how the middle childhood phase was observed as a stagnant phase characterized by latency after the eventful development of the early childhood years and in waiting for adolescence. The argument that was raised in the first section of this chapter in this regard is supported by Click and Parker (2012:83-84) in their statement that “latency phase” indicates a period of latent or quiet feelings. Cooper (2005:12) disagrees with this statement and focuses on the aspects which point out that the middle childhood developmental phase indeed does have an important role and does matter in studying child development. She describes middle childhood to be “the time when children meet different overlapping contexts which they need to negotiate as they move into adolescence and adulthood”.

Parrish (2010:41) indicates that aspects of academic accomplishment and skill building are often the focus of children’s attention and efforts during the middle childhood phase. School occupies the majority of most children’s weekday and provides a crucial backdrop to academic and social achievements in middle childhood. Thomson et al. (2004:11) agree that children in middle childhood most definitely experience almost daily changes on physical, cognitive, social and emotional levels and that indicators of their success are their secure attachments, satisfying relationships and effective coping skills.

Thomson et al. (2004:12) conclude that children may display certain symptoms at one stage of development and completely different symptomatic behaviour in another. It is thus important to clarify in this chapter what the middle childhood developmental phase entails and why it is a significant stage, especially with regard to a child’s emotional development.

Though some common themes and concerns apply generally in middle childhood namely children between 6-12 years of age, it is important to note that the life of eight-year-old children are clearly quite different from that of children approaching their teens. Borland et al. (1998:25-26) indicate that developmental psychology points to the growing capacity of children as they get older, to expand, reflect, decentre and generalise. Their studies, although from 1998, supply a detailed and comprehensive exposition of developmental differences between different age groups within the middle childhood developmental phase. Borland, Laybourn, Hill and Brown's study is quoted by many recent authors (Churchill, 2011:226; Scourfield, 2006:156; Finnan, 2008:12) and thus appears to be judged as still relevant in current writing on this matter.

- **Five to six years old:** Children in this age bracket are mostly concerned with their own, immediate and concrete needs and advantages. Feelings of happiness in this age group were derived from sweets, toys or trips to McDonalds', while unhappiness was caused by having these kinds of things denied.
- **Seven years old:** Children in this age group show signs of a shift to relationships and achievement, and were aware of a widening social network. Happiness was now connected to family holidays, activities of various kinds and having friends over to play. Negative emotions become more complex and relationship based. Punishment and reprimands by parents are resented and cause anger. This is also a peak period for fears, e.g. nightmares and ghosts.
- **Nine years old:** The importance of relationships becomes a growing consciousness. Having friends are a constituent of happiness, losing them the most common source of misery. Adults are losing their aura of omnipotence and are discovered to have feet of clay, so that unfair treatment by parents and educators was now a major source of anger. Achievements in clubs and sports are vital and fears become more reality-based like bullies, being home alone or parental arguments.
- **Eleven to twelve years old:** Children in this age group carry the concerns of nine year old children at a more sophisticated level. Friends are still central and now in many circumstance the major confidants. Individual and family issues are still important but group identity and achievements were increasingly important. They become much more critical of adults and discriminate between them: some educators could be trusted to deal

with a situation and other are regarded as unimpressive. A sense of injustice develops, extended to the wider world, e.g. world hunger, wars, racism, poverty and cruelty to animals.

Collins, Madson and Susman-Stillman in Huston and Ripke (2006:23) state:

Between age 5 to adolescence transition occur in physical maturity, cognitive abilities and learning the diversity and impact of relationships with others and exposure to new settings, opportunities and demands. These changes inevitably alter the amount, kind, content and significance of children's interactions with a rapidly expanding social network.

Harold and Hay (2003:9) summarize in conclusion that in middle childhood, children reach new levels of cognitive, emotional and social functioning that allow them to interpret and engage with their social worlds as a preparatory step for the challenges that the next years will inevitably bring.

Emphases on the different developmental areas that expand in middle childhood are of further importance in context of this study. A thorough perception of this developmental phase and its important role regarding emotional awareness is required to comprehend the direction of further discussions regarding aim and process in the study.

3.4 AREAS OF DEVELOPMENT DURING MIDDLE CHILDHOOD

Middle childhood carries the burden of responsibility for many changes due to development on various levels in the life of the child in this developmental phase. Bowden and Greenberg (2010:198) postulate that:

Middle childhood is a stage of tremendous changes in the child's life. They substantiates this by pointing to middle childhood as the stage where children enter into full time schooling, experience increased exposure to peers, have constant exposure to new skills and knowledge, find many changes in schedules and routines

and are ultimately expected to show progress and performance in different developmental areas.

Charlesworth, Wood and Viggiani (2011:181) echo these opinions and explore advancing in middle childhood within several different dimensions of a child's development. They also point out that although developmental areas are considered separately for analytical purposes, the changes in the developing child reflect a dynamic interaction, constantly occurring across these dimensions. These authors further identify a significant increase in the following areas:

- vocabulary;
- imagination;
- creativity and self-care skills;
- motor skill development;
- ability to cooperate;
- ability to play fairly;
- ability to follow social rules; and
- moral thinking and humour.

Children's development during middle childhood in physical, cognitive, emotional and social dimensions is of particular interest. These developmental areas will thus need further elucidation in order to obtain insight into the issues of concern regarding middle childhood as the developmental phase focused on for the purpose of this study.

3.4.1 Physical Development

Click and Parker (2012:52) indicate that physical development in the middle childhood developmental phase is slower than it was in the early childhood developmental phase and they will not experience another growth spurt until adolescence. Physical development in middle childhood results in differences becoming present in the size and physical abilities of different children, and Nuttall (2002) points out that this affects the way they get along with others and how

they feel about themselves. Finer development in muscle skills occurs during the later stages of middle childhood and they are physically active and reluctant to rest even when they are tired.

Huitt (2007) (Ph.D. Educational Psychology - University of Florida) lists the following as further developmental attributes of middle childhood:

- The brain reaches its adult size and weight during the middle childhood years.
- Respiratory system functions more economically as elasticity of lungs expand, resulting in breathing becoming deeper and slower.
- Temporary teeth are replaced by permanent teeth and large muscles in arms and legs become more developed than small muscles.
- They can bounce a ball.
- They can run but in the initial years of this phase, they have difficulty doing it at the same time.

Charlesworth et al. (2011:182) point out the development of gross motor skills that is evident during this phase. They further highlight that children in the middle childhood phase are normally encouraged to gain a high level of mastery over physical skills associated with particular interests such as dance, sports or music.

3.4.2 Cognitive Development

Baumeister and Bushman (2011:37) state that cognitive development during the period of middle childhood is marked by significant development and refinement with one of the most striking changes being the change in their memory. Their ability to remember and pay attention increases and the ability to speak and express ideas grows rapidly.

According to Huitt (2007) they develop in three different memory dimensions, namely:

- *Semantic memory*: Knowledge of concepts, rules, facts and the meaning of words.
- *Episodic/autobiographic memory*: Memory on personal experience.
- *Work memory*: The aspect of memory involved with temporary maintenance and

manipulation of information needed to carry out complex cognitive tasks.

Memory is also related to school and Nuttall (2002) points to the fact that children start school in middle childhood, which consequently has a significant effect on their cognitive development. Baumeister and Bushman (2011:37) add children's ability to remember as a determining factor in their increased knowledgebase and subsequent cognitive development. They learn to plan ahead and evaluate what they do because of their increased ability to think and reason, and they enjoy different types of activities such as clubs, games with rules and collecting things. They are still very self-centred although there is a tendency of beginning to think of others (Nuttall, 2002).

Smith (2008) discusses cognitive development in middle childhood, in accordance to Jean Piaget's cognitive developmental theory, which is based on stages where each builds upon the last. In accordance with this theory, middle childhood falls into the concrete operational stage. This stage is characterized by the active and appropriate use of logic. Children's logical abilities are limited to the real world or to concrete examples, for they are not quite yet ready for anfractuous abstract thinking. O'Donnell, Reeve and Smith (2012:76), Salkind (2004:257) and Click and Parker (2010:65) discuss four main aspects of operational thinking during middle childhood which is summarized as follows:

Logic: where children learn not to be fooled by appearances.

Decentration: the ability to coordinate more than one aspect of a situation at the same time.

Reversibility: the understanding that numbers or objects can be changed, and then returned to their original state.

Causality: an understanding of cause and effect paired with the ability to see how a child's actions and those of others relate to consequence.

During the middle childhood phase things tend to be black or white, right or wrong, great or disgusting, fun or boring according to Nuttall (1995) who is a Professor Emeritus at the University of Connecticut. He further states the opinion that to children in their middle childhood developmental phase, there are very few middle grounds in their experiences in this regard.

3.4.3 Emotional Development

The focus of this study is the emotional development of children and is thus the most important aspect of development in middle childhood regarding this study. For that purpose a thorough investigation of emotional development is required; the next chapter will therefore solely focus on this aspect. A detailed discussion on the matter is therefore not covered in this chapter and only a broad overview of emotional development is included in this chapter's discussion on emotional development.

Emotional development within middle childhood is identified by Macintyre (2001:33) as a difficult area to understand. He motivates this statement with the example of confidence, which only becomes apparent when carrying out another task. Judging emotional behaviour is thus not as concrete as, for example, the judgement of progress in mathematics.

Shaffer and Kipp (2010:432) state that in middle childhood the causes for children's anxieties or fears shift from threats (real or imagined) which they cannot explain to important real-life issues such as meeting academic challenges or establishing good relationships. Nuttal (1995) agrees and adds that due to their higher emotional flexibility and differentiation in middle childhood, children are enabled to experience more feelings; they therefore need help in expressing their feelings in appropriate ways when they are for instance upset, worried, anxious or scared.

In this regard Borland et al. (1998:32) conducted a study by requesting a group of primary school children to identify what emotion might be inferred from a cardboard face they were shown and the following list of emotions was produced: cross, angry, grumpy, moody, frustrated, upset, sad, annoyed and unhappy. The variety of responses given in relation to the same face illustrates that there are quite a lot of differences in interpretation of more ambiguous expressions. Externally directed feelings like anger may be confused with internalised emotions like sadness and uncertainty. If transferred to real life situations, this could lead to definite misunderstandings.

According to Carr (2011:58), middle childhood indicates increased use of emotional expression to regulate closeness and distance within peer relationships. Within this context, children in middle childhood make distinction between clear emotional expressions with close friends and managed

emotional displays with others. Gender role typifying also affects the quality of this kind of emotional expression according to Borland et al. (1998:32), when boys are taught for example that they should not cry and girls should not show aggression.

Carr (2011:58) states that children in their middle childhood developmental phase prefer to autonomously regulate their emotional states and prefer to depend on their own resources in dealing with peers, rather than looking to parents or caregivers to help them manage their feelings and relationships.

The greater emphasis on social aspects like friendships and teamwork are significant developments in middle childhood and this phase sets the scene for children's desire to be liked and accepted by friends. Emotional development thus closely parallels the social development of children in their middle childhood developmental phase.

3.4.4 Social Development

Kostelnik, Gregory and Soderman (2012:2) state that people are social beings; from birth a lifetime is spent actively engaged in others. They also indicate that companionship, stimulation and a sense of belonging is gained through social interaction. Smith and Hart (2011:321) found a shift to mutual co-regulation in middle childhood as these children "take more responsibility for initiating contact, monitoring and maintaining the availability and accessibility of attachment figures". During middle childhood, peer friendships take on a more prominent role than ever before. During these years, children begin to develop a sense of who they are, what they can do, and how they fit in. Friends become very important and they develop ideas about right and wrong, and personal responsibility.

A scientific view into the social development of children is found in the developmental theory of Erik Erikson. His theory on social and emotional development was derived from his belief that the most important force impelling human behaviour and the development of personality was social interaction (Huitt, 2007). Huitt (2007) augments on this theory regarding middle childhood and explains Erikson's view in this regard, to be that children at this age "are becoming more aware of

themselves as individuals”. They work hard at “being responsible, being good, and doing it right”. They are now more reasonable and able to share and cooperate, they are eager to learn and accomplish skills that are more complex: reading, writing and telling time. They also get to form moral values and start to express their independence by being disobedient, using back talk and being rebellious (Huitt, 2007).

Charlesworth et al. (2011:192) point out that gains in cognitive abilities promote more complex communication skills and greater social awareness, which facilitates more complex peer interaction – a vital resource for the development of social competence. Newman and Newman (2009:279) point to the fact that not all children enter middle childhood with the same capacity to make friends and enjoy the benefits of close peer relationships.

This is most probably why Erikson viewed these years as critical for the development of self-confidence. In this regard Martin and Fabes (2009:404) point to Erikson’s indication that:

“Individuals derive pleasure from *industry* or being productive and successful in contrast to *inferiority* or a sense of failure that causes individuals to avoid opportunities to succeed or make them so nervous that their anxieties interfere with their abilities.”

Peer relations and friendships become vital during middle childhood, attributable to children spending a significant amount of time with their peers. They evaluate their performances and measure themselves to the aptitudes of peers. It is consequently essential for them to find (and keep) a position within their social group, necessitating increased attention to social rules and improved ability to reflect on the point of view of others. Social status becomes significant and children start to compete for it (Balter & Tamis-LeMonda, 2003:238).

Nuttal (1995) emphasizes that children in this phase want to do things by and for themselves, yet they need adults who will help when asked or when needed. They need guidance, rules, limits and help in solving problems and they start to see things from another child’s point of view. They need more love, attention and approval than criticism, for their self-concept develops rapidly in these years and it is hence an important period, for specific experiences entail significant results for the development of self-concepts.

Charlesworth et al. (2011:192) point out that gains in cognitive abilities promote more complex communication skills and greater social awareness, which facilitates more complex peer interaction – a vital resource for the development of social competence. Kostelnik, Gregory and Soderman (2012:2) indicate that typical categories of behaviour associated with social competence include:

- Social values
- Personal identity
- Emotional intelligence
- Interpersonal skills
- Self-regulation
- Planning, organizing and decision making
- Cultural competence

Furthermore, children in middle childhood start to define themselves in psychological terms which Harter (2012:681) indicate to be correctness in self-valuation. This ability is affected by their developmental level. The cognitive advances in middle childhood promote more realistic appraisals and the ability to engage in social comparison to construct discrepancies between real and ideal self-image. It may lead to more negative self-appraisals as reality testing skills emerge and they start to recognize both positive and negative, they realize how they *are* (true self) and how they *would like to be* (ideal self).

Kachmar and Blair (2007:125) explain that children's self-concept during the middle childhood phase continue to be refined and moves beyond observable characteristics and beliefs to include psychological traits. Some of the salient gains in self-understanding noted by them are:

- Children begin to make social comparisons, interpreting their own abilities and behaviour in relation to those around them.
- The typical high self-esteem of the early childhood years drop to a more realistic level as older children begin to incorporate feedback about their own skills and competencies in comparison to the skills and abilities of others.

- Self-esteem also differentiates in middle childhood, yielding at least four separate categories, including academic competence, social competence, physical and athletic competence and physical appearance.

Development of the child in middle childhood is an ongoing process and in many ways involuntary in kind but aside from natural development seen during these years there are also developmental tasks which are mostly dependant on the child's circumstances, upbringing and environment. These developmental tasks are to a large extent responsible for the child's success in future, as experienced by the researcher in work with children in this age group and therefore an important matter in the discussion of childhood development.

3.5 DEVELOPMENTAL TASKS IN MIDDLE CHILDHOOD

Sreevani (2007:33) indicates that it is typical for children in the middle childhood phase to looking beyond the family and interact with their social system; they also need to acquire social skills, incorporate social values and patterns and interact with peers. Louw, van Ede and Ferns (1998:326) elaborate by mentioning that children's development in this phase, especially their expansion of experience, prepares them for the challenges of the adolescent years that follow. Balanced development during middle childhood thus serves as the foundation for later development. Newman and Newman (2009:279) state that new developmental tasks emerge as children become focused on friendship formation, concrete mental operations, skill learning, self-evaluation and team play. The developmental tasks relevant in this study, which need to be mastered during middle childhood, are: self-image, relationships, cognitive and language development, emotional development, gender role identification and moral judgment and behaviour.

3.5.1 Self-image

Zembar and Blume (2009:234) point out that many related terms are used by developmental, clinical and personality psychologists to describe individuals' understanding and evaluation of

themselves. Self-image, self-concept, self-worth and self-esteem are used interchangeably by authors to describe the phenomenon of a person's estimation of what he/she is presenting to others. The researcher hence views the acquisition of a positive self-image in this regard as the developmental task of middle childhood and the other factors as means or indicators of the self-image that a child has obtained, whether positive or negative.

According to Harter (2006:375-377), children experience some degree of discrepancy between what they like to be (or think they ought to be) and what they think they are. When that discrepancy is high, the child's self-esteem will be low, and vice versa. She further indicates that self-esteem of children manifests in their behaviour.

Dombeck and Oswalt (2010) agree and elucidate that children's picture of who they are and what they are capable of become more complex in middle childhood. They start to compare themselves to others, across a wide variety of traits and characteristics such as appearance, intelligence, physical abilities or artistic abilities. Children consequently start to view themselves as more or less capable within different domains of accomplishment (academic, social, athletics, appearance, etc.). Their self-esteem reflects their feelings of personal worthiness with the result that children may see themselves as very capable in some areas but not in others. A boy might for example determine that he is a promising artist but a much worse athlete than his friend is.

Geldard and Geldard (2002:115) observe that a negative self-concept develops "when children interpret their participation in past and subsequent experiences as sneaky, incompetent, inept, disloyal, secretive, naughty, nasty or stupid".

Children's overall self-esteem may fluctuate or decrease as they start this process of social comparison in earnest. However, with proper caregiver support and guidance, children's self-esteem will generally rise again during this period as children find and focus on their strengths, address their weaknesses, and recognize that their general acceptability to those they depend upon does not depend on their becoming perfect people. Of course, this process of self-esteem regulation does not happen for everyone and some children will go on to develop quite negative self-images at this time (Dombeck & Oswalt, 2010).

This discussion indicated that self-image and the development thereof stand related to the relationships in the child's life and their comparison of their own abilities to the abilities of their friends. Acquiring and managing positive relationships is thus a further developmental task of middle childhood.

3.5.2 Relationships

A positive experience of the self (self-image, self-worth, self-esteem, self-concept) develops from children's belief that they belong, have worth and are successful. Relationships with parents, siblings, and peers become of greater importance and social participation expands during middle childhood.

Smith and Hart (2011:328) indicate that "by middle childhood peers has greater salience in children's lives, with them developing and maintaining friendship, functioning in stable groups of peers and spending a considerable amount of time with peers". How their peers treat them places them into a certain category of social status. Newman and Newman (2009:279) view peer relationships as "the forming of meaningful dyadic and group relationships, participating in larger peer networks and experiencing peer acceptance or rejection". Charlesworth et al. (2011:192) point to the acquisition of positive group identity or identities as a developmental task widely associated with middle childhood.

This requires an increased attention to social rules and an increased ability to consider other people's point of view. Social status also becomes important and children compete for this. Fisher and Lerner (2005:817) agree in their statement that peer relationships become increasingly more significant during middle childhood as reliance on parents for social needs is replaced with a need for companionship, intimacy and enhancement of worth from peers and friends. Huston and Ripke (2006:11) elaborate in this regard that deviant peers can lead children astray and prosocial peers can support positive direction which further highlights the fact that friendship and social skills are crucial influences on children's well-being and future relationships.

Gottman, Katz and Hooven (1997:101) argue further by stating the following:

We can see that the basic elements and skills a child learns through emotion coaching (labelling, expressing one's feelings, and talking about one's feelings) become liabilities in the peer social world in middle childhood, if they were to be simply transferred by the child from the home to the school. Thus, it is clear that the basic model linking emotion coaching in preschool to peer relations in middle childhood cannot be a simple isomorphic transfer of social skills model. Instead, it becomes necessary to identify a mechanism operative in the preschool period that makes it possible for the child to learn something in the preschool period that underlies the development of appropriate social skills across this major developmental shift in what constitutes social competence with peers.

Huston and Ripke (2006:11) conclude that children with good peer relationships in middle childhood show better academic performance in adolescence are more likely to be engaged with school, are more successful in the workplace when they reach adulthood and are more likely to feel secure in romantic relationships. This matter points us in the direction of a further developmental task in middle childhood, namely gender role identification as discussed in the following section.

3.5.3 Gender Role Identification

Ghosh (2009) defines gender identity as “a personal conception of oneself as male or female which intimately relates to the concept of gender role; which is defined as ‘the outward manifested personality that reflects the gender identity’”. Schor (1999:89) postulates on the gender theme in his indication that gender identification continues to become more firmly established in middle childhood, not only in children's interest in playing more exclusively with youngsters of their own sex, but also in their interest in acting like, looking like and having things like their same-sex peers. During this time of life, children express their gender identity through gender-specific role behaviour.

“Gender identity, in nearly all instances, is self-identified, as a result of a combination of inherent and extrinsic or environmental factors; gender role, on the other hand, is manifested within society by observable factors such as behaviour and appearance of the adults surrounding the child, gender expectations and imitation of these roles through the child's play” (Ghosh, 2009).

Children separate into gender-segregated groups in middle childhood that seem to operate by their own set of peer-driven rules. A typical boys' group is large, competitive, hierarchical, and organized around large group outdoor activities such as sports. Rough-and-tumble play and

displays of strength and toughness frequently occur. In contrast, girls' groups tend to be smaller and dependent on intense relationships and are characterized with intimate conversations where the emphasis is upon maintaining group cohesion (Maccoby, 1998:32).

3.5.4 Cognitive and Language Development

Cognitive and language skills are a further important developmental task in this phase. Cognitive development in middle childhood, happens "beneath the surface", so to speak according to Oswalt (2010). She bases this statement on the fact that it is difficult, for instance, to track the development of children's cognitive operations or the expansion of their information processing abilities across time without observing what children do when confronted with specially designed problems and tasks or to having them sit through formal tests of attention and memory.

While most children master the basics of language in preschool and early childhood, the middle childhood period continues to be important to the mastery of language. Cohan (2001:74) collaborate that memory improve in middle childhood and that language plays a role here because information that can be encoded verbally is more likely to be remembered.

According to Bauer, Lukowski and Pathman (2011:37) major advances in language development are mostly complete in middle childhood but subtle refinements in language continue throughout the school years as they continue to add words to their vocabularies. Bauman, Font, Edwards and Boland, in Zembar and Blume (2009:193), elaborate by mentioning that "semantic development in middle childhood seems to rely heavily on the context of the conversation and children's ability to figure out the meaning of a word or phrase by what another person intended to say, rather than a literal interpretation of word choice". Bauer et al. (2011:37) further indicate that it is estimated that a child's vocabulary has 10 000 words when they start school but increases to approximately 40 000 words in the fifth grade.

Shaffer and Kipp (2010:242) elaborate on vocabulary in their indication that in middle childhood children also become able to alter their speech and mannerisms in order to accommodate the situation, for example being more polite in the presence of adults or strangers. They ask for

clarification if they do not understand and are more aware of a listener's comprehension of what is said and will slow down or repeat phrases if the listener is lost. Zembar and Blume (2009:192) indicate that with the advancement of cognition in middle childhood, children become better communicators and possess a more sophisticated sense of humour.

Oswalt (2010) is of the opinion that a far more visible expression of children's cognitive development during middle childhood is found in their ability to use and appreciate increasingly sophisticated forms of language. Commonly, children need to master several subtle but powerful communication skills during their middle childhood years. Shaffer and Kipp (2010:242) conclude that children are thus truly active participants in their own language development.

3.5.5 Moral Judgment and Behaviour

Moral values and its eminence in the lives of children are further developed in the middle childhood years. Lawrence Kohlberg, inspired by the work of Piaget, made an important contribution to our understanding of the moral development of children. Geldard and Geldard (2002:33) note that Kohlberg's outlook links the relationship between Piaget's concepts of cognitive development and gaining moral values.

Oswalt (2010) indicates that, according to Kohlberg, children in their middle childhood stage of development typically display "pre-conventional" moral reasoning. They thus display internalized, basic, culturally prescribed rules, governing right and wrong behaviour. They will, for example, recognize that it is considered immoral to steal from others. Children will tend to live in accordance with these rules but primarily for selfish reasons, as a way of avoiding punishment and obtaining praise for themselves. Carpendale (2000:193) points out that in the later years of middle childhood, children realize that morally good behaviours get attention and derive praise and positive regard from peers and adults, while morally bad choices bring about unpleasant and harmful consequences.

Oswalt (2010) voices the opinion that children begin to question whether parents and educators are infallible during their early middle childhood years. In middle childhood they develop the most

respect for those adults who are fair and know how to be in charge. They need to understand the necessity of rules and develop the need to participate in making the rules. They may start to realize that children have opinions too, and they begin to sort out which values profit them most “what’s in it for me”.

3.5.6 Emotional Development

Emotional development is an imperative developmental task in middle childhood and seeing as it is the focus of this study, it is a vital issue to deal with in this context. Tokuhama-Espinosa (2011:54) points to the fact that one of the first links between emotions and learning was introduced as the *affective filter hypothesis*, suggesting that how we feel influences what we are able to learn. Thus indicating that emotions affect how, what and why we learn.

The next chapter is solely focussed on emotions and its setting within the study. Emotional development as a developmental task within middle childhood will thus be highlighted in broad terms in chapter 4.

Crawford [sa] indicates that children need to develop emotional abilities in different areas in middle childhood, namely.

Self-conscious emotions: Pride and guilt become self-governed by accomplishments and awareness of transgressions. Pride motivates children to try new things, guilt prompts them to make amends and try harder. Shaming on the other hand, based on negative judgments of the child’s qualities or personality, is destructive and will kill motivation.

Emotional understanding: Children need to learn to appreciate mixed emotions, for example something good may also hold something disappointing. They also need to realize that people do not always show what they feel.

Emotional self-regulation: If the anxiety-producing event is controllable (e.g. a test), the child can work towards success and engage support. If the event is not controllable, they can distract themselves or redefine the situation (e.g. sour grapes). If they can manage the situation well, they

develop a sense of *emotional self-efficacy* (feeling in control of their emotional experience). These children tend to be happier, more empathic, helpful and better liked by peers. Less emotionally controlled children have peer problems and less empathy.

Long and Fogell (1999:10) indicate that by the time children arrive in school, they have already reached a sophisticated stage of emotional development. Throughout their time in the primary school (middle childhood) children continue to develop in complexity of response and insight into the emotional state of others.

Kostelnik, Gregory and Soderman (2012:127, 128) describe the emotional developmental path from birth to middle childhood with the indication that although there are some beliefs that new born babies can show some emotion there are also scientists who indicate that babies' reactions are only reflex and that babies can only experience emotion weeks later when their cognitive processes are developed enough to allow interpreting of what is experienced. Emotional maturation emerges according to developmental sequences and Kostelnik et al. (2012:127) consider joy, anger, sadness and fear to be the primary emotions from which other, more differentiated emotions eventually develop. Thus, by the end of the first year a child's repertoire of emotions has moved from the primary four to include surprise, elation, frustration, separation, anxiety and stranger distress. Development of emotions up to middle childhood is hence summarized as follows:

6 Weeks:	Joy
4-6 Months:	Anger
5-7 Months:	Sadness
6-12 Months:	Fear
2 years:	Children become more self-conscious and reveal emotions like embarrassment, affection, envy, defiance and contempt.
3 years:	Children become increasingly focused on others, signs of empathy emerge and a difference in affection for adults and children is present. They also start to make judgments about their actions with pride when they succeed and shame when they fail.

- 3-5 years: Children become increasingly accurate in identifying the emotions of others by relying on facial expression and tone of voice in doing so.
- Middle childhood: Children combine physical, situational and historic information to understand. With maturity and experience they come to understand that a friend is sad because her dog is lost, not because she is crying and that the emotion can change to happiness when the dog is found. They gradually learn that the source a feeling may be internal as well as physical or situational, like memories which produce feelings even though the event is long past. They also discover that a similar situation may prompt different effect on different people or different responses from the same person on different occasions. Because of these variations, recognizing emotions and those of others seem to be a challenge throughout this period.

Le Doux in Long and Fogell (1999:11) mention the following with regard to emotional development:

Once emotions occur they become powerful motivators of future behaviour. They chart the course of moment-to-moment action and long-term achievements. Nevertheless, emotions can also get one into trouble, when fear becomes anxiety, desire gives way to greed, annoyance turns to anger, anger to hatred, friendship to envy, love to obsession or pleasure to addiction. Mental health is maintained by emotional hygiene, and mental problems, largely reflect a breakdown of emotional order.

Emotions can thus have both useful and pathological consequences for an individual, and hence need to be managed in a responsible manner once it was mastered as a developmental task. It is therefore significant to take note of the roots of emotion and its obvious effect on learning in order to obtain an inclusive understanding of its consequences and value. These roots evidently originate in the brain as the core managing organ in the human body, which the researcher will discuss in more detail in the next chapter.

3.6 SUMMARY

This chapter summarizes middle childhood and the needs, abilities, concerns and attributes of children in this developmental phase, which fall broadly within the primary school years. Children's development in this phase can be paralleled with the example of their formal academic learning. At first they need to acquire the fundamentals of reading, writing and basic mathematic skills. By the third or fourth grade, the goal of reading a paragraph is no longer to decipher the words, but also to understand the content. The overall emotional, social and mental development in the middle childhood developmental phase encompasses acquiring the fundamentals at first and developing that into not only deciphering the aspects it includes but also understanding the content. The researcher is of the opinion that effort put into the fundamentals of emotional awareness during the middle childhood would aid children in the ability to decipher the emotional concepts that forms part of their daily experiences. This will result in an understanding of their social and emotional needs and enable them to live fulfilling lives.

Middle childhood further marks the beginning of concrete operational thinking when fantasy or 'make believe' type of thinking gives way to logical thinking and the ability to understand cause-and-effect relationships. Throughout middle childhood, children gradually become more goal-orientated and enjoy planning and organizing tasks. These factors are further significant aspects in their emotional education during this developmental phase for logical thinking, the relationship between cause-and-effect and the planning of tasks are all present in emotional education and development. Children in this phase are not good at problem solving because it requires abstract thinking which is usually only acquired during adolescent development. The researcher observes this aspect thus as one of the main problem areas where children can obtain severe emotional, social or mental injury in the form of self-image, relationship, labelling or aggression problems due to their inability to handle situations where problem solving skills are necessary. Education in being aware of emotions, its specific role in their existence and mechanisms of positive emotional functioning will most probably enable children to maintain stability and lessen the possibilities of emotional trauma due to ineffective handling of emotional situations.

According to Salovey and Sluyter (1997:109) research suggests that different brain regions may contribute in varying degrees to the experience of different emotions. Tileston (2004:21) states that emotion is the strongest force for embedding information into the brain's long-term memory as it has the power to shut down our thinking or to strengthen an experience so that we remember it for life. The middle childhood phase is depicted as a phase with a lot of development in the areas of creativity, vocabulary, imagination, social abilities, moral thinking and cognitive competence. The opinions of the authors quoted in this chapter conclude to the fact that emotional capacities determine to what extent the developmental tasks within the middle childhood phase can successfully be mastered. The role brain development has to play within this phase with regard to emotional aspects is consequently very important and therefore central to the study of emotional awareness.

The emotional development and, more importantly, the awareness of children in middle childhood regarding emotions is the focus of this study. The origin of emotions within the brain and its specific method of dealing with emotions thus need to be addressed in order to obtain a thorough view of this phenomenon. The following chapter thus focuses on neurological development and its influence on children's ability to learn and acquire and retain emotional health.

CHAPTER 4

Neurological Development and its Influence on Children's Ability to Learn

From the brain and the brain alone arise our pleasures, joys, laughter and jests, as well as our sorrows, pains and griefs. ~Hippocrates

4.1 INTRODUCTION

The relation between the human mind and the brain has been debated for centuries, according to Driver, Haggard and Shallice (2008:1). The question underlying this debate was how seemingly immaterial entities such as memories and thoughts can arise from biological material. The current notion in this matter, in their opinion, is that advances in neuroscience have now led to wide acceptance in science and medicine that all aspects of our mental life – our perceptions, thoughts, memories, actions, plans and understanding of others – in fact depend on brain functioning.

In short, the brain dictates the behaviours that allow us to survive and makes us who we are. Ongoing scientific studies for many years unravelled the complexity of the brain. Our understanding of the brain and its functionality within our existence were greatly improved by these studies and furthermore adds to the understanding of the functioning of human beings as a whole.

Herschkowitz and Herschkowitz (2002:4-6) label the brain as a basis for memory, learning and actions and at the same time it is the seat of our emotions. Even our hopes and desires arise in the brain, as do the strategies that we evolve to reach our goals. Diamond and Hobson (1998:2) add that the brain with its complex architecture and limitless potential is a constantly changing entity that is powerfully shaped by our experiences in childhood and throughout life. EAUDE (2006:63) substantiates that unless children's emotional needs are met, all learning will be impaired.

Whether emotional needs are met and learning subsequently impaired or promoted is a factor dependant on the structure, compound and functioning of the brain and the overall ability, capacity and potential of the brain and its development. Alcamo (2003:98) describes the brain and spinal cord as “the central control system of the human body which receives and interprets stimuli to dispatch impulses for appropriate actions”. The brain is the area from where everything regarding learning, living and overall being stems from. The researcher is of the opinion that emotional awareness, education and cognition need to be brought into context of their origin within the brain and brain development of children. This in turn will prove fundamental in order to obtain a complete picture of the role the educational system has to play within emotional awareness.

For the purpose of this study, it is deemed important to explore the brain regarding its development and expansion through early childhood and the effect thereof on the child’s potential and emotional development, when middle childhood is reached.

4.2 THE BRAIN: CONTROL SYSTEM OF THE HUMAN BODY AND MIND

Kirp (2011:22) quotes Mrs. Hillary Clinton of the USA in saying: “...years ago we thought a baby’s brain structure was virtually complete at birth. Now we understand that everything we do with a child has somehow potential physical influence on that rapidly forming brain”. He then adds that this influence would by implication be on the individual’s entire life.

Herschkowitz and Herschkowitz (2002:4-6) describe the brain as an immense network with numerous sub-systems working together. The brain plays an active role in everything we think, feel and do. It is the organ that interprets the multitude of signals from our sensory organs and forms associations among them. Sylwester (2010:4) states that although the brain is awesomely complex it also has an elegant functional simplicity. He is of the opinion that it therefore is possible for persons with a limited understanding of biology to develop a functional understanding of basic brain systems and processes. He stresses the importance of understanding the biology of

children, especially by those who attempt to nurture them. This is thus the rationale for including a chapter on the influence of neurology on children's emotions and their ability to learn.

The science behind neurology and brain structure is so vast that this chapter will only touch on a very small facet thereof starting out with a concise discussion on the development and structure of the brain. The developmental effect of brain functioning on the child's future positions this chapter in context of the researcher's study, as one cannot research emotions without including the system responsible for acknowledging and processing emotions and emotional reactions. The chapter then concludes with a discussion on emotional education versus brain functioning, combining the arguments on the brain and the study's focus on emotional awareness.

4.2.1 Development of the brain

From the previous section it is clear that the development of the brain as the core of human functioning is an essential facet underlying the understanding of human behaviour. Emotional development and the maintenance of emotional health thus also need to be put in context of their origin and continuation within brain processes. The following section furnishes a succinct discussion on the development and basic functioning of the brain, for the purpose of positioning the focus of the study (emotional awareness) within the context of brain functioning.

Kirp (2011:22) postulates that studies on how the brain functions indicate that at no other time in a person's life does the brain develop as rapidly as in the first years. Engel-Smothers and Heim (2008:4) indicate that at age three a baby's brain has added 70% of its mass at birth and will grow to 90% of its adult weight.

Brain development results from the formation of billions of neurons (the cellular building blocks of the brain) and trillions of synapses (the connections that receive and send electrochemical signals) according to the Centre of Educational research and innovation (2007:162).

Graham and Forstadt (2001) elaborate that “the basic building blocks of the brain are specialized nerve cells that make up the central nervous system: neurons”. As a safety measure to ensure that newborns gets the best possible chance of coming into the world with healthy brains the foetus’ brain produces roughly twice as many neurons as it will ultimately need.

Every neuron has an “output” fibre or *axon*, with the ability to send impulses to other neurons. Each neuron also has many short, hair-like “input” fibres or *dendrites* – with the ability to receive impulses from other neurons (Graham & Forstadt, 2001) This is why neurons are constructed to form connections as illustrated in Figure 4.1.

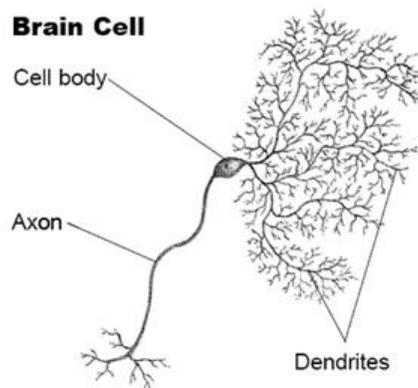


Figure 4.1: Brain cells or neurons (Graham & Forstadt, 2001)

Huang (2008) explains that neurons deploy a bushy array of fibres called dendrites that extend to gather signals from the many neurons in the cerebellum and send signals to other parts of the body.

Huang (2008) and his colleagues traced the chemical signals leading neurons to form synapses with specific parts of other neurons and indicate synapses to be the tiny gaps across which nerve cells exchange signals, conveyed by chemicals called neurotransmitters as can be observed in Figure 4.2.

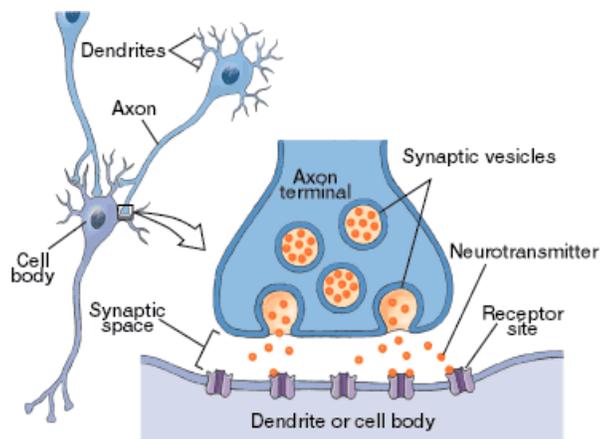


Figure 4.2: Neurotransmitter of the synapse (The biological basis of behaviour, 2002)

Sherwood (2013:106) indicates that synapsis means “junction”, thus pointing to the junction between two neurons to be termed a synapse. Synapses are responsible for the chemical junctions between two neurons. Young (2007) explains that a potential action is transmitted down the axon to the axon terminal. In the axon terminal vesicles fuse with the membrane in response to the potential action; this releases neurotransmitters into the synaptic cleft. The neurotransmitters bind receptors on the dendrites of the post-synaptic neuron, triggering electrical potentials in that neuron which can result in a potential action in the next neuron down the line.

Acquiring an understanding of the “building blocks” of the brain and their method of “communicating” through neurotransmitting directs the discussion to the structure within which these particles fulfil their purpose. The following section will briefly focus on brain structure as well as the attributes and function of each of these sections of the brain.

4.2.2 Brain Structure

Graham and Forstadt (2001) explain the brain to be part of the central nervous system that plays a decisive role in controlling many functions, including both voluntary activities like walking or speaking and involuntary ones like breathing or blinking.

Different parts of the brain control different kinds of functions. Porter (2007) summarizes the functions of the different sections of the brain according to the following sketch.

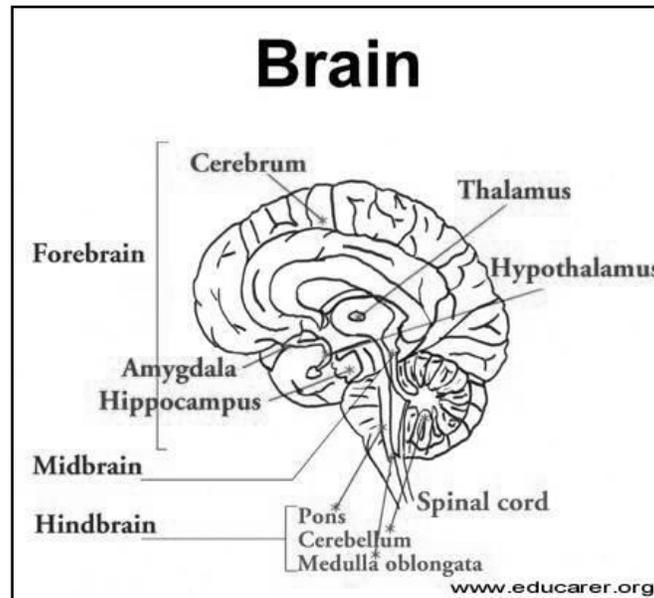


Figure 4.3: Condensed version of brain function (Porter, 2007)

Figure 4.3 supplies an indication of where the different sections of the brain is situated, each of these parts will hence be briefly described and its functions listed.

- **Cerebrum:** Largest part of the brain.
Functions: Perception, thought, voluntary movement, language, reasoning.
- **Thalamus:** “Grand Central Station”.
Functions: Sensory and motor integration.
- **Hypothalamus:** Size of a pea with 22 nuclei.
Functions: Regulation of body temperature, hunger, thirst and stress.
- **Pons:** Connects cerebellum to the cerebral hemisphere.
- **Cerebellum:** Behind and below the cerebrum.
Functions: Movement, balance, posture.
- **Medulla oblongata:** Continuation of the spinal cord and lowest part of the brain.
Functions: Controls breathing, heart rate, blood pressure.
- **Amygdala:** Part of limbic system.

Functions: Tags life events for emotional content and processes negative events and fears.

- **Hippocampus:** Part of limbic system.

Functions: Emotions, memory, special orientation.

The amygdala and hippocampus seem to be the parts of the brain where the functions relevant to this study are situated

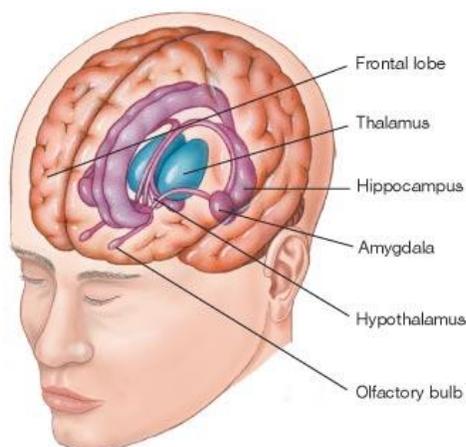


Fig. 4.4: The amygdala and hippocampus (*The biological basis of behaviour, 2002*)

Figure 4.4 indicates the location of the amygdala and the hippocampus and their function can be described as follows:

- **Amygdala**

Pastorino and Doyle-Portillo (2013:58) indicate the role of the amygdala to involve emotion regulation; they are of the opinion that the amygdala plays an essential role in a person's ability to judge an emotionally loaded social situation and in turn regulate the emotional reaction relevant to that situation.

- **Hippocampus**

Bernstein (2011:63) points to the hippocampus as being responsible for the formation of new memories. Pastorino and Doyle-Portillo (2013:58) confirm that the hippocampus is a structure related to learning and memory and plays a role in the transfer of information from short- to long-

term memory. In the context of this study the hippocampus is thus the part of the brain that would be responsible for transferring information (EA program) from short- to long-term memory, in order for the respondents to indicate enhancement of emotional awareness in their post-test.

The total composition of the brain and the manner in which its functioning results in management of the human body and mind influence our overall perception of the developing child, as discussed in the following section.

4.2.3 Brain Functioning and its Developmental Effect on the Child's Future

Zero to three is the national centre for infants, toddlers and families located in Washington. This is a national, nonprofit organization that informs, trains, and supports professionals, policymakers, and parents in their efforts to improve the lives of infants and toddlers. *Zero to three* (2000) explains a brain development activity, namely *pruning*, as an activity which:

...allows the brain to keep the connections that have a purpose, while eliminating those that are not doing anything. In short, pruning increases the efficiency with which the brain can do what it needs to do. The brain operates on the "use it or lose it" rule and "over-pruning" of these connections can occur when a child is deprived of normally expected experiences in the early years. This leaves the child struggling to do what would have come more naturally otherwise.

Kiner and Feinstein (2011:16) explain that the brain judges information that it frequently uses as worthy and useful. The ability to do mathematics or write a complex sentence is repetitively used so the dendrites and synaptic connections are well preserved. Conversely, information that is not used regularly by the brain is regarded as unnecessary and worthless and allowed to wither and die.

The researcher experiences in the practice of social work that children who are abused, maltreated or neglected as well as the children of poorly educated, low-income parents often do not reach the same intellectual levels as children of well-educated, wealthy parents and who find themselves in healthy thriving family situations. Research in brain development now provides us with the insights into why this is so.

Zero to three (2000), points to the fact that parents who are preoccupied with a daily struggle to ensure that their children have enough to eat and are safe from harm may not have the resources, information, or time they need to provide the stimulating experiences that foster optimal brain development. Infants and children who are rarely spoken to, who are exposed to few toys, and who have little opportunity to explore and experiment with their environment may fail to fully develop the neural connections and pathways that facilitate later learning.

De Bellis, Baum, Birmaher, Keshavan, Eccard, Boring, Jenkins and Ryan (1999:1259-1270) found in their study that children who receive sensitive, responsive care from their parents and other caregivers in the first years of life enjoy an important head start toward success in their lives. The secure relationships they develop with the important adults in their lives lay the foundation for emotional development and help protect them from the many stresses they may face as they grow.

Murray (2004) confirms this from his work within the field of psychology that childhood abuse or trauma has a pronounced effect on brain development due to the elevated levels of the stress hormones adrenaline and cortisol, which lead to subtle structural abnormalities in the frontal lobe. This is closely related to the limbic system — the seat of emotions. These abnormalities may result in deep-seated personality deficits, an inability to be empathetic or pathological narcissism that are not readily diagnosable as psychiatric disorders. Maria (2009:140) corroborates this notion in his indication that the acute and chronic stress of maltreatment in childhood is associated with neuropsychiatric disorders, cognition and adaptation, and in adverse brain development. Neural pathways must be stimulated during critical periods of development for natural maturation and pruning to occur. The specific brain regions most vulnerable to excessive pruning associated with early stress and adverse circumstances appear to include the hippocampus and amygdala.

The question thus would be, where does this leave us regarding mental healing and emotional comfort to children who had been exposed to this kind of disruption? Are they lost and their prognoses unchangeable? It seems as if it is not the case. There are studies and indications that the brain can be stimulated to regenerate to some extent into reprogramming neurons to relocate so that they can fill some of the gaps left by the trauma (Shore, 1997; Applegate and Shapiro, 2005; Stien and Kendall, 2004).

Gunner (2006), a child development psychologist at the University of Minnesota, indicates that some children from stressful environments are able to "neutralize" their stress through a caring parent or an involved adult. According to Gunner (2006) "the things that are associated with resiliency have to do with protective factors like the quality of home life, the parent-child relationship or another relationship that provides some security for the child". Lowenthal [sa] agrees that when maltreatment by the primary caregivers occurs, it is essential for the child to have access to alternate caregivers who will love, nurture and protect them. Those alternate caregivers may be grandparents, extended family members, foster and adoptive parents or educators. Alternate caregivers can provide children who have been traumatized by maltreatment the safety and nurturance they need to recover from their traumas. This care giving then prevents the response patterns of 'fight or flight' and dissociation from becoming permanently fixed in the child's brain. In this setting, the child can then acquire a sense of trust and become open to positive emotional experiences, which in turn can result in new learning.

This is the point where the necessity of this study becomes relevant. Brain development and function are explanatory of the way children are put together and why many of them act or react the way they do. The educator and school setting have a huge role to play in the shaping of children and their input in the lives of traumatized children is indispensable. The educator's input is subsequently just as important to the emotionally healthy child. An educator who is frequently involved in negative scolding and insulting or who resorts to yelling and tempers tantrums to get the message across is in a process of dismantling the emotional health and future potential of the learner's trust in him/her. The discussion up to this point indicated that children's ability to learn and thrive academically is dependent on the way their brains are equipped and programmed to handle the expectations life will set to them. Thus whether children were neglected, abused, undernourished, optimally stimulated, loved or cherished, educators are in a position to make a difference and that is what this study intends to explore.

Understanding the brain, its compound and functioning are one leg of the issue of emotional health and development; the other leg would be how emotional information needs to be taught to achieve optimal results. The rest of this chapter will hence focus on emotional education with brain functioning in mind.

4.3 EMOTIONAL EDUCATION VS. BRAIN FUNCTIONING

It was evident from previous discussions that emotional experiences prove to have an effect on the child-brain's ability to cognitively perform. Lucido (2010:161) emphasizes the importance of enhancing a classroom atmosphere to best suit learners in order to maximize the potential for brain compatible learning. A brain learns best when it is fed and healthy and when levels of fear and threat are reduced. Schultz (2011:5) also refers to the Whole-brain theory, which is education based on how the brain learns naturally and is based on the actual structure and function of the human brain at varying developmental stages.

The development of the emotional awareness abilities of learners, with consideration to their developmental stage, will thus expand their ability to cope with the emotional turmoil they might experience and consequently promote their ability to learn and excel. The following section addresses different aspects of importance in this regard.

4.3.1 Brain- friendly Education

Hare and Reynolds (2004:11) identify the following specific aspects which are enhanced through the utilization of the whole brain. Emotional education with emotional content is brought into consideration in this regard, and can be summarized as follows:

- The inclusion of emotion in the educational process brings about that the brain releases neurotransmitters, which enhances memory fixation. The content of a thought is thus neurologically associated with a specific feeling or emotion.
- The ideal educational environment is where low stress and high challenges are present. When stress levels that the learner is experiencing are too high, a need for survival dominates and temporarily locks the neo-cortex down. This implies that the educational capacity of learners who are emotionally caught up are much lower.
- More than 80% of the brain is inter neurons, designed to identify shapes and then give meaning to it. The human brain learns better when there are moved away from instructions by adding meaning to instructions. Learners should therefore receive the maximum opportunity for

experience, which then helps them to obtain meaning. Emotion is an aspect the child experiences daily – in emotional education the experience is enlightened and meaning is given to it to generate knowledge.

- When new information is given before information that was already retrieved is processed, the old information gets lost. The middle-brain's capacity is limited and information that was not yet moved to the cortex before new information is gained is replaced with the new information. Repetition, revision and time are thus essential in the educating process. This emphasizes the worth of emotional elucidation as part of the daily educational process within the school environment.

Neurologic association with emotions, low stress, situations with high challenges and repetition are thus the essential ingredients of education which has emotional awareness and optimal development at heart.

4.3.2 Left or Right Brain Dominance

The realization of the fact that there are different functions settled in the two different sides of the brain had a dramatic effect on educational thinking, according to Weare (2004:97). Wright (2006:7) explains that the brain's central site for learning is called the neo-cortex, which is divided into the left and right hemispheres. These hemispheres work in different ways. The left hemisphere processes information in a logical or sequential way, a step at a time, while the right hemisphere works holistically, dealing with information in a random way by processing bits that are significant rather than in the order they arrive. The right hemisphere also responds to the more emotive stimuli such as colour, music and pictures.

Both sides of the brain are essential for effective thinking, experiencing and feeling. However, a dynamic balance between the two different sides of the brain is very important. Weare (2004:98) is of the opinion that the role of the educational system, where emotional awareness and emotional intelligence is concerned, is to include learners in experiencing emotion which triggers the right brain and should then further be guided to process the experience in a manner which utilizes the left brain. Figure 4.4 illustrates the left and right hemispheres of the brain.

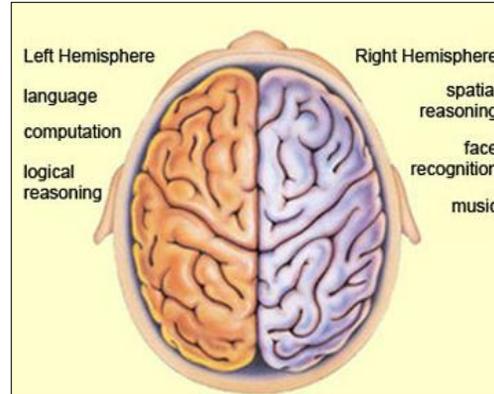


Figure 4.4: Right and left brain functions (Joseph, 2000)

It is therefore essential to be aware of the differences between the so called ‘left and right brain learners’ in the educational system, as described in Table 4.1.

Table 4.1: Difference between left and right brain learners

Left brain – Analytic learners	Right brain – Holistic learners
Concentrate on differences and detail. Make use of parts to form a whole.	Need to understand the whole picture. Assimilate detail and differences within the whole.
Make use redirected reasoning and logical focus.	Association – search for the association between aspects.
Consequential processing.	Equal processing.
Attempt to do things better rather than different.	Make use of spontaneity and intuition.
Realistic – prefer to concentrate on things that are feasible.	Enjoy new things and doing things differently.
Conformity – enjoy repetition which accumulates in time. Follow rules and authority figures.	Idealistic – see what could be, rather than what is.
Determined and reflecting.	Generate ideas and think for themselves.
React on facts, evidence, logic and reasoning.	Reacts on experience, education, pictures, shapes and forms, visualizing and play.

Source: Weare (2004:98)

From Table 4.1 it is thus clear that the utilization of the total brain suggests that the learners get more freedom and flexibility between holistic and specific or between the whole picture and detail as well as between innovation and known procedure.

Joseph (2000) states that:

“it has been well established that the right cerebral hemisphere is dominant over the left in regard to perception, expression and mediation of almost all aspects of social and emotional functioning, including the recall of emotional memories. This emotional dominance extends to bilateral control over the autonomic nervous system, including heart rate, blood pressure regulation, galvanic skin conductance and the secretion of cortisol in emotionally upsetting or exciting situations. It is also dominant for most aspects of visual-spatial perceptual functioning, the recognition of faces of friends, loved ones, and one's own face in the mirror. Faces, of course, convey emotion which is recognized in the limbic system of the brain”

This explanation stands in correlation with the right and left hemisphere of the brain as indicated in Figure 4.5.

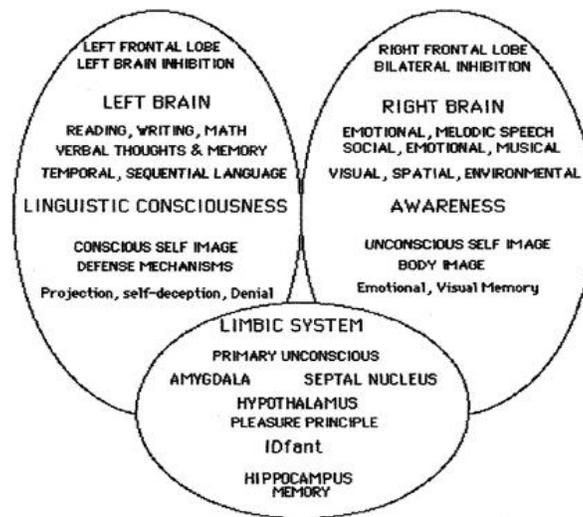


Figure 4.5: The limbic system in correlation with the right and left hemispheres of the brain (Joseph, 2000).

According to Johnson (2011:302) the right hemisphere is dominant in perception, conciliation of almost all aspects of emotion including emotional expression. In fact, although the left hemisphere is dominant for language, the right hemisphere continues to participate in language processing by evoking or sensing the feeling accompanying the language.

To best understand the unique capabilities of the right hemisphere, it is important to review the functions associated with it. The left cerebral hemisphere is associated with the organization and categorization of information into discrete temporal units, the sequential control of finger, hand, arm, gestural, and articulatory movements (Joseph, 2000) as illustrated in Fig. 4.6.

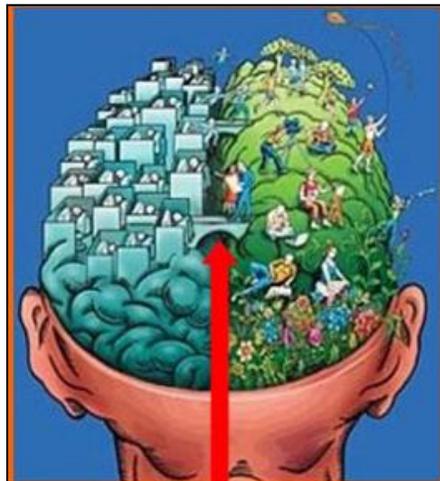


Fig. 4.6: A graphic illustration of the difference in hemisphere functioning. (Joseph, 2000).

It is thus understood that the right hemisphere of the brain is the one mostly concerned with and developed to comprehend, process and act on emotion. A program for the development of accurate emotional knowledge would thus have to focus on techniques which would attract the best possible interest from the right brain. Play therapy and play therapy techniques are therefore important techniques for this purpose due to its use of picture, colour, storytelling, fantasy, music and a variety of activities utilizing creative thought.

4.4 SUMMARY

It is thus clear that the human brain in all its complexity is a magnificent organ in the human body. Knowledge of the brain, its parts and functions provide us with the information to act in the best interest of the child's developing brain in an effort to develop the total child. .

Prevention is better than cure and if educators become equipped with awareness of the “damage” that some children may have suffered due to maltreatment by parents, siblings or even previous educators it will benefit not only the learner but the educator as well. An educator in possession of the knowledge to understand the probability of the diminished brain development of the rebellious, aggressive, emotional or quiet learner in front of him/her, would be able to react in a way that would develop rather than further harm the learner.

Learners who are educated by educators who handle them from a knowledgebase of the importance of emotional wellbeing and its value in the learner's ability to learn and show academic progress, will thrive and achieve much more than learners whose educators do not.

Emotional awareness will provide answers to learners who are in emotional turmoil. The presence of a caring educator, well equipped in these matters, might in many cases prove to be the rescue net that will reprogram their brains to risk getting back in the circle of life rather than handling life through fight or flight.

The next chapter focuses on emotional awareness and contextualize emotional awareness within emotions and its eminence regarding emotions and emotional behaviour in children.