Training Home-based Caregivers towards a Holistic Development of Infants (aged 0 -2 years) in Kenya

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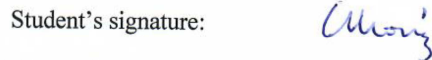
Declaration

I, the undersigned, declare that this Training Manual is a product of my original work and is not the result of anything done in collaboration. It has not been previously presented to any other institution. All sources have been appropriately cited and duly acknowledged.

Student's signature: 

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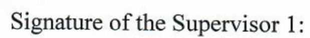
Signature of the Supervisor 1: 

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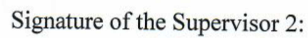
Signature of the Supervisor 2: 

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Dedication

This project is dedicated to the young mothers at the Nest Home. I was inspired by your love and commitment to give your babies a promising future despite all odds.

Acknowledgement

This project would not have been possible without many people. Firstly, my supervisors, Fr. Sahaya Selvam who guided me, with an eye for detail and taught me the brilliance of simplicity. Dr. Niceta Ireri whose tireless encouragement and support helped me persevere to complete the project. I thank my friends, Sr. Eleanor Gibson for synthesizing my thoughts, Daniel Fernandes for his invaluable tips on the use of 'Word' and Clare Hooper for reading and editing my work. I wish to also thank Fr. Cosmas Kagwe and Griffiths team for their passion for early childhood development which inspired the creation of this project.

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TABLE OF CONTENTS

Student's Declaration ii
Table of Contents v
List of Tables vii
List of Figures viii
Abstract x
Definition of Operational terms xi

CHAPTER ONE 2

INTRODUCTION 2

1.0 Introduction 2
1.1 Background to the Problem 2
1.2 Statement of the Problem 8
1.2.1 Objectives 8
1.2.2 Specific Objectives 9
1.2.3 Expected Learning Outcomes of the Training 9
1.3 Scope of the Manual 9
1.4 Delimitations of the Training Manual 10

CHAPTER TWO 11

LITERATURE REVIEW 11

2.0 Introduction 11
2.1 Relevant Theoretical Literature 11
2.1.1 Biosocial Development: Reflexes and Developmental Milestones 11
2.1.2 Emotional Development: Attachment Theory 16
2.1.3 Psychosocial Development: Erikson's Theory of Psychosocial Stages 24
2.1.4 Cognitive Development: Piaget's Theory of Cognitive Development 27
2.2 Evaluating The Theoretical Framework 32
2.2.1 Biosocial Development 32
2.2.2 Psychosocial Development 33
2.2.3 Emotional Development 33
2.2.4 Cognitive Development 34
2.3 Empirical Literature Review 34
2.4 The Conceptual Framework 40
2.4.1 The Primary target: the Trainees or Caregivers 40
2.4.2 The secondary target: The Infants of below 24 months 40
2.5 The Ripple Effect 40

CHAPTER THREE **42**

METHODOLOGY **42**

3.0 Introduction 42
3.1 Target Population of the Training Manual 42
3.1.1 Age of the Trainees 42
3.1.2 Education of the Trainees 43
3.2 Stakeholders 43
3.3 Project Beneficiaries 43
3.4 Training Procedure 44
3.5 Kolb's Cycle of Experiential Learning 46
3.6 Schema of the Sessions 47
3.7 Learning Matrix 49
3.8 Implementation 49
3.8.1 The Framework of the Training Manual 50
3.9 Teaching and Learning Resources 52
3.10 Proposed Outline of the Manual 53
3.11 The Budget 54

CHAPTER FOUR **57**

THE TRAINING MANUAL **57**

4.0 Introduction 57
4.1 The Training Manual Contents 57

CHAPTER FIVE **131**

THE CONCLUSION **131**

5.0 Introduction 131
5.1 Limitations 131
5.2 Envisaged Impact 132
5.3 Future Orientation 133
5.4 Recommendations 134

REFERENCE **135**

APPENDICES **145**

7.1 Appendix 1 The Learning Matrix 145
7.2 Appendix 2 Post-training Evaluation Form 146
7.3 Appendix 3 Powerpoint Presentation of the Overview of the Project (printout).. 148
7.4 Appendix 4 Powerpoint Presentation - Importance of Bonding & Attachment .. 152
7.5 Appendix 5 Growth Graph 155
7.6 Appendix 6 Plagiarism Clearance Certificate 156

List of Tables

Table 2-1 The Five Important Reflexes 12
Table 2-2 Five States of Sleep and Wakefulness 13
Table 2-3 A Guideline of Physical Developmental Milestones at Infancy 14
Table 2-4 General Guideline for Gross Motor Skills: Infants below 24 months 16
Table 2-5 Behavioural and Emotional Expression Checklist (9-18 months) 20
Table 2-6 The Six Stages of Sensorimotor Intelligence 28
Table 2-7 The Development of Spoken Language in the First 2 years 30
Table 3-1 Estimated Budget for a 5-day Programme for 20 participants 55

List of Figures

Figure 1 Conceptual Framework 41
Figure 2 Kolb's Cycle of Experiential Learning 46

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral
EBS	Early book showing
ECD	Early child development
ECDE	Early child development education
ELS	Early life stress.
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus, a retrovirus which causes AIDS
JHV	Jamaica Home Visit
KICD	Kenya Institute of Curriculum Development
LAD	Language acquisition device
MOEST	Ministry of Education Science and Technology
PPD	Post-partum Depression
SSA	Sub-Saharan Africa
UNAIDS	United Nations agencies that deal with the AIDS
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization

ABSTRACT

Holistic development in early childhood is significant as it occurs within the sensitive periods and if neglected, results in irreversible damage affecting the infant's future. Globalization has had an impact on family life throughout the world. In Kenya, parents are overwhelmed with their socio-economic commitments and have overlooked the needs of the infant particularly below twenty-four months. They tend to rely on caregivers who are assumed to have knowledge and, this is detrimental to the infant. This project aimed to create a manual that could be used to train caregivers towards a holistic development that encompasses the biosocial, psychosocial, emotional and cognitive factors of growth of infants in their first two years of life. The specific objectives focus on providing an environment that stimulates the senses, accompanies the infant in building their language skills, creates a secure bond, encourages gross and fine motor movement while respecting the infant's individuality. The training is supported by Bowlby's Attachment theory, Erickson's psychosocial theory and Piaget's theory of cognitive development. The training programme consists of 20 sessions carried out over a 5 day period of 4 sessions per day. The sessions are designed using Bloom's Taxonomy. It is delivered using Kolb's Experiential Learning Model with the participants as the primary target and the infants as the beneficiaries of this project. After the training, the participants will be able to use the developmental milestones to not only recognize the signs of impairment but distinguish between disability and weakness. In addition the trainee will be able to modify and adapt the techniques learnt to help the infant reach their potential. This training intends to provide an opportunity for the participants to form a support group to enable them to continue to learn from each other's experiences.

Definition of Operational terms

Biosocial development	The development that encompasses three domains: body, mind and social relationships. This level of development involves a combination of caregivers and the cultural environment within which an infant grows up.
Caregiver	According to the World Health Organization it is a person who is responsible for looking after young person who is very young. In this project this includes the infant's parents, grandparents, house-help. This term is used synonymously with trainee and participant.
Cognitive development	The development of the infant's thought process: it encompasses understanding language, thought and ability to communicate effectively.
Emotional development	An infant's progress from reacting to pain and pleasure to complex patterns. An infant gradually learns to distinguish between the first 6 emotions: happiness, fear, anger, sadness, surprise and disgust.
Holistic	The psychological term 'holistic' refers to the development of the whole person. In this project it refers to incorporating four dimensions of development in an infant: biosocial, emotional, psychosocial and cognitive enhancing growth within the infant as a whole.
Home-based	This term refers the home environment within which

	caregivers will be looking after the infant
Infant	A child in its earliest period of its life. Medically defined as a child of less than one year. In this project the term refers to children of 24 months and below. This project will use the terms *infant* and *baby* inter-changeably.
Psychosocial development	The development that involves the interaction of emotions and their social context (Berger, 2008). The caregiver-infant interaction is pivotal to the infant's future social referencing.
Trainer	A person chosen to train the caregivers who is familiar with the basic theories of Psychology. For this project it is the proprietor of the training manual.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter explains the background and includes the problem statement, the objectives, expected learning outcomes of the training and the scope of the manual. The operational terms are also defined in this chapter.

1.1 Background to the Problem

In the past, programmes worldwide have focused on improving infant mortality through better nutrition and health but this project is concerned with not only the quantity but the quality of life of the infant. Although nutrition and health are vital, there are other factors that contribute towards a holistic development such as biosocial, psychosocial, emotional and cognitive development that promote the wellbeing of an infant. An infant at birth is helpless and knows nothing, yet within six years surpasses all species (Montessori, 1949). This suggests that there is growth which involves all round development which takes place simultaneously. In order for this to happen it is important that caregivers are aware of this holistic development within the infant and provide stimulation for this development.

The World Health Organization (WHO) in an effort to tackle under-nutrition, passed a resolution to reduce 40% of the stunted children under-five years in 148 countries by 2025 (Onis et al., 2013). Evidence shows that stunted growth is associated with poor cognitive development therefore improving one will automatically alleviate the other. The article discusses that it is at 27% at present because nutrition based interventions are insufficient and further suggests that educating caregivers on other factors such as biosocial and psychosocial development is vital for success.

Furthermore, in another study Black et al (2017) estimates suggest that 249 million children worldwide under five years are un-stimulated which affects their biosocial and psychosocial development preventing them from achieving their potential . A Jamaica Home Visit (JHV) intervention programme designed by Sally Grantham-McGregor (2016) was found to be successful in meeting this need and was adapted in Bangladesh, Colombia and Peru. It aimed to promote infant development through interactive responsive care and activities that helped infants explore and learn. Evidence in Jamaica has shown that it has wide-ranging benefits in terms of mental health, adulthood education and reductions in violent behaviour. Based on the JHV invention, a programme called Reach Up Early Childhood Parenting Programme and accompanying training packages were used in 11 countries in Asia, Africa and Latin America. This programme continues to be used and is constantly learning from its implementation and adapting to different cultures (Walker, Chang, Smith, & Baker-Henningham, 2018).

Child Survival Call to Action (2012), a programme funded by UNICEF in collaboration with 80 countries, focused on infant mortality aiming to reduce it to 20 per 1000 births in every country by the year 2035 (Elder et al. 2014). It recognized the role of the caregivers, their behaviour, and being instrumental in the survival and healthy development of the infant. The article recognized the importance of the earlier developmental period or first 1,000 days of the infant's life and the necessity of the caregiver giving the appropriate intervention during the critical formative period for the infant's physical, mental and socio-emotional development. This article gave rise to the idea of this project, in that development in the first 24 months of life is critical and the significance of the caregiver, vital, in providing the right environmental stimulation. It takes not only into account the plasticity of the infant's brain but the need for emotional bonding too. It describes a

variety of interventions for caregivers including modeling and coaching sessions by community workers.

In African society, in the past century a child belonged to the clan. According to Kirwen (2008) formation and education of children was the collective responsibility of the community where wisdom and knowledge was transmitted orally in the way of stories, riddles, proverbs other mediums of dance and communal work. The main caregivers were mothers, grandparents, aunts, older siblings, cousins among others. Furthermore, Kirwen's (2008) publication showed African students name their grandparents, relatives and neighbours in addition to their parents as influential people in their informal education. It appears the young received a holistic care and by default as caregivers overlapped their knowledge; and in so doing, the children developed to their potential within the community.

This is not applicable in 21st century in parts of Africa, today South Africa faces problems of infant maltreatment especially in peri-urban areas. However, the government has taken steps to address this because it was shown to have precipitated violence and substance abuse in these children as adults. The programme targeted primary caregivers providing them with intervention strategies, positive parenting styles and building emotional communication. The intervention was holistic in recognizing the role of early parenting on the infant's physical, mental health and social outcomes while considering environmental factors such as external stress and the parents coping skills (Crankshaw, Gibbs, Tomlinson, & Inglis, 2016).

In Kenya, society has changed and continues to change with rural–urban migration, globalization and information technology which has impacted the family structure. New settlement patterns have arisen where nuclear families live alone leading to the breakup of the extended family. This means that children are being brought up away from their extended families

(Adhiambo, Emeke, & Ngige, 2013). This transition has also compromised traditional roles of women in the family forcing them to find work thus negatively affecting the family unit (Wadende, Oburu, & Morara, 2016). Not only is the family now a nuclear and isolated unit in a multicultural urban environment but due to the socio-economic changes, the woman's role has changed: she is required to go to work to provide towards the family income and is forced to share her role (Muasya, 2016) as primary caregiver with a house-help (secondary caregiver) perhaps, young, inexperienced and of a different community forced to look for a wage which often creates more stress than is helpful (Muasya, 2016). Neglect at this stage of growth can lead to early life stress (ELS), furthermore, parents remain oblivious as the infant is unable to complain (Hanson, 2015).

Studies were carried out by Abubakar, Holding, Vijver, Bomu, and Van Baar (2009) in Kilifi showed that there are biological and environmental risk factors such as poverty that can affect infant development that can in turn cause a loss in cognitive and developmental potential. The article suggested that training within the communities involved as a cost-effective way of spreading knowledge about early child development. In addition, it appeared within the community as a whole, the husband was no longer seen as the dominant partner but as a co-partner in every aspect including the upbringing of the children. Furthermore, research (Abubakar et al., 2010) surprisingly showed men were urging their wives to continue participating in the long term study to enhance the development of their children. This is indicative of a shift in male expectations and a willingness to participate in enhancing infant development and growth.

In low income families and where the scores were low it became clear that the caregivers were neither aware of the milestones of development nor knew what was required for optimum

development. Furthermore, research indicates that early intervention can be effective in not only improving IQ scores but also academic achievements later in life (Abubakar et al., 2010).

Historically, it has been shown that Kenya has gradually come to understand the importance of early childhood education. In the national context preschools were introduced in Kenya as early as the 1940's, in towns and in large plantations. Later, in the 1950's the early childhood programme expanded country-wide and these centres provided care whilst their mothers were taken into forced labour (Swadener et al., 1996). After independence, in the 1970's parents favoured academic instruction and school preparation in nursery schools (Herzog, 1969). The first survey (University of Nairobi, 1969) showed 200,000 children were enrolled in 4,800 centres and taught by 5,000 untrained teachers. Thereafter the Ministry of Education took it upon themselves to establish a section for preschool education within the Kenya Institute of Education in 1979. Furthermore in 1982 the National Centre for Early Childhood Education was established. A project financed by the World Bank for Early Childhood development (ECD), from 1997 to 2004 enabled the government to expand its vision laying emphasis on the principle of holistic development (UNESCO, 2007).

According to MOEST (2012) holistic development for children is aimed at teaching and learning experiences in preschool (for children between 4 to 8 years), psychosocial stimulation of children, community and parental education and mobilization transition from pre-school to primary school and includes monitoring the health and nutrition of the child. In the 2030 vision the Government of Kenya (GOK) encompasses the provision of holistic and integrated services for children aged 0 - 8 years as well as their parents. However, the ECDE covers pre-schoolers, children aged 4 to 8 years (Busolo & Agembo, 2017). Furthermore, although the Kenya Institute

of Curriculum Development have focused on good practice in childcare it does not adequately provide caregivers with practical knowledge to stimulate infants below 2 years.

There appears to be a 'gap' for children below 4 years. Although the mandate does recognize the importance of the first 2 years of life in which time the brain grows most rapidly and is seen as a 'critical window of opportunity.' Caregivers are expected to cope without care services other than those for nutrition and health (Adhaimbo et al, 2013).

Perhaps there is a misconception that since the infant mortality rates are falling by 7.6% (Demombynes & Trommlerova, 2012) it is thought that there is no need for dissemination of information to caregivers of infants below 2 years. However, the mortality rates could be falling due to better health and medical facilities. Knowledge of holistic development in infants is not innate nor inconsequential as any delay in development cannot be rectified later as the infant grows. Once an infant fails to receive stimulation from primary caregivers in the vital years, the lost time is difficult to recover. However, there are no clear programmes providing this support to caregivers, within the home environment, in the ECDE community centres (Busolo & Agembo, 2017). Herein lies the gap as there are limited training manuals available to this end in Kenya.

As a teacher I agree with the 2030 vision that holistic development starts at birth however, I believe it is equally vital to support infants as it is preschoolers. Caregivers require a training programme because any neglect or omission is detrimental to the future of the infant. Kenya at present does not have a comprehensive training manual for caregivers of infants below 24 months. This was the reason for the creation of this project.

1.2 Statement of the Problem

Today, parents work to earn an income both in the urban and rural areas and lack the quality time and presence to give their infants due to their economic situation. They have to rely on grandparents and house-help to care for their infant. In addition most caregivers lack the awareness of how to care for infants and the experience. Therefore, infants in their first two years of life face tremendous challenges due to the ignorance and naivety of their caregivers (Gachutha, 2016). The skills of caregivers are assumed to be commonly known or assimilated from their upbringing and extended family. As discussed earlier in the background, neglect at this stage is damaging to the infant's development and irreversible.

The Kenya Institute of Curriculum Development offer various services in good practice for childcare and a council for children's services. In addition, they have recognized that Kenya has met their goals in reducing infant mortality with better health, nutrition and sanitation and has to provide a 'Holistic' education. MOEST (2012) are striving to meet these goals in providing institutional care for children from pre-school to secondary level. However, the support offered is not focused on infants below 24 months. It is assumed that home-based caregivers are equipped with sufficient knowledge to care for infants.

Herein lay a gap where there was no Training Manual based on research on infants which has been well conceptualized to enable caregivers in Kenya to support and guide infants to ensure their development to their full potential. In this context caregivers refers to parents, grandparents and house help.

1.2.1 Objectives

The general objective of this project was to develop a training manual towards a holistic development of infants below 24 months of life in Kenya. The manual was envisaged as a tool to

train caregivers to enhance development of infants from 0 to 24 months to reach their potential and stand an equal chance of full growth in all four dimensions of development: biosocial, psychosocial, emotional and cognitive.

1.2.2 Specific Objectives

The specific objectives were to:

1. Develop twenty sessions aimed at training home-based caregivers towards a holistic development of infants below 24 months in Kenya.
2. Design the sessions to cover all eight learning outcomes listed below.

1.2.3 Expected Learning Outcomes of the Training

It is envisaged that at the end of the training, the trained caregivers should be able to:

1. Respect the infant as an individual;
2. Make use of the understanding of the developmental milestones to identify the infants at risk;
3. Support infants towards having healthy attachments;
4. Modify techniques to stimulate physical growth in each infant;
5. Offer a balanced diet (nutrients) to infants;
6. Distinguish between psycho-social stages to ensure infants reach them;
7. Accompany the infants in building skills for language development;
8. Adapt play to combine different skills with socialization.

1.3 Scope of the Manual

This manual will be used by the Trainer (the proprietor of the manual) to train caregivers to provide a holistic development for infants of below 24 months in Kenya. Caregivers include

parents, grandparents and house-help who will care for the infant in the home. This training does not cover assessment nor support for infants with disabilities and developmental disorders as this requires specific professional training.

1.4 Delimitations of the Training Manual

The project delimits itself to caregivers and family situations that are psychologically stable.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The purpose of this project is to create a resource to train caregivers to support their infants towards a 'Holistic Development,' the term 'holistic' can be understood in four dimensions:

1. Biosocial development:
2. Emotional development: Attachment theory
3. Psychosocial development: Erikson's stages of psychosocial development
4. Cognitive development: Piaget's Sensorimotor Intelligence

The chapter reviews literature related to these four dimensions with reference to relevant theories. This project uses this theoretical knowledge to support caregivers in providing a suitable environment for infants to develop to their full potential.

2.1 Relevant Theoretical Literature

The theoretical literature explains in details each of the four dimensions and will discuss to the theories relating to each in turn.

2.1.1 Biosocial Development: Reflexes and Developmental Milestones

Biosocial development characterizes growth in three domains: mind, body and social relationships. The development of the brain is invisible yet vital and dependent on stimulation and experience; within the first 24 months a baby's brain reaches 75% of its total adult weight (Berger, 2008). Caregivers need to understand that they are solely responsible for providing this support for

the infant to attain full potential and neglect could result in irreversible damage. Studies have shown it is crucial to expose the infant to the appropriate stimulation during the ‘sensitive periods’ at which time the particular kinds of development are *primed* to occur (Johnson, 2015).

Caregivers can follow an infant’s growth pattern using the *developmental milestones* as they provide a guide to the expected growth pattern of an infant. Therefore if a deviating trend is apparent it should be reported to the pediatrician and professional advice taken. Recording the reflexes are the first set of milestones to be considered in the form of the *Neonate Assessment Scale* which measures 26 items of newborn behaviour. Among them are the three sets of reflexes which are constantly checked as they are critical for survival.

1. Reflexes that maintain oxygen supply;
2. Reflexes that maintain constant body temperature;
3. Reflexes that manage feeding.

Table 2-1 The Five Important Reflexes

Type of Reflex	*Expected Infant Movement*
Sucking reflex	Touching the lips of infants causes them to suck.
Rooting reflex	Brushing the cheek of an infant causes them to turn towards that direction in search of a nipple to suck.
Babinski reflex	Stroking the feet makes the toes open upward.
Stepping reflex	Holding the infant upright with the legs down, causing them to move as if walking.
Swimming reflex	When laid on the their stomachs, infants stretch out their arms and legs
Palmar grasping reflex	Touching the palms causes the fingers to close in a tight grip.
Moro reflex	Startling an infant with a loud bang cause them to fling their arms outward and cry with wide-open eyes.

(Berger, 2008)

Reflexes are automatic reactions to stimulus at birth which disappear after maturation. Doctors use these reflexes within hours of an infant's birth to check the organs. The five important reflexes indicative of normal brain and body functioning at birth (lasting for 3 to 6 weeks) are shown in Table 2-1.

2.1.1.1 Sleep and Wakefulness

A newborn baby or neonate for the first month sleeps approximately 20 hours after birth which steadily reduces as the infant grows (Mwangi & Njuguna, 2013). Gradually the infant comes out of the sleepy state and for the first 8 to 12 weeks goes through the five states of sleep and wakefulness shown in the table 2-2.

Table 2-2 Five States of Sleep and Wakefulness

Deep sleep	The infant's eyes are closed and the breathing is regular with occasional startles.
Active sleep	Although the infant's eyes are closed the breathing is irregular without body movement.
Quiet awake	This time the infant's eyes are open with regular breathing and without movement.
Active awake	The infant's eyes are open, the breathing is irregular and with a lot of movement of the head, trunk and limbs.
Crying and fussing	Although the eyes of the infant may be entirely or partly closed, there is energetic movements with crying and fussing sounds.

(Mwangi & Njuguna, 2013)

2.1.1.2 Physical Developmental Milestones

A guideline of developmental milestones shown in table 2-3 is useful to the caregiver as it gives a general idea of what to expect in terms level of growth expected in an infant within a specific period. However, it is not '*set in stone*' it varies from one infant to another depending on the environment, cultural background, family situation and a variety of different factors.

Caregivers must also take into account individual differences infants are unique people with their own personality style; respecting them for who they are and not imposing expectations but by being supportive will stimulate growth. Psychologists specialized in early childhood development suggest that caregivers show admiration in order to invite the infants to feel *pride* in investing in activities that will make them feel *affection*. This positive feeling will be committed to memory and will continue to encourage the infants to take interest in new activities in their environment (Greenspan & Greenspan, 2003). Table 2-3 provides caregivers with a guideline for the emergence of physical movement indicative of growth.

Table 2-3 A Guideline of Physical Developmental Milestones at Infancy

Approximate Age	**Characteristic or Achievement**
3 months	Rolls over
	Stays half upright in stroller
	Uses two eyes together
	Grabs for object; if rattle in hand, can shake it
	Joyous recognition of familiar people
6 months	Sits up, without adult support (but uses arms sometimes)
	Grabs and can grasp objects with whole hand
	Smiles and laughs
	Tries to crawl (on belly, not yet on all fours)
	Stands and bounces with support (on the lap or in the bouncer)
	Begins to show signs of anger, fear, attachment
12-18 months	Walks well
	Runs, but also falls
	Tries to climb on furniture
	Begins toilet training
	Likes to drop things, throw things, take things apart
	Able to identify self in the mirror
24 months	Runs confidently
	Finds climbing down difficult than climbing up
	Able to use a spoon
	Can unscrew jars and open cupboards
	Interested in other children

(Berger, 2008)

2.1.1.3 Gross and Fine Motor Movement

An infant has to develop physically in keeping with the six gross motor milestones (WHO, 2009):

1. sitting without support (4 – 9 months);
2. standing with assistance (5 – 11 months);
3. crawling on hands and knees (5– 14 months);
4. walking with assistance (6 – 14 months);
5. standing alone (7 – 17 months);
6. walking alone (8 – 18 months).

As maturation of the prefrontal cortex progresses, myelination of the corpus callosum and lateralization of the brain improves, as well as the coordination, control and balance when walking and running. Active play is essential for development and mastery of gross motor skills as shown in Table 2-4.

Fine motor skills involve small body movements using hands and fingers. These movements are controlled and precise and more difficult to master. Activities such as pouring liquids into a glass or cutting with a knife or scissors or drawing and colouring with crayons require muscular control patience and judgement which come with practice. Most precision tasks need to coordinate the thumb and index finger, caregivers could sharpen these skills from 12 months onwards by encouraging infants to dress themselves: pulling up zippers and buttoning their clothes. This is in preparation for school tasks such as holding a writing implement and manipulating scissors.

Table 2-4 General Guideline for Gross Motor Skills: Infants below 24 months

Age in months	Gross Motor Skills
3-4 months	able to control head movement when upright
4 months	when placed on the back can roll to the side
5 months	when placed on the back can rolls to the front
6 months	when on stomach can raise upper trunk and head
7 months	when on stomach can explore with one hand while balancing on the other
6-7 months	able to sit by themselves alone
8-10 months	Crawls
10-11 months	holds furniture to stand and move
9-12 months	when in sitting position can reach for a toy
11-12 months	stands by pulling self up.
15 months	able to walk on their own. able to move from squatting to standing able to walk up and down stairs if hand is held
18 months	able to run but is unsteady
2 years	able to run and walk without falling able to jump with both feet together able to climb stairs unaided able to kick a ball

(WHO, 2009) Gross Motor Development Milestones

2.1.2 Emotional Development: Attachment Theory

Bowlby (1951) was influenced by the ethological theory which postulated that attachment was innate and had a survival value. Bowlby's theory led to his maternal deprivation hypothesis where he claimed that the first two years were critical and the infant if deprived could suffer irreversible long-term consequences such as delinquency, depression and affectionless psychopathy. These findings were supported by Harlow's research with monkeys (1958). Further research showed that a secure attachment with a primary caregiver is a predictor of self-confidence, as well as an adventurous and courageous temperament and an ability to handle relationships with others (Ainsworth, 1979).

There is no doubt that while breastfeeding mothers make an attachment bond with their infants which lasts a lifetime as part of the evolutionary process. However, caregivers who bottle-

feed babies also created healthy attachments by maintaining eye contact and cooing, caressing and soothing infants whilst feeding. It is act of responding sensitively to the infants calls, expressions and gestures; overseeing their physical needs of hunger; keeping them clean and dry as well as providing comfort when they are tired and ill the caregiver creates a sense of trust and security within infant towards the caregiver (Greenspan & Greenspan, 2003). Furthermore a relationship begins to develop: the caregiver is able to read nonverbal cues, gestures, providing the infant with a foundation to feel secure to learn, and trust others (Ainsworth, 1978). Moreover, these early experiences influence how an infant relates to others in future relationships. Studies have also demonstrated the attachments made as infants determine the caring behaviour with their own children as adults. (Grossman, Grossman, & Waters, 2005).

Ainsworth (1979) discovered that not only do all infants develop special attachments to their caregivers but that there are four types of attachments that are formed:

1. A secure attachment is one where infants feel happy and can trust the caregiver to provide for her needs.

   Behaviour within relationships: The infant is self-motivated; secure and confident within the environment and able to handle health relationships.

2. An insecure-avoidant attachment is when the infant avoids interaction with the caregiver when distressed. The caregiver has been insensitive to the infants needs and neglected them.

   Behaviour in relationships: The infant is very independent of the attachment figure both physically and emotionally. The infant does not trust others in the relationship.

3. An insecure ambivalent / resistant attachment is when an infant is anxious and whose behaviour is unclear; exhibits clingy and dependent behaviour but will reject caregiver

when she engages in interaction. This behavior results from an inconsistent level of response to her needs from the primary caregiver

Behaviour in relationships: . When distressed these infants are impossible to soothe and do not accept comfort from people with whom they have a relationship. They are too insecure to take up challenges and lacks confidence to explore their environment.

4. A disorganized attachment is when a infant shows inconsistent reactions to the caregiver's departure and return. This is characteristic of primary caregivers who are abnormal: depressed, frightening or abusive in their behaviour towards the infant.

   Behaviour in relationships: the infant wants comfort but is afraid of getting hurt as a result the infant is incapable of coping and 'acts out' for attention by crying for help.

According to Thompson, (2006) securely attached infants tend to grow up to be confident toddlers, capable preschoolers, well-adjusted as well as academically able school children and better parents. The infants from the other three attachment types may develop into troubled children especially if they unable to develop strategies. Many stand a high chance of becoming hostile and aggressive and other people have difficult relating to them. However, clinicians and policy makers have evidence that disorganized attachments can be reduced by introducing interventions for caregivers. There are a range of strategies: manualized home-intervention of 10 to 20 sessions; video feedback; child-parent psycho-therapy and positive parenting (Granqvist, et al., 2017). It has been a breakthrough in the field and it appears policy makers are interested in implementing it as it will have a positive impact on the welfare of children. One such project has been implemented in South Africa (Crankshaw et al., 2016). This gives credence to the fact that training caregivers of infants can make a marked difference to their lives.

2.1.2.1 Stranger Anxiety

'Stranger anxiety' is not reflective of neglect but a normal phenomenon which occurs at approximately 8 months when attachment has taken place and the infant's memory has developed sufficiently to identify her parents and other caregivers. A baby who is happy and content can burst into screams when an unfamiliar face walks towards her and reaches out to hold her. However, babies who are exposed to different environments and interact with a variety of people tend to be more tolerant of strangers and show less anxiety towards strangers (Mwangi & Njuguna, 2013).

2.1.2.2 The Milestones for Emotional Development in an Infant below 24 months

When relating to the infant, caregivers must be able to distinguish the different cries. Emotional development in infants is a process of reactions to a combination of pain and pleasure within the environment. Infants progress from simple to complex patterns of social awareness (Table 2-5, Berger, 2008). Crying indicates hunger, pain, tiredness or fear (startled by loss of support or loud noise). *'Colic'* can cause uncontrollable crying which is common among a third of infants between ages two weeks to three months. Caregivers are encouraged to be patient, observant and supportive by reducing factors in the environment that are stressing the infant. Happiness is communicated with a social smile and laughter follows. Anger tends to result from frustration and is a positive sign of wanting to explore the environment but is curtailed by a caregiver. However, sadness must be noted as it signifies withdrawal and is accompanied by a stress hormone *'cortisol'* (Lewis et al., 2015). Studies (Demir-Lira, Voss, O'Neil, Briggs-Gowan, Wakschlag, & Booth, 2016) indicate that early life stress, (ELS) particularly abuse and neglect, can shape the development of brain areas such as the amygdala and hippocampus which are involved with emotional processing and regulation. Furthermore it is suggested that infants exposed to abuse or neglect are at risk for later negative outcomes such as behavioural problems

that could be related to ELS. Table 2-5 summarizes the age at which emotional expression emerge.

Table 2-5 Behavioural and Emotional Expression Checklist (9-18 months)

Age	Emotional Expression
Birth	Cries, content demeanour
6 weeks	Smiles at people
3 months	Laughs, curious
4 months	Responds to smiles and chat
4-8 months	Irritability, anger
9-14 months	Fear of separation from caregiver
12 months	Fear of sudden noises
18 – 24 months	Self-awareness: pride; shame; embarrassment

(Berger, 2008)

2.1.2.3 The Caregiver

The caregiver is key to the environment. Creating a supportive environment according to Greenspan & Greenspan (2003) would require the caregiver to:

1. Be able to understand and respond selectively to the infant's signals.
2. Respond with feeling.
3. Remain aware of the infant's manner of communicating.
4. Respond accurately to the infant's efforts to 'self-regulate'.
5. Help the infant communicate using a wide range of emotions.

According to Steele (2008), infants cry in a distinct manner to signal three different emotional states: hunger, fatigue and pain. The hunger cry is one that is steadily built up; the fatigue cry is a whimper and the pain cry is short, sharp and elongated. Caregivers who respond promptly and efficiently to the baby's cry in their first three months will create a good relationship within nine months. Smiling, when responding to familiar faces or objects (crib mobile) appear between two to three months and by the fourth month a social chuckle or laughter can be heard

depending on the interaction of the partner. Steel (2008) further explains that surprise, anger and sadness are a chain of emotions that occur from memory and set of expectations with an anticipation of an experience or interaction. Surprise is when an infant is faced with an unexpected outcome and indicated with an oval mouth and raised eyebrows. However, surprise can turn into anger when an anticipated outcome is not met which is indicated by furrowed eyebrows and gritted teeth. Caregivers must be observant and sensitive to the infant's expression to dissipate the stress and attempt to resolve the problem in order that the infant experiences a positive outcome otherwise it may result in sadness, and prolonged resignation can lead to depression.

Thereafter, infants slowly begin communicating their needs to the caregiver to maintain their comfortable position hence cry to be fed or to indicate pain in their stomach or tiredness or discomfort when trying to sleep. When communicating, caregivers are encouraged to use the positive approach to childrearing from the start as by modeling positive emotions caregivers provide an example for the infant to imitate (Hayes, 2011).

2.1.2.4 Sensitive Period for Emotional Development

Studies (Legestee & Varghese, 2001) indicate that infants show more facial and vocal sadness; often more anger and less joyfulness when exposed to maternal depression. The interaction between the infant and caregiver is vital for it is a sensitive period for acquiring skills for non-verbal emotional expression in response to all classes of stimuli (Carr, 2009). During the first year of life, infants appear to demonstrate a capacity to discriminate positive and negative emotions expressed by others. It is also at this stage that infants develop self-soothing skills such as sucking fingers, rocking and feeding. Caregivers are expected to discern when and how to provide emotional support when the infant is stressed because neglecting infants can cause anxiety which in turn can affect the cognitive development in the brain. According to Puckering (2008) it

is these early experiences, which create an infant's positive or negative schemata that will influence his habitual ways of responding to life's challenges. It becomes 'default' premise for example: *'I cannot do this, it is too difficult'* would be a negative underlying schemata. The role of caregivers is to provide support for infants to learn to tolerate environmental stress and as they grow to overcome it by acquiring strategies and building resilience thereby creating a positive underlying schemata. If infants are not supported in this area of growth it causes under-development of the executive functions in the prefrontal lobes and overworking in the amygdala thus leaving them on 'high alert' (Hanson, 2015). Shonkoff, Garner, Siegel, et al., (2012) calls this 'toxic stress' which can lead to permanent changes in all areas of learning and socio-emotional development.

2.1.2.5 Caring Styles and Attitude

Infants between 12 and 24 months begin to react emotionally to certain situations these reactions may be seen by caregivers as rebelliousness or waywardness which needs to be curbed. In the past Baumrind (1991) demonstrated that '*authoritative parenting'* was best where parents set boundaries while listening to their children. Although parents did not punish them they made them aware of the consequences. Her research showed that this style of parenting predicted a better quality of life and mental health for children. However, a more modern attitude of parenting is to encourage positivity. According to positive psychologists, Heffron & Boniwell (2011) the pace of life at present is fast and aggressive. They predict that as a result many infants in this generation will suffer from depression or anxiety disorders as adults. Therefore, they suggest that caregivers model positive psychology by demonstrating positive emotions throughout early childhood development. They recommend a combination of authoritative parenting with a positive attitude. An infant learns from a young age to look for a positive option instead of getting caught

in the negative or oppositional cycle when trying to assert their independence. It is common for infants to have tantrums from 18 months to 36 months as it may be the only way for them to express anger due to frustration or distress due to fear (Hayes, 2011). Therefore it is crucial that caregivers understand their needs, habits and developmental stages when dealing with a tantrum. In addition, it is important avoid to reinforcing the undesirable behaviour by remaining calm and understanding the situation: perhaps the infant wants to assert his independence or is coping with inner frustration or jealousy or is overstimulated, tired and feels emotionally drained or overloaded. Hayes (2011) believes that positive parenting involves giving the infants boundaries; praising and rewarding good behaviour and allowing the infant to experience the consequences for their actions. Caregivers are encouraged to bring positivity to the situation by introducing humour by tickling or singing a favourite rhyme or playing a game as it tends to defuse the tension and acts as a distraction.

In Kenya many parents believe in *'the rod and not sparing the child'* despite corporal punishment being deemed illegal by law in 2010 (Mweru, M. 2010). Taipale (2016) argues that if self-regulation is practiced by the caregivers it will be reflected in the infant's behaviour and the infant will be shaped by this for life. This project is dependent on an emotionally stable caregiver and recognizes the importance of self-awareness. It is human to feel frustrated and angry but if caregivers are trained to exhibit positive emotions, they provide a model to the infant and the infant learns this behaviour and is quite likely to reflect positively to any negative situation. Behaviourists believe that infants learn behaviour from their social environment hence being exposed to positivity will encourage them to adopt it and later develop a positive temperament.

2.1.2.6 Cultivating a Secure Attachment

Research has shown the importance of secure attachment to the caregivers. Siegal (2012) explains that it is the beginning a bonding process that will continue to adolescence which can be reinforced by the caregiver using the 4 'S's: *'seen'* or empathy, *'safe'* or calming their fears, *'soothed'* or comfort them, and *'secure'* which is providing support to enhance their wellbeing regardless of the circumstance. Caregivers in modeling this behaviour, help the infant to learn to reinforce themselves using the same four steps. Siegal believes this is how bonding can take the infant beyond the core of the attachment theory into childhood and adolescence.

From a caregivers point of view, those who feel the infant is more responsive to them will be inclined to invest time in stimulating the infant. Those with greater sense of control and self-confidence over their own lives are likely to be more responsive and work better with the infants. Furthermore, a healthy support network will create secure attachments too (Mwangi & Njuguna, 2013). For example it is understandable that a mother who is taking care of the infant all night, cannot be attentive and stimulating company for the infant all day too and would appreciate a reprieve; support system in terms of a help from the grandmother or father of the infant would help to rejuvenate her energy. Doctors agree that mothers who do not have support tend to become resentful and damaged (Stoppard, 2011). This may lead to post-partum Depression (PPD) which requires counselling or psychological help, if not .this has a negative outcome on the infant.

2.1.3 Psychosocial Development: Erikson's Theory of Psychosocial Stages

Infants go through a series of crises or stages and Erikson believes that the manner in which they deal with this, influences their entire life. Erikson (1969) started his career as a follower of Freud (1935), the founder of the psycho-sexual theory of personality development (1935) hence

the emphasis on the early years of life and the conflicts faced which explains behaviour in later life. Erikson (1969) focused on the eight psychosocial stages in the life of a person. However, this project will dwell on the first two of this theory: *Trust versus mistrust* which is when babies feel secure that their caregivers will provide for their basic needs and not feel neglected. *Autonomy versus shame and doubt* is the second stage when infants either become confident and self-sufficient in day to day activities or doubt their ability. Erikson believed that infants go through a crises at each of these 2 stages and the resolution of each crises depends on the interaction between the individual and the social environment be it the family or the culture within which the infant is raised. Psychosocial development encompasses the dynamic interaction of an infant's emotions with the environment and the caregiver which in turn covers the growth within him and forms part of his social referencing (Berger, 2008).

2.1.3.1 'Trust versus Mistrust'

Erik Erikson terms the infant's first crisis of life as '*trust versus mistrust*' when they learn that the world is a secure place and their needs such as food, comfort and attention are met with consistency and continuity (Erikson, 1963, p.247). If this need is met adequately, the infant will feel able to explore the social world. However, Mwangi and Njuguna (2013) argue that a adequate amount of mistrust is seen as healthy; creating an awareness that everything in the environment is not predictable. As infants grow they must be able to distinguish between the genuine and false in an evolutionary process to survive in the environment.

2.1.3.2 The Environment

This project lays emphasis on the environment of the infant as it will provide the stimulation for a holistic development to take place. The room must not only be safe but warm and

comfortable care must be taken to protect the infant from elements of harm such as second-hand smoke, visitors or young siblings (Laura 2012; Kail, 2011).

There are a variety of other factors that influence the environment of an infant such as the family situation (Greenspan & Greenspan, 2003):

- ***The parents:*** If this infant is the first baby of newly-weds the adjustment for them as caregivers would be different from a infant born to a couple who have been in a relationship longer period such as 8 years. A single parent who is a professional would be a different situation to a teenager adjusting to an unwanted pregnancy or a divorced woman who has to take sole responsibility for an infant whose father has left her for another woman.
- ***Strains and stresses*****:** For example conflicts with the spouse; unexpected pregnancy; financial constraints; work related problems; guilt for leaving the baby with a caregiver.
- ***The nursery:*** The room, or area where the infant will inhabit has to be clean, infant friendly, stimulating with colourful toys, well-lit and with strict adherence to health and safety measures (Kail 2011 & Laura, 2012). The caregiver must be available and attentive at all times.

2.1.3.3 Autonomy versus Shame and Doubt

According Erikson (1963) the second crisis is *autonomy versus shame and doubt;* when infants (12-36 months) want autonomy (self-rule) over their own actions and bodies. Failing to gain it, leaves them feeling ashamed of their actions and doubtful of their abilities thus affecting their self-confidence as they grow. Psychologists have documented cultural differences where in western societies parents expect defiant behaviour and try to guide and encourage autonomy while eastern societies expect the opposite therefore parents use shaming techniques to have harmony in the family (Berger, 2008). There are some African communities that discriminate children for example, a girl's birth goes unnoticed while a boy's is festive and jubilant. This is where gender

would strongly influence personality making the girl child feel inferior and unwanted (Mwangi & Njuguna, 2013). It is never too early to encourage a baby to give her equal opportunity to develop express herself.

2.1.3.4 Social Referencing

Infants try to understand the caregiver's emotions at around 12 months. Social referencing is when an infant looks to their caregiver as a person they trust for clarification. A glance of reassurance or cautious words, a look of alarm or fear or dismay will cause them to freeze; a relaxed look or delighted smile will mirror the effect on the child (Berger, 2008). Social referring has many practical applications too. Infants learn to 'read' their caregivers: know how to please, entertain and tease (Reddy, 2008). Furthermore, fathers who play with their infants tend to use imaginative, explorative and exciting games that involve whole body movement which boosts social intelligence and confidence in their infants (Cabrera, Shannon, West, & Brooks-Gunn, 2006). Hence it can be said that combining play with caretaking builds confidence in infants.

2.1.4 Cognitive Development: Piaget's Theory of Cognitive Development

Infants struggle to organize sensations and perceptions to comprehend the familiar and the unfamiliar; events and experiences; the transient and permanent; objects and people; the sequence and direction; cause and effect. In time they learn to not only understand but apply their learning to reach their own goals. They communicate using language and later use the language to speak and think (Berger, 2008).

2.1.4.1 Sensorimotor Intelligence

Piaget identified four periods of cognitive development. The first period is from birth to 24 months which he called '*Sensorimotor*' because infants learn through their senses; an active

process between the brain and the senses causing a 'circular reaction' between sensation, perception and cognition. Table 2-6 shows the six stages of Sensorimotor intelligence. The first two stages of *sensorimotor intelligence* are of primary circular reactions (reactions that involve the infant's body). The first stage of reflexes last only for a month and forms the foundation of infant thought. The reflexes become deliberate movements and the sensation leads to perception and then cognition. At approximately four months the baby enters into the second stage where the first acquired adaptations occur and first habits are formed.

Table 2-6 The Six Stages of Sensorimotor Intelligence

Primary Circular Reactions	
The first two stages involve the infant's own body.	
First stage (birth to 1 month)	Reflexes: sucking, grasping, staring, and listening.
Second stage (1-4 months)	Adaptions: accommodation and coordination of reflexes. Examples: sucking a pacifier
Secondary Circular Reactions	
The next two stages involve infant's responses to people and objects	
Third stage (4-8 months)	Developing awareness of things: responding to people and objects. Example: clapping hands and exclaiming
Stage four (8-12 months)	Showing anticipation: responses more deliberate and purposeful. Example: putting mother's fingers on her stomach to tickle her.
Tertiary Circular Reactions	
The last two stages are the most creative: first with action and the other with ideas	
Stage Five (12-18 months)	Active experimentation: showing creativity Example: throwing toys in the toilet and flushing it.
Stage Six (18-24 months)	Combining different mental processes: providing the infant with new ways of achieving a goal Example: hesitating to grab the balloon because the last time it burst.

(Berger, 2008)

The adaptation from reflexes to deliberate action occurs because the repeated action sends information to the brain about what the body does and how the action feels. According to Piaget the adaptation is crucial to learning as it is how the brain processes experience using the skills of

assimilation and accommodation. Adaptation is demonstrated when babies suck their thumbs, fingers, or knuckles even when not hungry.

The next two stages of secondary circular reactions involve the baby, a toy and another person. At about 4 to 8 months babies interact with the environment and realized that they can prolong interesting events such as waving their arms and laughing when someone puts a rattle in their hand. Furthermore at 8 to 12 months they are able to think about how to manipulate the environment to reach their goal such as an infant reaching out for a coat when seeing the mother leaving the house. Piaget calls it *adaptation and anticipation* as it is *goal-directed behaviour.* All the different forms of play is important at this stage to stimulate healthy development of brain (Mwangi & Njuguna, 2013). Piaget claimed that '*Object permanence*' emerges when an infant is able to understand that an object still exists even when not visible. This is learnt as a result of maturation and experience, hence is considered to be an important milestone in assessing whether an infant's brain is developing normally.

Stage five and six involve the *tertiary circular reactions*. At stage 5 infants are about 12 months and take their first independent steps to discover the environment and no longer simply respond to their own body. This stage is aptly called *new means through active experimentation* as infants build on the knowledge of the previous stage but in a creative manner such as unravelling toilet rolls or throwing toys into a toilet bowl or putting their fingers into power sockets. Finally the sixth stage at about 18 to 24 months toddlers begin to solve simple problems by using *mental combinations* because at this point they are able to not only combine ideas but think about the consequences. Piaget describes this intellectual accomplishment as '*deferred imitation'* which involves both thought and memory. It is the ability to notice behaviour and imitate it from memory when the need arises.

2.1.4.2 The Role of Language in Communication

Reddy (2008) has a more contemporary approach to cognitive development as she believes communication starts at infancy through a repertoire of communicative acts, interactive and effective synchrony, turn-taking and attentional co-ordination. This slowly grows and the infant eventually is able to gain not only grammatical and textual competence but socio-linguistic competence as well. Language develops at a steady rate in the first 24 months in an infant's life as is shown in Table 2-7. Language acquisition varies among infants but most speak about 300 words and go through the same sequence worldwide.

Table 2-7 The Development of Spoken Language in the First 2 years

Age	Means of Communication
Newborn	Prelinguistic vocalization; crying, gestures, facial expressions
2 months	Reaction noises, cooing;
3-6 months	Sounds: including squeaks, vowel and consonant sounds, babbling;
6-10 months	Understanding simple words; tone of voice; The start of rudimentary communication.
12 months	Holophrasic stage; First oral words usually part of the infant's native language;
13-18 months	Building vocabulary (8 to 40 words); nouns and verbs;
18 months	Learning at least three words per day.
21 months	Cholophrasic stage; Two-word sentence (50 words);
24 months	More complex sentences.
2 years	Acquisition of grammar; vocabulary spurt (100 to 2,000 words); 4 to 6 words sentences; Asks questions "What's that?"

(Berger, 2008)

Piaget's cognitive theory makes it clear that the infant is thinking and reacting while developing in every aspect simultaneously. Throughout this process the infant is communicating with cries and sounds which develops into a form of communication with imitation and social learning such as smiles and attention. Caregivers play a crucial role in developing language and by modeling and vocalizing their feelings as well as expressing emotions when reading a story or singing because, as they develop, infants feel the emotion and slowly associate words with it and

in this way learn the vocabulary. According to Mwangi and Njuguna (2013) babies want to share their emotional and physical experiences with others. Eventually communication and language finds it's the way to symbolic behaviour which develops in different forms such as art and music. Infants, if encouraged and supported right from the beginning to communicate their feelings will not only develop language but communicate efficiently through words, music, art and other forms. It is important for caregivers to look for a variety of ways to introduce these forms of communication early through play.

2.1.4.3 Importance of Play

In the past play was considered an empty activity to fill time, in the last 20 years however the value of development of an infant through play has been recognized. It is not only important for socialization but for its educational value too (Stoppard, 2011).

This project sees play as a form of integrating all the four dimensions biosocial, emotional, psychosocial and cognitive which can contribute to holistic development in an infant. Play provides the context of experiences that helps to develop neural paths, develop muscles and encourage elementary problem solving as infants begins to explore their environment (Mwangi & Njuguna, 2013). Through play infants grow, develop and learn how to use their muscles; coordinating their eyes with their hands and gaining control of their body. They use their minds to question while using their senses and muscles explore the environment looking for answers. Between 12 and 24 months infants learn to communicate and talk by listening to others they slowly develop vocabulary (Boston Basics, 2016).

During play infants tend to be imaginative, creative and love to express themselves especially to gain attention from parents and caregivers. They enjoy any form of artistic expression: dance, song, building towers, making music by pounding in rhythm or making marks

on bright shiny paper. Every artistic form improves with practice. At this stage infants enjoy challenges that are within their reach (Berger, 2008).

In Kenya traditional games and play vary on individual communities some are exclusively for girls and for boys. However, songs, music, dance and stories are appreciated by both genders and all ages. In the first year infants need to touch, handle, bang, shake, suck and chew to stimulate the senses. UNICEF programme (2012) train caregivers to make toys from household items that are colourful, washable, large and noisy giving suggestions for each age group. These toys are affordable and innovative that can easily be manipulated to suit the infant's needs. Between 12 to 24 months infants need to play along-side other infants to get used to the social company. By 24 months they will be able to catch and throw a ball as well as run and stop without falling making it possible for the caregiver to organize playtime together other infants (Stoppard, 2011).

2.2 Evaluating The Theoretical Framework

This project was built on four theories that forms the four dimensions encompassed within the term 'Holistic development' of infants below 24 months. Although these theories form a strong base for the project, they are not perfect and have to be used with caution and within reason. The caregivers are key to directing development in the infant therefore it is vital that the caregivers are self-aware and able to set the boundaries at every level.

2.2.1 Biosocial Development

Caregivers have to constantly assess 'normal development' by following milestones set by researchers based on average growth rates. However, this does not take into account genetic disposition, diet and individual differences. In a cosmopolitan society the cultural differences are seen clearly. Research illustrated this when infants were grouped for their ability to walk by

ethnicity the Ugandans were ahead (10 months) followed by African Americans who were ahead of European Americans, followed by the Hispanic and lastly the French (Berger, 2008).

Labelling infants at this stage stays with them through childhood and can later damage their self-esteem and self-confidence.

2.2.2 Psychosocial Development

Erikson's first stage of psychosocial development *Trust versus Mistrust* is deemed to be important for creating trust with the caregiver and later relating it to others. However, care experts claim that much is dependent on the caregiver. At this stage the infants model the behaviour of the caregiver (Bandura, 1997), hence it is vital that the caregiver is self-aware in terms of body and verbal language, facial expressions, attitudes and emotions. The caregiver can unintentionally hinder this natural process of development in the infant. In the second stage of *Autonomy versus shame and doubt,* an infant is supposed to build self-esteem through gaining control of her environment. However, it can be argued that allowing infants freedom to 'explore' can be harmful as allowing them to 'learn from experience' may cause irreversible damage or pain making them overcautious and lose confidence.

2.2.3 Emotional Development

The attachment theory only deals with the attachment bond between mother or caregiver and infant. However, in as much as neglect is detrimental to the development of the infant, maternal overprotection and possessiveness can be stifling for growth too. Caregivers too must be aware of unresolved past issues to prevent transference or displacement of negative emotions on the infant as it will interfere with their relationship with the child in the future. It is important that infants grow in a balanced, neutral environment to develop their own unique character.

2.2.4 Cognitive Development

Piaget's theory of sensorimotor intelligence is an infant's ability to assimilate, accommodate and adapt to the stimulation within its environment. The task of the caregiver is vital to enhance this development to enable the infant to reach its potential. Research indicates that the educational level of the caregiver provides insight to create the environment best suited to the needs of the infant and to keep him challenged but not frustrated (Licata et al., 2014).

Holistic development is an outcome that this project strives to achieve but it comes with human limitations and in this case it lies with the caregivers. The caregivers have to be above reproach as they are in control of the environment that will shape the infants and influence their future. Moreover, they should be weary of overprotecting infants as it violates their basic need for autonomy and competence resulting in a negative outcome.

2.3 Empirical Literature Review

The term 'Holistic Development' encompasses the four dimensions: Biosocial, Emotional, Psychosocial and Cognitive development occurring simultaneously in infants. In order to fully comprehend the need for this project it is crucial to view the four dimensions within the African context.

2.3.1.1 Infants Missing their Developmental Milestones

Sub-Saharan Africa carries the highest burden of risk factors for infants missing their developmental milestones. This in turn has had a detrimental effect on their cognitive development not only in their future but that of their country in terms of human capital. The risk factors include: stunting, iodine deficiency, iron deficiency, malaria, lead exposure, HIV, maternal depression and inadequate cognitive stimulation. Ford and Stein (2017) discuss the situation in

three domains: nutrition, environment and maternal-child interaction. The problem with nutrition has been contained with the introduction of energy, micro-nutrients and protein supplements as well as preventive treatment for malaria which has helped to increase the birth weight of infants. In addition, antenatal breastfeeding education and support has reduced infant mortality.

In terms of environment, the Global Malaria Action Plan made recommendations for preventive and therapeutic interventions. Moreover, with the introduction of unleaded fuel, toxic exposure to lead has decreased. Furthermore the introduction of ARVs to pregnant women with HIV reduced mother to child transmission saving infants who would have been HIV positive. Most countries in SSA are faced with infants missing their critical period of development due to maternal post-partum depression. However, Ford and Stein (2015) found that each country faces its own unique combination of challenges in addressing risk factors for infant development for example some are better in one domain and not the other or suffer in terms of conflict or population displacement which influences the outcomes of the interventions on early child development.

Law makers appear have done their part to ensure that infants are protected from nutritional and medical neglect. However, Laird (2015) examines the presumptions on which these laws are based in five countries in sub-Saharan Africa: Kenya, Malawi, Nigeria,Tazania and Uganda and brings to light many issues. There are six categories of infant neglect: poor hygiene, inadequate supervision, low-weight for age, school absenteeism, delay or failure to seek medical attention for an infant’s illness. However it does not take into account the level of poverty, the dependence on rain-fed small scale subsistence farming and childhood malnutrition. Parents cannot be held responsible for hygiene and sanitation when there is a scarcity of clean water. Laird (2015) argues that the laws should test its relevance before applying it to the context of any developing country in

sub-Saharan Africa. In addition parents may be forced to resort to traditional medicine as public health services are inadequate. Laird suggests that policy makers need to recognize the inter-relationship between the public services, poverty and parental care in the neglect of infants.

2.3.1.2 Emotional Development in the African Context

Infants are shaped by their culture and daily interaction with their caregivers. Today in sub-Saharan Africa there are different classes formed with different approaches to caregiving. Research into infants' social experiences in three African socio-cultural contexts (Otto et al., 2016) shows that caregiving does not necessarily follow familiar pathways. Middle class infants exposed to *distal* parenting behaviour which fosters independence and autonomy mirroring the Western culture. It lays emphasis on object stimulation, face-to-face exchanges and tactile stimulation engaging the infant in joint attention to promote cognitive development. This style is typical of middle-class families with high level of formal education and salaried employment who may rely on house help for their infants. The infant grows up valuing individuality and independence. In contrast, *proximal* parenting used by the non-Western culture emphasizes close body contact, body stimulation and breastfeeding to reduce stress. This style is characteristic of the rural people that are tradition based where body contact is form of shielding the infant from danger. The third type of parents or caregivers are those who are caught between rural-urban transition and face poverty and adversity. It is a lifestyle that is characterized by violence, slum existence and lack of infrastructure. Otto et al., (2016) observed that the distal non-western style of caregiving encourages independence fostering psychological security. However, it is dependent on the caregiver providing sensitive response and supportive autonomy. Proximal parenting is thought to be ideal in the rural community, the infant forms many relationships depending on the availability of the caregivers with an infant constantly being held or strapped to the back if necessity requires.

This results in very calm children that are an integral part of the community. The third group, due to poverty and adversity, the social setting is unstable, unpredictable and high risk. Infants in this setting experience minimal caregiving and are more likely to have negative developmental outcomes resulting in disorganized attachments. Both distal or proximal indicate positive outcomes for infants however, the third group face negative outcomes and for them a training programme would be vital. In South Africa policy makers are trialing parenting intervention programmes to overcome the situation (Crankshaw et al., 2016).

2.3.1.3 Sub-optimal Psychosocial Development

Infants in Africa bear a disproportionate burden of global HIV epidemic of which approximately 2,300,000 children are from sub-Saharan Africa (UNAIDS, 2012). With the help of ARVs it is possible that many infants are born free of HIV despite their parents being positive. However, their lives are not free from it because they are still victims of poverty, stigma and maternal depression which lead to sub-optimal early-childhood development. Psychosocial development requires that the infant interacts with the environment to gain control of it which in turn requires caregivers to be proactive to stimulate the infants mentally and physically however, an estimated 70–90 million infants are living in families affected by parental or caregiver HIV illness (Cluver, Boyees, Orkin, & Sherr, 2013).

Child-care is socially and culturally acceptable in SSA. In many homes Becker (2007) noted that older siblings (8 to 11 years) take care of infants due to illness (HIV) or while their parents are at work. However, it leads to inappropriate parenting (Pretorious & Van Niekerk, 2014) as they tend to overestimate their ability to assess danger which can lead to fatal accidents. Infant are active at this stage of development and in exercising their 'autonomy' and get involved in unintentional injuries such as burns, drowning or pedestrian injuries.

Caregivers need to be attentive and conscious of supervising infants at all times. An environment has to be stimulating, but it is also essential that it is safe, infant-friendly and enclosed. The first two of Erikson's Psychosocial stages lay emphasis on the curiosity of the infant and his eagerness to explore on his own whilst enjoying his independence. According to Stoppard (2011) this may cause a clash in temperament hence the importance of a positive approach in distracting infants as opposed to disciplining them.

2.3.1.4 Cognitive Development: Maternal-Child Interaction

There is limited data available to assess the burden of inadequate cognitive stimulation. In SSA emphasis has been placed on nutrition and sanitation as an infant's life is dependent on them hence the importance of programmes such as Water, Sanitation and Hygiene (WASH) and Sanitation Hygiene Infant Nutrition Efficacy (SHINE) initiated by WHO (2025 initiative) for developing countries. In the past Cognitive development in infants was seen as an outcome of access to good nutrition and clean water. However, its importance has since been reconsidered and in the last five years and intervention programmes set up for parents and maternal-child interaction.

One of the biggest obstacles to enhancing cognitive development in the infant has been maternal post-partum depression (Ford & Stein, 2015). Research was done to investigate various interventions to promote environment stimulation, early parent-interaction and infant development in Malawi. Thereafter a Nurturing Care Framework for Early Child Development was produced where the focus has moved from *child survival to child thrival* (Gladstone et al., 2018). It is a project that is moving towards a holistic approach of early child care.

In South Africa a project Early Book Sharing was trialed over a period of 8 sessions within a community in the 'peri-urban' or high risk area with the hope that it would continue after the 8

sessions too. The results showed it was beneficial to early childhood development (Vally, Murray, Tomlinson, & Cooper, 2014). Other initiatives 'Care for child development: improving the care of Infants' (WHO, 2012) continue to be used in other parts of sub-Saharan Africa.

2.3.1.5 Kenya: Holistic Development of the Infant

Kenya is one of the countries in SSA to attain birthweight prevalence similar to Europe due to improved antenatal care and food security for pregnant women (Ford & Stein, 2017). Programmes initiated by UNICEF and WHO (2012) continue to work in conjunction with the hospitals in counselling services to reduce maternal post-partum depression and support towards early childhood development to enhance cognitive development. In addition, the government of Kenya has in the 2030 vision committed to Education aimed at Holistic Development of the child from pre-school to secondary school (Busolo & Wilson, 2017). However, there is a gap in its provision to provide a training manual for caregivers of infants below 24 months at home and the aim of this project was to fill this gap.

By law caregivers must be supported by the government in order to provide for the rights of the child through:

1. Development through the community level (ECDE);
2. Survival via an immunization programme (MCH);
3. Protection to be realized by the parents to provide food, shelter and clothing.

The infant despite being helpless must be seen as an individual by the caregiver. Sometime an infant has a different personality style from the caregiver which causes a clash or a tantrum (Hayes, 2011). In instances such as these it is important to focus on positive approach with patience and tolerance. It is worth keeping in mind the importance of modeling positive behaviour and self-regulation in order for the infant to learn the correct social behaviour (Taipale, 2016).

2.4 The Conceptual Framework

The conceptual framework (Figure 1) illustrates the affect the training manual has on the trainees or caregivers which in turn will influence the development of infants under their care.

2.4.1 The Primary target: the Trainees or Caregivers

The target group has the opportunity to acquire the knowledge to assist them in caring for infants. They can apply this knowledge in four dimensions working simultaneously towards a holistic development of the infant in the first 2 years of life which is seen as the critical window for this growth.

2.4.2 The secondary target: The Infants of below 24 months

The beneficiaries of the training will be the infants cared for by the trainees. It is hoped that the infants will have the benefit of developing to their full potential without deficiencies. However, the challenge for the ECDE is to provide this to the infants however, it comes with a cost to the government especially if it has to be implemented throughout Kenya.

2.5 The Ripple Effect

The conceptual framework is designed with the training manual at the centre of the programme radiating knowledge at every level to the primary target. The caregivers will not only profit from the four levels of knowledge of biosocial, emotional, psychosocial and cognitive development but also from the wealth of experience of fellow participants. The primary target is circular and not only surrounds the training manual but has a consecutive circle around it too which represents the secondary target. The arrows in the design represents the ‘ripple effect’ which indicates that any effect of the training on the caregiver will have a reciprocal effect on the

secondary target. The positive cascade is felt by the beneficiary which will not only influence the infant's present but the future processes in the areas such as self-actualization as the infant grows and eventually reaches adulthood.

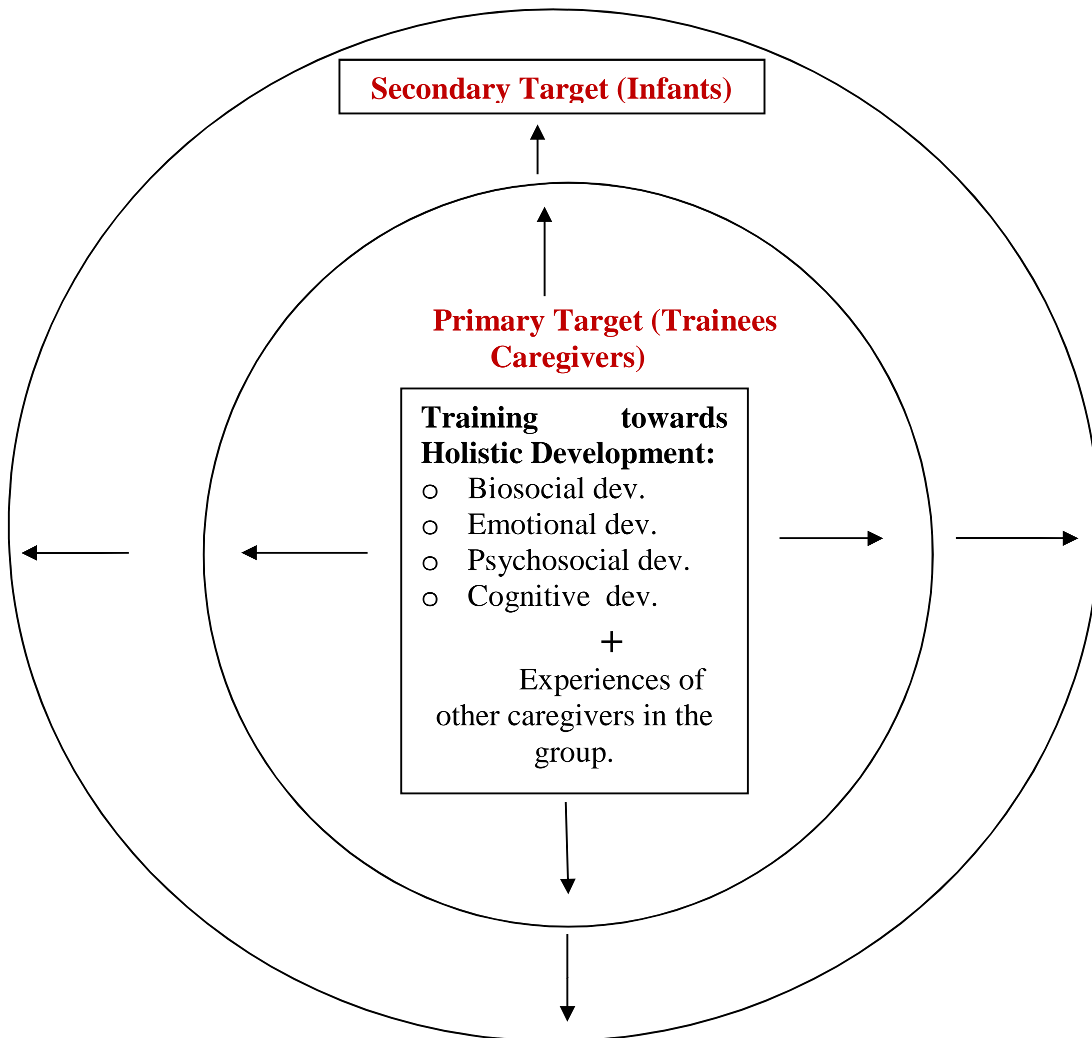


Figure 1 Conceptual Framework

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter lays out the method that will be used to conduct the training. It explains how the training will delivered in keeping with the specific objectives of the training. The manual has 20 sessions evenly distributed over a five day period to be delivered using Kolb's Experiential Learning Model (ELT).

3.1 Target Population of the Training Manual

This project will target two groups: the trainees (primary) and the beneficiaries or infants (secondary). The manual will provide the training for the trainees which will cause a '*ripple effect*' as the participants are expected to learn and apply their knowledge for it to positively cascade onto the secondary target. In order for this to happen effectively it is imperative that the trainees satisfy the following criteria:

3.1.1 Age of the Trainees

This training manual will target trainees that are between the age of 20 and 65 years. It is hoped that in choosing this age group that it will encompass single parents, young parents, extended family members and house helps. The age is limited to 65 years to include grandparents who are able and want to be actively involved in their grandchildren's lives. Adults above 65 may be unsteady thus a danger to the infant being held. It is anticipated that the group of trainees will

be of varying age groups which can be stimulating as the younger members can learn from the older more experienced members.

3.1.2 Education of the Trainees

The training manual is set at an educational level of at least standard 8 and the medium of instruction is English or Kiswahili (with the help of a translator). Participants at this level of education will not only be able to understand the matter but benefit from the cognitive processes within the programme. Furthermore they are expected to assimilate, process and apply the knowledge to their situation. They are also expected to adapt and combine the different techniques to suit the requirements of the infants in the environment.

3.2 Stakeholders

The training programme will be conducted for a community and annexed to an institution such as a church, school, hospital or counseling centre. This will enable the government of Kenya, other non-governmental or financial organizations such as WHO or UNICEF to ensure that basic facilities such as a hall with the necessary amenities are available for a group of 15 or 18 and at a cost that is affordable to the participants. Communities that are a part of the church, school, hospitals or counseling centres have members that are more known to each other therefore able to support one another after the training by forming peer groups.

3.3 Project Beneficiaries

The project beneficiaries are the infants below twenty-four months. They are the secondary target of this project. According to Gachutha (2016) parenting in modern Kenya requires a different approach from that in traditional African society. In the past it was communal: and it was duty of the community to prepare children to perpetuate that society whereas today people are mobile with an emphasis on nuclear families which are individualistic rather than communal.

Hence ‘caregiving’ is learnt ‘on the job’ with by parents or child minders. It is assumed that adulthood qualifies them to care for infants thus leaving infants vulnerable victims who could become inadequate adults. This is the gap that this project aims to fill.

3.4 Training Procedure

The main aim of this manual is to train caregivers to provide infants below 24 months with an environment to enhance their development to ensure that the infant will reach his or her potential. It targets parents, grandparents and house-helps. The duration of the training manual is limited to five days at a stretch or five weekends every Saturday. The day will have 4 sessions where each session will run for approximately 60 to 90 minutes with three breaks mid-morning, lunch and mid-afternoon. In total this training manual will have twenty sessions relating to the eight learning outcomes and activities thereof.

Research suggests that other countries caregivers programme are supported by UNICEF and WHO which provide the necessary endorsement to qualify the Trainer to run the respective programme. Furthermore being attached to a recognized institution such as a church, school, hospital or clinic gives credence to the information being disseminated in the training programme.

Although English is the suggested medium of instruction the training may be used in different parts of Kenya with a translator to accommodate the different languages and dialects as and when the need arises (this will be an added cost that will have to be incorporated in the budget). In this aspect the trainers need to be versatile and dynamic in their commitment to the community to spread the knowledge contained in the manual.

The Trainer (the proprietor of the manual) may have an Assistant who will be trained especially when handling big groups. The recommended ratio number of participants to trainer is

1:6 (UNICEF, 2012) where the participants attend together with their infants. This project has been structured to train adults only therefore, can accommodate a ratio of 1:10. However, it is suggested that a *Training Assistant* is employed to support the Trainer in order that 18 to 20 participants can attend the training in order to make it cost effective.

The criteria for selecting training assistants, man or woman, is to be familiar with the basic theories of psychology and to hold a university degree in Psychology from a recognized institution. It is preferred that they are aged between 30 and 50 years with a teaching background. This is because assisting the Trainer is a position of responsibility and knowledge which requires adequate experience of life.

In addition, it is hoped that the Trainer will further train the Assistants if they so desire to become Trainers themselves. Trainers not only disseminate information within the sessions but need to be able to:

1. Group people by their knowledge, age or socio-economic background in order to facilitate the learning process in the sessions (if required);
2. Work in conjunction with translators;
3. Be resourceful in areas where there are no facilities to show slides or video clips;
4. use posters and paper charts;
5. Creative to demonstrate the use of various tools within the environment to enhance the development of infants;
6. Improvise activities to suit the culture and level of understanding of the group.

3.5 Kolb’s Cycle of Experiential Learning

Kolb’s theory (1974) is a learning cycle of four stages where it is possible to enter at any stage and follow the sequence. Kolb’s two continuums are the horizontal Processing Continuum (how one approaches a task) and the vertical Perception Continuum (emotional response). In addition Kolb believes it is important to know a person’s learning style in order that an appropriate method is used.

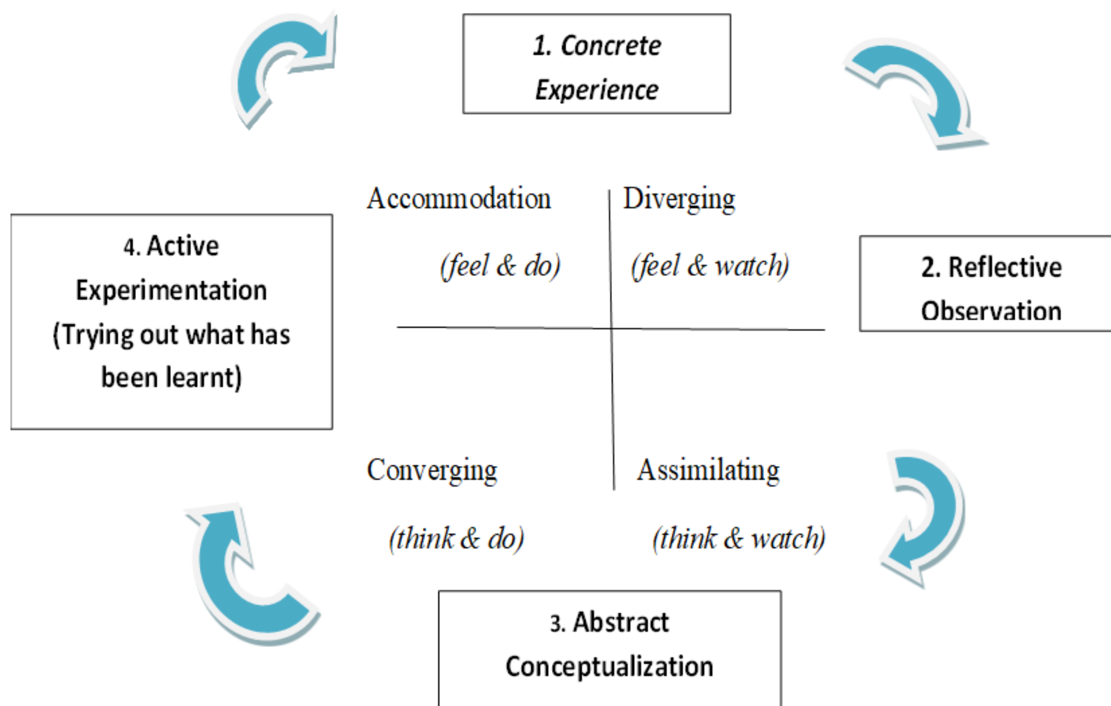


Figure 2 Kolb's Cycle of Experiential Learning

- **Diverging style**: Are those that like viewing problems from different angles. They tend to be people with broad cultural interests and like to gather information.
- **Assimilating style**: Are very logical thinkers and approach a problem based on practical value.

- **Converging style:** Focus on technical features as opposed to inter personal aspects. They like to experiment on new ideas.
- **Accommodating style**: Are those who are intuitive rather than logical and often act on a 'gut feeling' than logical analysis.

The training manual uses Kolb's learning style in each lesson where the concrete experience involves an activity or a problem that requires brainstorming. It has several potential solutions which triggers reflective thought as towards the best solution and the reason for it. The group members are expected to learn from each other as each brings their level of experience to the problem while the instructor is the guide. The trainer is then given an opportunity to inform the participants of important concepts. In the final stage each participant will improvise a way of applying the concepts learnt from which the group will benefit greatly in the future.

3.6 Schema of the Sessions

Prior to being part of an infant's life each caregiver has an expectation of the role he or she has to play in terms of communication style, behaviour and strategies. The training includes strategies to improve areas that are weak as each individual develops at their own pace. Each session has five components: the expected learning outcomes, activity, reflection, input and application.

Expected Learning Outcomes: The schema for each session begins with three expected learning outcomes. The aim is to develop from what the caregivers already know to what the trainer proposes hence building on their knowledge and experience. The skills of imparting knowledge will include graphic representations, dramatization, question and answer sessions, discussions and in any form that would seem fit. Finally the trainer uses different methods such as

buzz discussion or questions and answers to motivate the participants to see the usefulness of the training.

Activity: Each session begins with an activity; which introduces the topic for the session. It also provides an experience of the issue involved in the module, in a stimulated environment. This not only sets the direction of the activities of the section but also creates an atmosphere for learning where participants feel they can share their ideas and build convictions.

Reflection: This part of the session will be divided into two major parts: personal reflection, and group reflection.

Personal Reflection: This calls for the participants answering provoking questions.

Group Reflection: This is left to the discretion of the trainer; it is used to stimulate the participants to work on a given module. During the group discussion the trainer will move around from group to group, clarifying doubts and following up the groups. The groups will be within the vicinity of the trainer. Group participants will be encouraged to be seated in a circle to reflect equality. These group discussions will give the participants a chance to compare their views and experiences and allow for others to learn from them. This approach makes learning more effective because of its interactive nature.

Input: Then the trainer will deliver his input building upon what the participants have covered using tables, figures and illustrations where necessary to drive home the significant points of the module of that session. The participants are expected to listen attentively and ask questions when the trainer gives them an opportunity.

Application: At this stage, the participants are asked to summarize what they have learnt from the sessions, and how they will apply it their situation. In addition they will be asked to fill in a post training evaluation form (Appendix 7-2) as a way of gauging the effectiveness of the

contents of the training manual. The trainer exhibits tools to stimulate infants that may be made from items easily available in the home.

3.7 Learning Matrix

Using the principles of Bloom's Taxonomy a learning matrix was formed with the expected learning outcomes of the participants on one axis against the 20 sessions of the training programme on the other axis. In this way twenty sessions were matched against eight learning outcomes to ensure that all needs are met and that there was an equal distribution of knowledge across all areas. See Appendix 7-1 The learning matrix.

3.8 Implementation

The training focuses on psycho educating caregivers on the developmental stages of infants between birth and two years in order to understand the environment they need to provide to the children to enhance their growth and ensure that they achieve their potential. This will involve a trainer delivering four sessions per day, each session taking 60 to 90 minutes for five days using Kolb's Experiential Learning method of training. Therefore, the training manual has a total of 20 sessions in all.

In order to stay within a time-frame for the scope of the training manual, the training span will be limited to three months. In addition this training manual will focus solely on training caregivers by incorporating various sessions with their activities and input.

1. The training manual consists of 20 sessions.
2. Each session will last between 60 minutes to 90 minutes.

3. The whole training will take 5 days (Monday to Friday) or five days spread over a period of time. Each day will be divided into 4 sessions of a maximum of 6 hours a day (9am to 4.30pm inclusive of breaks).
4. The training can be offered on five consecutive Saturdays (9am to 4.30pm inclusive of breaks) to suit the convenience of the participants.
5. At the end of the training the participants will receive a certificate.
6. The training is carried out so that by the end of the training the participants are equipped with knowledge and skills to successfully handle infants below 24 months in providing a holistic environment to enhance their growth.

3.8.1 The Framework of the Training Manual

The manual provides the information of the importance of holistic development for infants below twenty-four months as discussed earlier. The training is based on four factors: the biosocial, psychosocial, emotional and cognitive development. Each is supported by a theory:

1. Biosocial Development: Developmental theory;
2. Emotional Development: Bowlby's Attachment Theory;
3. Psychosocial Development: Erikson's Psychosocial Development Theory;
4. Cognitive Development: Piaget's Cognitive theory : Sensorimotor Intelligence.

The programme is divided into 20 sessions:

1. The introduction & overview of the programme;
2. The Environment;
3. The Role of the Caregiver;

4. The Caregiver’s Personal Style;
5. The Infant as an Individual;
6. The importance of Holistic Development;
7. Biosocial Development: Sensitive period;
8. Biosocial Development: Brain and body development;
9. Techniques: Gross Motor & Fine Motor Skills;
10. Techniques: Eye hand coordination;
11. Emotional Development: Bonding & Attachment;
12. Learning the different emotional expressions;
13. Psychosocial Development: Trust versus Mistrust;
14. Psychosocial Development: Autonomy: Tussle of Control;
15. Nutrition: A Balanced Diet;
16. Play as a part of Learning & Communicating
17. Cognitive Development: Body language;
18. Cognitive Development: Verbal communication;
19. Common challenges and problems faced by caregivers;
20. Evaluation and the future.

At the end of the Training the Participants should be able to:

1. Respect the infant as an individual;
2. Make use of the understanding of the developmental milestones to identify the infants at risk;
3. Support an infant towards having healthy attachments;

4. Modify techniques to stimulate physical growth in each infant;
5. Offer a balanced diet (nutrients) to the infant;
6. Distinguish between psycho-social stages to ensure the infants reach them;
7. Accompany the infant in building skills for language development;
8. Adapt play to combine different skills with socialization.

3.9 Teaching and Learning Resources

To ensure a systematic and effective delivery of the contents of the training manual, the trainer will require to use the following methodologies/resources:

i. Overhead projectors/power-point programmes: illustrations or summaries may be presented with the use of LCD projector using power point programmes;

ii. Worksheets for personal work can be prepared or improvised during the session;

iii. Audio/visual aids audio material and video/movies can be used to narrate important examples while participants listen or watch during or after sessions. Any work set for homework may be followed by a session of discussion and questions;

iv. Question Box: the participants are asked to write questions and put them in a box which the trainer will answer the next day;

v. Brainstorming: a problem is presented and suggested solutions recorded on the board;

vi. The group can evaluate and or criticize the solutions in turn at the end of the day;

vii. Buzz sessions: small groups of two or three are formed for a brief period of time to discuss a given topic or asked to solve problems and report to the entire group;

viii. Games exercises and activities: different games reflecting common issues;

ix. Role play: the group is given a problem to solve and act out the situation for the group;

x. Drama: different from role play in that it is prepared in advance;

xi. Case studies: a 'real' situation may be presented by participants or the trainer followed by discussion and questions;

xii. Discussion: this could be group discussion, buzz discussion or just 'turn to your neighbour and discuss type to solve a problem';

xiii. Monitoring and evaluation.

3.10 Proposed Outline of the Manual

DAY ONE: Introduction & Self-awareness in the Caregiver
▪ Session 1: The Introduction and Overview of the Programme ▪ Session 2: The Environment ▪ Session 3: The Role of the Caregiver ▪ Session 4: Caregiver's Personal Style
DAY TWO: The infant as an absorbent mind
▪ Session 5: The Infant as an Individual ▪ Session 6: The importance of Holistic Development ▪ Session 7: Biosocial Development: 'Sensitive Period' ▪ Session 8: Biosocial Development: Brain & Body development

DAY THREE: Physical Development & Emotional Development
▪ Session 9: Techniques: Gross & Fine Motor Skills ▪ Session 10: Techniques: Eye-hand Coordination ▪ Session11: Emotional Development: Bonding & Attachment ▪ Session 12: Learning the different Emotional Expressions
DAY FOUR: The beginnings of being Assertive
▪ Session 13: Psychosocial Development: Trust versus Mistrust ▪ Session 14: Psychosocial Development: Autonomy: Tussle for Control ▪ Session 15: Nutrition: A Balanced Diet ▪ Session 16: Play is part of Learning & Communicating
DAY FIVE: Communication & Evaluating the Programme
▪ Session 17: Cognitive development: Body Language ▪ Session 18: Cognitive development: Verbal Language ▪ Session 19: Common Challenges ▪ Session 20: Evaluation & Future

At the end of the training the participants are given a form to fill Appendix 7-2 to evaluate the training sessions and share their contacts. They are also given an opportunity to exchange contacts to facilitate forming a support group of their own in the future.

3.11 The Budget

The training package will cost Khs. 5,000/= per person for whole training (inclusive of tea and lunch). The disbursements are listed in Table 3-1:

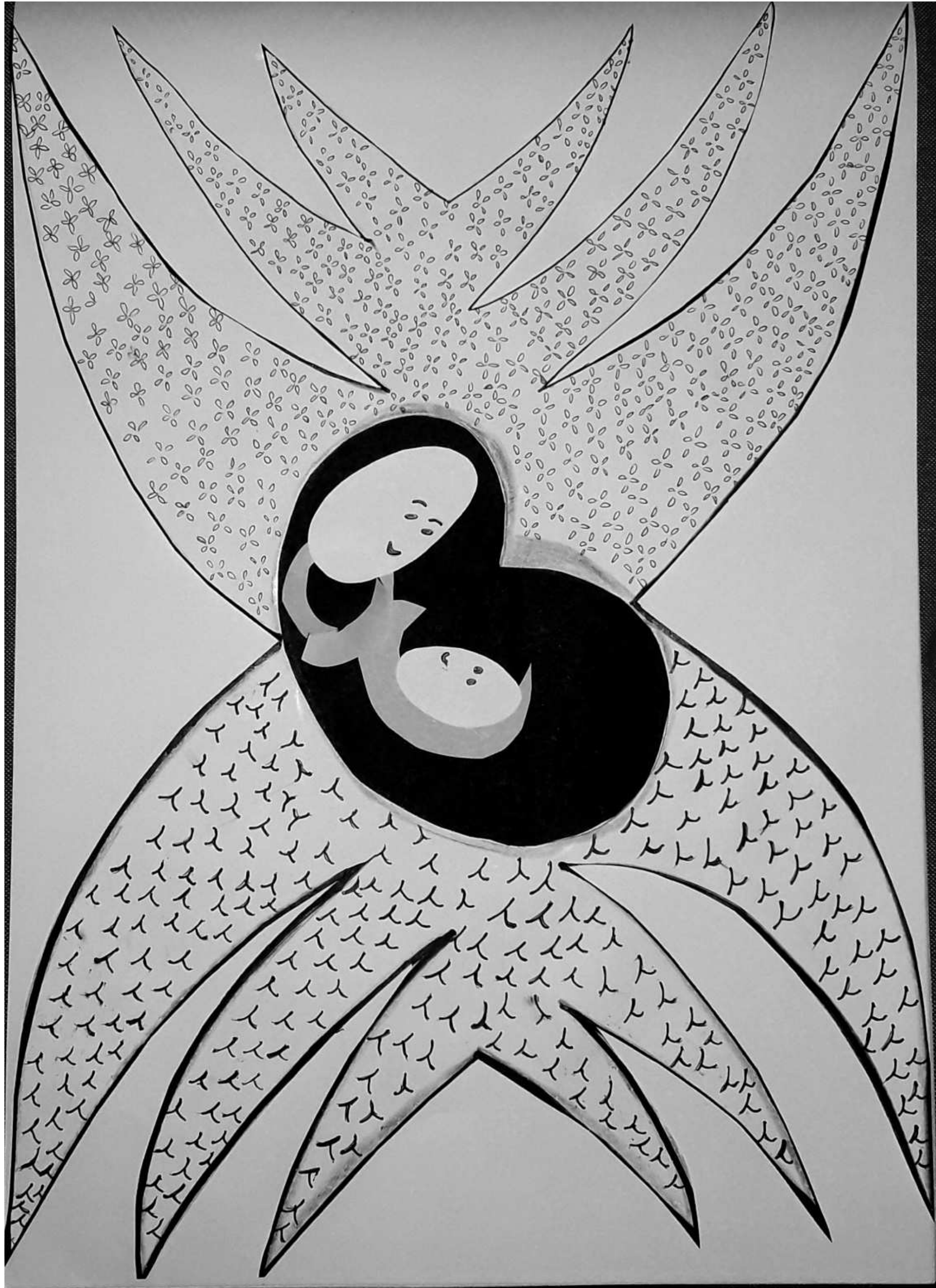
Table 3-1 Estimated Budget for a 5-day Programme for 20 participants

Programme Requirements	Cost in Kshs.
Trainer BA Graduate @ Kshs. 6,000 per day	30,000.-
Training Asssistant @ Kshs.3,000 per day (for every 10 participants extra)	15,000.-
Photocopies / work book approximately (10 copies per person + folder)	2,000.-
Venue: Institution hall eg. church hall, lecture hall, hospital conference facility, etc. @ Kshs. 4,000 per day	20,000.-
Tea & Biscuits 2 coffee breaks (midmorning & mid-afternoon) @ Kshs. 30 per person	3,000.-
Lunch based on subsidized institution menu (@ Kshs. 300/- per person)	30,000.-
TOTAL:	100,000

The estimated cost for 20 participants would be Kshs. 100,000/= which works out to Kshs. 5,000/= per person for the whole training. It is a reasonable price for a five day training course.

CHAPTER FOUR

THE TRAINING MANUAL



CHAPTER FOUR

THE TRAINING MANUAL

4.0 Introduction

The manual consists of 20 sessions each lasting for 60 to 90 minutes spread over a period of five days. These sessions were a product of Blooms Taxonomy learning matrix based on the 8 learning outcomes of the training programme. It will be delivered using Kolb's Experiential Learning Model. The sessions will be conducted by the Trainer (the proprietor of the manual) who is a graduate in psychology and well acquainted with the basic theories of psychology. Each session has an activity for which the Trainer has prepared in advance.

4.1 The Training Manual Contents

	TITLE	Page
DAY 1	**Introduction & Self-awareness in the Caregiver**	
Session 1	The Overview of the Programme	59
Session 2	The Environment	62
Session 3	The Role of the Caregiver	65
Session 4	The Caregiver's Personal Style	71
DAY 2	**The Infant as an Absorbent Mind**	
Session 5	The Infant as an Individual	75
Session 6	The importance of a Holistic Development	78
Session 7	Biosocial Development: Sensitive Period	81
Session 8	Biosocial Development: Brain & Body Development	85

DAY 3	**Physical Development & Emotional Development**	
Session 9	Techniques: Gross & Fine motor skills	89
Session 10	Techniques: Eye –Hand Coordination	93
Session 11	Emotional Development: Bonding & Attachment	96
Session 12	Learning the different Emotional Expressions	100
DAY 4	**The beginnings of being Assertive**	
Session 13	Psychosocial Development: Trust versus Mistrust	103
Session 14	Psychosocial Development: Autonomy: Tussle for Control	106
Session 15	Nutrition: A Balanced Diet	111
Session 16	Play is part of Learning & Communicating	116
DAY 5	**Communication & Evaluating the Programme**	
Session 17	Cognitive development: Body Language	119
Session 18	Cognitive development: Verbal Language	123
Session 19	Common Challenges	126
Session 20	Evaluation & the Future	130

SESSION 1

Overview of the programme

Expected learning outcomes:

By the end of the session the participants should be able to:

1. Feel free to relate their experiences as caregivers;
2. Describe the method of teaching used in the training programme;
3. Summarize the programme.

Getting started:

1. Welcome the participants. Ensure each participant has their name tag pinned on.
2. The trainer will introduce himself / herself to the group and cover the necessary details pertaining to the training programme such as the timings of the sessions and the amenities.
3. The trainer will lay emphasis and ask each participant to commit to the following:
    a. Punctuality
    b. Respect
    c. Full participation
    d. Confidentiality

Activity

The trainer will ask the participants to take 2 to 3 minutes to introduce themselves and their reason for joining the programme.

Reflection

Form groups of 3 or 4 participants.

Discuss:

Exchange at least two problems they face as caregivers.

Input

1. The trainer explains the purpose of using Kolb's Experiential Learning and the format of each session begin with the expected learning outcomes and end with the application of the concept learnt.
    i. Expected learning outcomes;
    ii. Activity;
    iii. Reflection;
    iv. Input;
    v. Application.
2. The trainer further explains that each session is part of a learning matrix based on the facts that need to be remembered so that they can be applied to the solution to the problems they will face.
3. Question Box: the trainer will explain the purpose of the box is for participants to write their questions and put them in the box. There will be time set aside at the end of the sessions where these questions will be addressed.
4. The trainer then gives the participants an overview using a Powerpoint Presentation .(Appendix - 3 - Summary printout)

Application

WHAT	• What is this session about?
WHY	• Why is this session important?
HOW	• How can they apply this information to their individual environment?

SESSION 2

The Environment

Expected learning outcomes:

By the end of the session the participants should be able to:

1. Explain the interdependent relationship between the three elements:
    a. Caregiver;
    b. Baby;
    c. Environment.
2. Create an environment where love is maximized and stress is minimized.;
3. Provide an environment to meet the needs of infants as they grow in age.

Getting started:

The trainer will insure that the projector and video are set up for the session.

Activity

Video clip (4 minutes) Boston Basics based parenting principles designed for infants under the age of three years.
https://www.theatlantic.com/education/archive/2017/04/can-love-close-the-achievement-gap/523131/

Discuss: The importance of:

i. Snuggling;

ii. Responding;

iii. Routines;

iv. Reducing stress.

Reflection

Action	*Meaning*
Snuggling	*Shows love*
Responding	*An infant learns to give and take love and to communicate*
Routines	*Provide the infant with stability and make them feel in control and secure.*
Reducing stress	*Stress in the caregiver is transferred to the infant causing stress to the infant too.*

Input

Creating an Enriched Environment requires the caregiver to pay attention to the infant's:

i. Age;
ii. individual needs;
iii. rate of growth (in terms of reaching the developmental milestones);
iv. individual pace of development.

Summary of activities for infants below 24 months.

Activity	(0 – 12 months)	(12 – 24 months)
Talk, sing and point (0 –12 months)	Talk (in any language) to the infant especially during activities like changing, feeding and bathing. Use a playful voice and looking into the infant's eyes. Exaggerate the sounds of words because babies pay more attention and learn more when you talk in this way. Follow their interests; talk about the things that they look at or reach for. Use real words not baby talk. The	Describe life talk about what is going on around you. Have conversations with them. Be specific with words. Instead of saying 'come' say 'come with me to the shops to buy food.' Add ideas. Help grow the infant's vocabulary. Describe the toy while pointing to it. 'Yes the teddy is brown and soft.'

	words are nourishment for their brain.	
	Sing songs to the baby as it is a fun way for them to learn. They enjoy repeated words that rhyme.	Sing songs and recite nursery rhymes. Choose old ones and read new ones in books.
	Point at objects and name them especially things that seem to interest them.	Ask Questions. Get them thinking and to explain what they think might happen.
Count, group & compare	Play music and move to the beat expose infants to rhythms and patterns by moving slowly to the beat while carrying them.	Clap and dance to music. Make an infant aware of the beat and jump, sway & clap to the beat.
	Count objects like the infant's toes and fingers.	Count with the infant; move to bigger numbers as he/she grasps the concept of counting.
	Compare objects: by touch, help infants explore things that are the same and different as they learn through their senses.	Add and subtract explore what happens when you add and take away from the group in terms of food (grapes, pizza pieces) Compare sizes of the toys.
		Identify shapes and different sizes.
		Match items and sort them like pairs of socks and shoes.

Boston Basics (2016)

Application

WHAT
- What was this session about?

WHY
- Why was this session important?

HOW
- How can they apply this information to their individual environment?

SESSION 3

The Role of the Caregiver

Expected learning outcomes:

By the end of the session the participants should be able to:

1. Describe the role of a caregiver;
2. Distinguish between assumptions and facts about caregiving;
3. Identify skills that make ideal caregivers.

Activity – *'Fact Or Fiction'* (Buzz Groups)

This activity serves two purposes: to create a friendly atmosphere and to share one's opinion with another. There are statements listed about care-giving. This activity will allow for small groups to share their opinion of these statements in 20 minutes.

The participants stand in the room and when the trainer shouts 'mingle, mingle' they reply 'mingle, mingle' and walk amongst each other. Thereafter, the trainer will shout out a number (2 or 3). The participants form groups of that number and stand in a circle. The trainer then will read out one of the statements. The participants discuss and decide if it is true or false in their groups for 2 minutes. They will then mingle again, and the whole process is repeated until all the questions have been read out.

Caregivers

Answer True or false

1. All babies are the same and anyone can care for them.
2. Looking after babies only entails feeding, changing and laying them to sleep.
3. It is normal for infants to show their independence after 12 months.

4. Caressing and holding an infant creates a bad habit which is difficult to break later.
5. Play is an important tool for learning.
6. A caregiver can determine the temperament of baby at birth.
7. It is good to let the baby cry as its good for their lungs.
8. The brain grows when the infant starts attending nursery school.
9. Disciplining babies from the day they are born is vital.
10. After 6 months babies need to be fed on a balanced diet.
11. Infants only bond with their mothers and not with their caregivers.
12. By teaching numbers and alphabet to infants of two years they will become very clever.
13. **Sensitive periods** of development when missed may cause permanent damage to the infant.
14. A newborn begins to understand their environment through their senses.
15. Bonding at infancy is likely to determine social behaviour at adulthood.

Reflection

Assumptions versus facts

i. Why is it important to be ***open*** to replacing one's assumption with the facts?

ii. This requires knowledge and constant reference to the milestones created by research.

Input

- **All babies are the same and anyone can care for them. False**

Every baby is unique with a different temperament and it is important that someone responsible and aware of the needs of babies takes care of them.

- **Looking after babies only entails feeding, changing and laying them to sleep. False**

Babies do need constant attention but at the same time are growing, absorbing and processing their environment and like a computer as they are storing it in the brain to be used in the future.

- **It is normal for infants to show their independence after 12 months**. **True**

According to Erikson the reason for this is that infants to want to feel in control of their environment. This need to complete tasks by themselves also plays a important part in the development of their self-esteem.

- **Caressing and holding an infant creates a bad habit which is difficult to break later. False**

When a crying infant is comforted, it creates a bond that ensures him that he is secure and within its environment.

- **Play is a vital tool for learning. True**

The caregiver can use play in all 4 dimensions of development. Play is an easy form of using the environment to stimulate the infant as it makes it enjoyable.

- **A caregiver can determine the temperament of a baby at birth. False**

Although some babies have the tendency to be feisty while others are placid, the environment can shape them by calming a feisty baby and stimulating a placid one to create a balance. One must be careful not to label an infant at a young age.

- **Life is hard, it is good to let the baby cry as its good for their lungs. False**

Neglecting babies when they are in pain or discomfort causes stress which in turn can cause anxiety and nervousness affecting them in the future.

- **The brain grows when the infant starts attending nursery school. False**

The brain grows rapidly from the time of birth and reaches 75% of its full growth within the first 2 years of life.

- **After 6 months babies need to be fed on a balanced diet. True**

A baby's body is growing at a very fast rate and needs nutrients from all the food groups: carbohydrates, proteins, vitamins and minerals.

- **Disciplining babies from the day they are born is vital. False**

It is a wrong assumption; babies tend to explore their environment as their brain is making sense of the world. They do not seek to deliberately annoy the caregiver with their actions such as constantly grab at items and throwing them down.

- **Infants only bond with their mothers and not with their caregivers. False**

In the first months of life the mother is primary caregiver and the bond tends to be strong but when a secondary caregiver is introduced the baby will make a new bond with the caregiver and maintain the first one concurrently.

- **Teaching numbers and alphabet to infants of two years they will become very clever. False**

Infants learn at their own pace and within their potential.

- **Sensitive periods of development when missed may cause permanent damage to the infant. True**

The body is primed for certain developmental stages and if the environment is not conducive to growth and the infant misses it, the damage is irreversible. It is crucial that the caregiver is observant and sensitive to the infant's needs in order to provide appropriate support.

- **A baby begins to understands its environment through the senses. True**

This is why a baby put most objects in the mouth first.

- **Bonding at infancy is likely to determine social behaviour at adulthood. True**

An infant feels secure when held and comforted; the feeling is associated with the bond created with the caregiver and recalled later when under stress which subsequently influences behaviour in adulthood.

The role of caregivers

The caregiver is expected to:

i. Have knowledge of the milestones and psychosocial stage;
ii. Understand the importance of bonding with the infant to ensure that the infant feels loved and is able to develop normal social behaviour;
iii. Create an environment that will conducive for development especially during the sensitive periods;
iv. Be positive and assertive.

Skills of a caregiver:

i. *Observation* is critical to a caregiver as it provides clues to the needs of the infant;
ii. *Encourage growth* by being positive and proactive;
iii. *Learn to be innovative and creative* to stimulate growth keeping in mind that each infant is unique. For example: providing an 'Activity board'; talking to the infant while maintaining eye-contact; massaging legs and tickling the stomach; keenly watching and learning what gives pleasure to the infant;
iv. *Supervision* is important as babies are active beings exploring the environment: in the first few months it is via the mouth, then by crawling and finally pulling themselves to stand, creep and walk. This can be very dangerous and caregivers must be alert and watchful.

Question and Answer Session

Application:

WHAT	• What was this session about?
WHY	• Why was this session important?
HOW	• How can they apply this information to their individual environment?

SESSION 4

The Caregiver's Personal Style

Expected learning outcomes:

At the end of the session the participants should be able to:

1. Recognize the importance of self-awareness;
2. Give examples of the impact of some traits of their caregivers on them when they were children;
3. Handle themselves when they are overwhelmed with negative emotions.

Activity

The trainer gives each participant a sheet with 12 questions focusing on self-awareness.

1. What mood were you in last night?
2. When you are angry or frustrated do you keep it inside or displace it on those around?
3. Are you a caregiver by choice? Would you have rather not be a caregiver?
4. Are you impulsive or observant and wait before responding?
5. Who inspires you?
6. What makes you happy?
7. Are you *reactive* or *proactive*?
8. Think of a strong childhood memory
9. Which parental style did your parents use?
10. Are you open to change and learning new methods?
11. Did the way you were brought up influence your behaviour later in life as an adult?
12. Would you want the same for your infant?

Reflection

Discuss as a group:

1. Each person chooses to share one of the 12 questions with the group.
2. How did this exercise help them to create self-awareness?
3. Why is it so important to be self-aware as a caregiver?

Discuss the follow two scenarios:

There is an anxious parent who is afraid to take risks.

i. How will this impact the infant?
ii. What attitude and behaviour will the caregiver have towards the infant?
iii. What kind of messages will the infants get and how will this damage their development?
iv. What should the caregiver do?

There is a parent who is a perfectionist.

i. How will this impact the infant? What attitude or behaviour will the caregiver have towards the infant?
ii. What kind of messages will the infant get and how will this damage the development of the infant?
iii. How should the caregiver handle the infant?

Think of two more examples.

Input

A caregiver is required to handle negative emotions in a positive manner. It is not always easy as caregivers are human and tend to lose their temper or get frustrated but it is important to be in control of the situation and handle the anger instead of displacing it on an innocent infant.

One way would be to find out the cause of the problem and address it directly instead of making rash and impulsive comments or actions adding stress to the situation. Often the cause is either hurt carried from another relationship or circumstance that interferes with the present. It is this stress that becomes part of the environment shared with the infant and the helpless infant becomes the victim.

Caregivers are called to be role models for infants: by being positive and assertive when handling all trying situations, infants learn these qualities thus developing a positive attitude to life and applying reason and not emotion when faced with adversity (Taipale, 2016). It is common for infants between 12 and 36 months to be prone to tantrums. There are various ways of dealing with tantrums.

Examples:

i. Find the infant's source of discomfort and comfort her.

ii. Distract the infant with a favourite or novel toy.

Discuss the following: ***'spare the rod and spoil the child'***

a) What are your thoughts about this form of discipline?

b) How were you brought up?

c) What are your attitudes towards the infant? (Negative or positive)

d) Are you reactive or proactive in your response?

Application

WHAT
- What was this session about?

WHY
- Why was this session important?

HOW
- How can they apply this information to their individual environment?

SESSION 5 :

The Infant as an Individual

'Not Written in Stone'

Expected learning outcome:

By the end of this session the participants should be able to:

1. Demonstrate that every person is an individual;
2. Respect an infant as an individual;
3. Avoid labeling an infant as it damages their self-esteem later.

Getting started:

1. Prepare a sample mobile made with simple a simple plastic or wooden clothes hanger with attractive items strung to the bottom and hanging at different lengths;
2. With the help of the assistant set up the a work table before the session with 5 boxes each with the following items: plastic hangers, string or wool of different colours, tools (scissors, markers, cellotape), christmas ornaments and coloured card.

Activity

During the session the trainer will introduce the activity by showing the sample and asking each participant to make their own using the materials provided. (This activity should take not more than 15 to 20 minutes).

Reflection

Look at each participant's creativity and admire the individual differences. In addition, when designing a mobile the participants have to keep an individual infant the infants in mind in order to meet his or her needs.

Discuss

1. What would you consider when preparing the mobile to stimulate the baby?

   (Think about: items, colours, shapes, movement in the wind, etc)

2. How else can you stimulate the infants in their environment?

   a. Using their senses?

   b. Within their daily routine?

   c. To suit their particular character?

Input

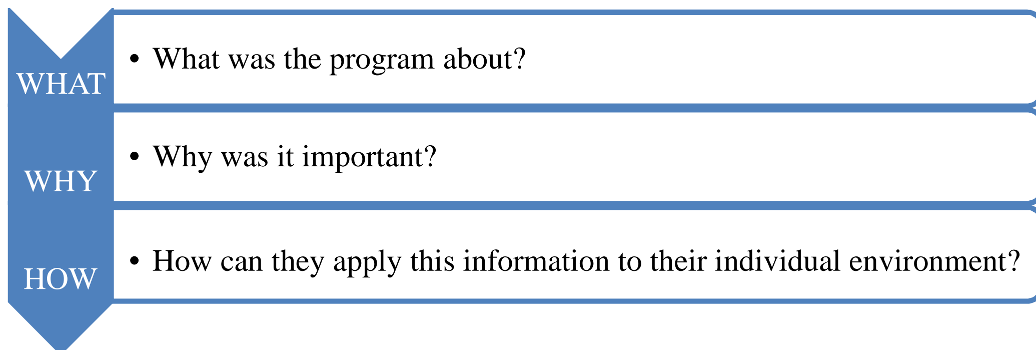
An infant below 24 months is an absorbent mind (Montessori, 1967) that absorbs the environment unconsciously like a camera or a sponge and directly applies the information absorbed to its life. In these first 2 to 3 years the brain constructs a schema and learns to speak, to walk, to control their hands and master their bodily functions. The caregiver must understand that this entire process is a form of 'learning.' Therefore it is important to allow the infant to absorb the environment, to react and explore within it. Over the ages it has been assumed that as caregivers one must direct knowledge to the infant but now educationists and psychologists are of the opinion that the infant is a natural learner and learning happens from within. The environment provides the stimulation for the various parts of the brain to grow and develop hence the crucial role of the caregiver in providing an appropriate environment to trigger this development.

Caregivers need to be aware of individual rates of growth and always encourage and support with a positive attitude keeping in mind that each one is a unique being. Labelling and making

judgments about inability hampers the infant. Often the body language of the caregiver betrays their thoughts and the infant is able to feel the disappointment or rejection.

In addition, labelling an infant because he has not reached developmental milestone creates a stigma that might last a life time and damage his self-confidence as well as his self-esteem later as an adolescent. Siblings often pick up labels and tease the infant as they grow thus constantly reminding them about it. However, weakness in any area if worked upon can be overcome. At the 1 to 2 year stage infants are eager to learn and will persevere to please, caregivers can make the learning enjoyable and unconscious as infants love repetition.

Application



SESSION 6

The Importance of Holistic Development

What are developmental milestones?

Expected learning outcomes:

At the end of this session the participants should be able to:

1. Match the age with the expected body movement;
2. Differentiate between individual differences but avoid giving an infant a label;
3. Assess if an infant requires professional advice.

Getting started:

The trainer has set up:

1. Print Tables 2-1, 2-3, 2-4, 2-5 and 2-7 with the developmental milestones without the ages on 4 different coloured sheets and cut them into strips;
2. Prepare 4 colour coded tables that contain the ages without the developmental milestones on card;
3. Divide the coloured strips into four boxes.

Activity

The trainer divides the participants into 4 groups: A,B,C and D.

i. Each group will be given the task of collecting different developmental milestones which they will have to arrange in chronological order;
ii. Each group will be given a colour coded table with a box containing multi-coloured strips with different developmental milestones;

iii. The participants have to exchange strips to find milestones to match their table and then arrange them correctly to match the milestone with the age;

iv. The group to finish their table first accurately is the winner.

Reflection

1. Why would is this exercise be relevant to the caregiver?
2. How can the caregiver control the environment to support the infant to reach their developmental milestones?

Input

The trainer will hand out to each participant a printed copy of the tables showing various milestones.

Each participant should receive a copy of the following tables:

Table No	Developmental Milestones
Table 2-1	Reflexes and their functions
Table 2-3	A Guideline of Milestones at infancy
Table 2-4	General Guideline for Gross Motor Skills: Below 24 months
Table 2-5	Behaviour & Emotional Expression Checklist
Table 2-7	The development of the Spoken Language in the first 2 years

The trainer will explain in depth each table and the importance of this knowledge.

Discuss in groups of 3 or 4 the following:

- What would you do if the infant was not at one or two of these developmental milestones?
- When should the caregiver seek professional advice?

Application

WHAT	• What was the session about?
WHY	• Why was the session important?
HOW	• How can they apply this information to their individual environment?

SESSION 7

Biosocial Development: 'Sensitive Period'

Expected learning outcomes:

At the end of the session the participant should be able to:

1. Explain the meaning of the sensitive periods in the life of an infant;
2. List the repercussions when infants are neglected;
3. Adapt the environment to enhance the development of the infant.

Activity

The participants are shown a germinating seed.

Answer the following questions:

1. What are the factors vital for germination?
2. What happens if there is too much of one factor and too little of another?

Discuss the following 3 questions as a group:

1. How does the analogy of the environment to germinate a seed apply to the importance of the sensitive period of an infant?
2. What does the caregiver need to know in order to produce the best result?
3. How can the caregiver control the environment to enhance development and does it vary at different stages? Consult the five tables showing the developmental milestones. To save time the trainer will ask each participant to turn to their neighbour and choose one of the following ages groups.
    a. Newborn to 4 months
    b. 4 to 8 months

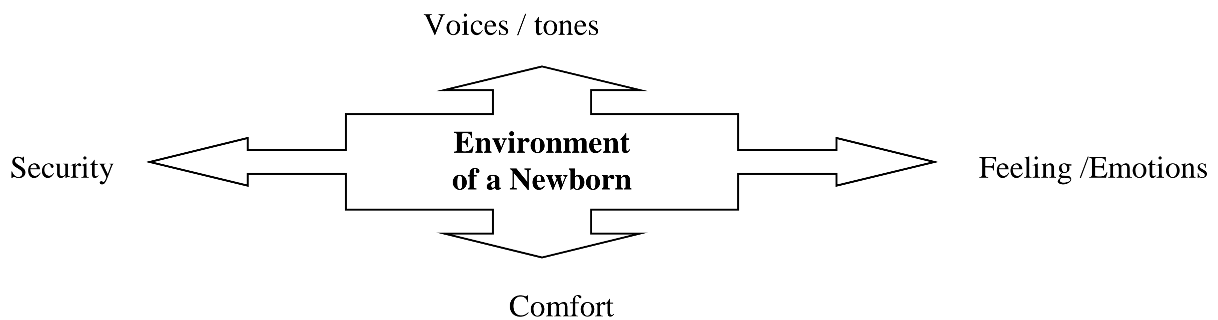
c. 8 to 12 months

d. 12 to 24 months

Reflection

The trainer gives each participant a blank spider diagram for the next part of the session.

1. What are the newborns absorbing in the environment that would affect the infant's development? What does the caregiver need to be aware of ? A Spider Diagram for a '*Newborn baby*' should have the following labels|:



1. Consider how this spider diagram change when the infant is:
   a. between 3 to 8 months
   b. between 8 to 12 months
   c. between 12 to 18 months and
   d. 18 to 24 months

Input

The role of a caregiver is to enhance the growth of an infant at the sensitive period, therefore caregiver has to be:

1. **Observant:** A caregiver is advised to keep a notebook and record the general feeding and sleeping schedule. This is particularly important when the infant is unwell as provides clues to diagnose the symptoms.
2. **Attentive:** A caregiver must change, feed and caress the infant on demand as neglect has a traumatic effect that is carried forward to adulthood.
3. **Aware of the milestones** and conscious of the infant's progress in each dimension. At each of the 4 dimensions of development there are sensitive periods where the caregiver has to encourage and support the infant with **appropriate** stimulation. This session lays emphasis to use stimulation and exercises that are age appropriate. For example: a three month baby cannot benefit from an activity board but a crib mobile. Similarly massaging the limbs is more stimulating for a 3 month than a 12 month infant who is already walking and needs to play with a ball.
4. **Supportive and encouraging:** The caregiver must not assume the infant has a negative temperament or is stubborn or blame the genes of the forefathers but always remain positive but persevere with innovative ways of through play within the environment.
5. **Vigilant versus directive**: The caregiver must be vigilant but not demanding of progress as infants move at their own pace. One should not be succumb to social pressure making the infant a reflection of the ability of the caregiver as it put unnecessary pressure on the infant.
6. **Neglect:** When an infant is neglected it has both short term and long terms effects that are detrimental to their growth. Neglect form a vicious cycle as illustrated in the diagram shown.

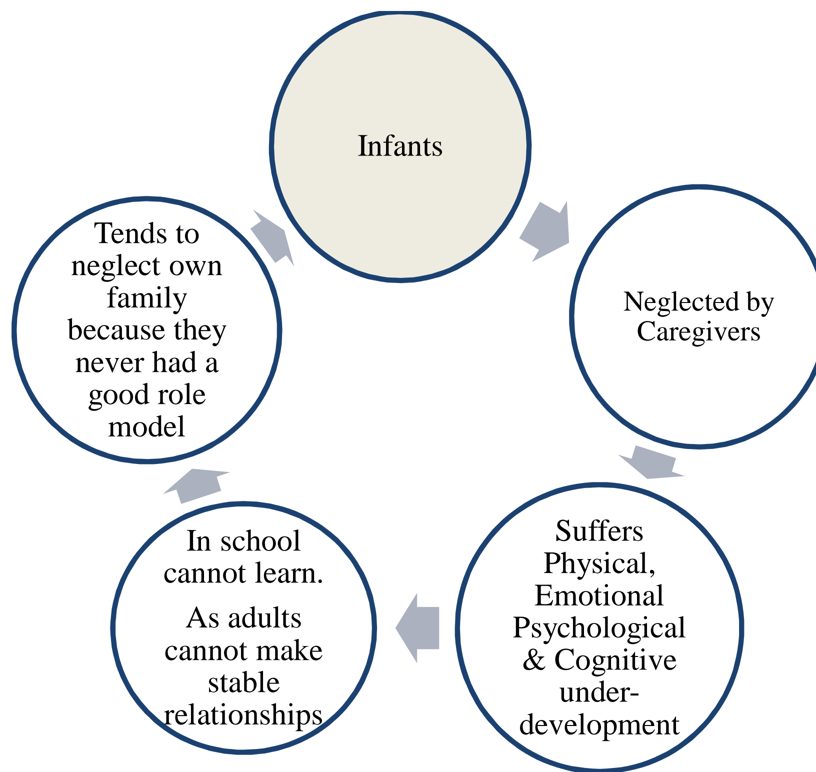


Diagram to illustrate the Vicious Cycle of Neglect

Application

WHAT
- What was the session about?

WHY
- Why was the session important?

HOW
- How can they apply this information to their individual environment?

SESSION 8

Biosocial Development: Brain & Body Development

Expected learning outcomes:

At the end of the session the participant should be able to:

1. Describe brain growth in an infant;
2. Explain the three steps of assimilation, accommodation and adaptation;
3. Distinguish between sensation and perception.

Getting started:

Before the session the trainer prepares brown paper packets with the following items in each bag:

i. a fruit
ii. a vegetable
iii. a household item (a wooden, plastic or metal object)
iv. an item of clothing (a sock or handkerchief or face towel)

Each packet will have different objects from the groups stated above. (eg one packet can have an apple, tomato, spoon and sock while another a pear, onion, clothes peg and handkerchief).

Activity

The trainer asks the participants to make two circles (inner and outer) and both go round and stop when the trainer shouts 'stop'. The participants pair up with whoever faces them. Each pair picks a packet and sits opposite each other. One participant has to wear a blindfold while the other gives the items from the packet one by one and asks the partner to name it and records the

response. Those blindfolded are not allowed to ask questions but may use any of the five senses to identify the items.

The items are returned to their packets and are then swapped with the neighbouring pair and the exercise is repeated with other partner blindfolded.

Reflection

1. How did it feel to use the five senses to identify the items?
2. Was there one particular sense which was more effective than the others?
3. How did you use one experience to influence another?
4. What strategies did you use, to work more efficiently?

Input

The trainer distributes copies of table 2-6 'Six stages of sensorimotor development'.

Brain development

The brain grows very rapidly and reaches 75% of its adult weight in the first two years of life. Newborns tend to react to everything in their environment without focusing on any one in particular. Reflexes are involuntary movements (such as sucking, grasping) to particular responses. This is very important because it is used as a measure to follow brain development and maturation.

Stimulation +Sensation = Perception

The sense of taste however, is the first and obvious sense that is used and this is perhaps why babies of less than a year put every object, in the mouth. Piaget called this *'active interaction'* between the brain and the senses '*sensorimotor intelligence.'* The first *two stages being 'acquired*

adaptations' such as sucking a pacifier, grabbing a bottle to suck it are both different from the sucking a nipple.

In the first 2 years babies use their senses to learn, explore the world in three steps:

i) *assimilate* or try to balance what they know to interpret the new information;

ii) *accommodate* is restructuring the old thoughts to incorporate the new experiences;

iii) *adapt* is when the infant internalizes the learning as feeling; such as recognizing the smell and handling of the caregiver and automatically relaxes when held by her.

A Summary of Sensory Motor Learning in an Infant

Sense	Action	Learning in the infant
Sight	Eye contact	Communicating silently bringing wellbeing and understanding.
Touch	Caressing, changing them	When they feel uncomfortable.
	Bathing and massaging them to ease their muscles;	Easing their tired and aching muscles.
Sound	Tones of their voice:	Soothing them in the infant's moments of stress; stimulating to excite them (with a story), singing; chuckling and laughing.
Feeding	Satisfying the infant's hunger or thirst;	Gradually introducing foods that trigger pleasurable tastes.
Smell	Perfume, fragrance; flavours of foods cooking and baking;	Recognition of the characteristics they link with the caregivers. Furthermore it forms a part of a 'positive schemata' in the brain (a feeling they will always associate with the comfort because of what it represents).

Application

WHAT	• What was the session about?
WHY	• Why was the session important?
HOW	• How can they apply this information to their individual environment?

SESSION 9

Techniques: Gross & Fine Motor Skills

Expected learning outcomes:

At the end of the session the participant should be able to:

1. Understand the meaning of the different terms:
    a. Gross Motor Skills
    b. Fine Motor Skills
2. Memorize the milestones;
3. Improvise ways of encouraging development of these skills.

Activity

Before the session the trainer will set up 3 stations in the four corners of the room. Divide the participants into 3 groups and list the names.

After explaining the activity to the participants, ask each group to appoint a time keeper. Each group will then proceed to the different stations and as each group finishes they will move to the next two stations. Every participant then has a chance to do all four tasks thrice and record the time the first try and the third try in the table provided.

Skill Type	Tasks to train	Time in minutes / seconds	
		Initial time	After training
Gross Motor Skills	1. Skipping backwards		
	2. Balancing a book on the head & walking across the room.		

Fine Motor Skills	1. Picking 5 beads with a tweezer		
	2. Copying a pattern		

Reflection

Discuss in pairs:

1. Which skill did you find most difficult?
2. Did your timing improve with practice?
3. Three important skills:
    a. Muscle coordination and balance;
    b. Thumb and index finger control;
    c. Strategies to master any skill.

Input

The most dramatic advances of infancy are being able to stand and walk. The six milestones are important. The trainer will pass around copies of the six gross motor milestones (WHO, 2009):

1. sitting without support (4 – 9 months);
2. standing with assistance (5 – 11 months);
3. crawling on hands and knees (5– 14 months);
4. walking with assistance (6 – 14 months);
5. standing alone (7 – 17 months);
6. walking alone (8 – 18 months)

Caregiver must be well versed with the milestones listed on this table. Any infant who is unable to meet the milestone must be helped and encouraged to reach it.

Tasks to stimulate development in infants

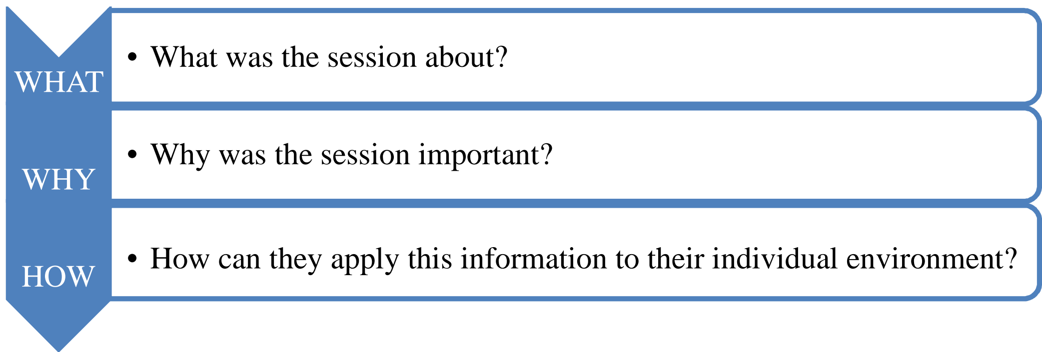
Type of skills	Stimulation for 0 – 8 months	Task for 8-12 months	Tasks for 12–24 months
Gross motor – stretching	Hanging a colourful mobile above the cot. (0-4months). Soft toys on a mat for floor play.(4-8 months). Massaging the limbs Holding their favourite toy just out of reach	Walking with support and pulling toys on a string. Chasing & throwing a ball.	Hopscotch Skipping on one leg Football.
Fine motor – exercising the finger muscles	Reaching and holding a feeding bottle. Playing with caregiver's hair & clothing.	Picking blocks and putting in the toy basket.	Pegging clothes pegs on card Buttoning clothes Pulling zips.

Application

Work in pairs to create two more tasks for each box.

This home-made activity board is an example of creating 4 activities:

i. Pulling a zip
ii. Buttoning
iii. Pulling pegs off and putting pegs in a pocket
iv.Threading


WHAT
What was the session about?
WHY
Why was the session important?
HOW
How can they apply this information to their individual environment?

SESSION 10

Techniques: Eye Hand Coordination

Expected learning outcomes:

At the end of the session the participants should be able to:

1. Describe the term 'Eye-hand co-ordination';
2. Identify the milestones that will support eye hand coordination;
3. Adapt exercises to meet the needs of the infant;

Getting started:

The trainer with the help of an assistant sets up 4 activity stations at each corner of the room. The trainer divides the participants into 4 groups and each group goes to a different station and selects a time keeper. As the groups complete one activity they move to the next activity until everyone has tried every activity.

Activity

Type of skill	Tasks to train	Time in minutes / seconds	
		Initial time	After training
Eye-hand Coordination	1. Throwing the ball in a bucket		
	2. Threading a needle		
	3. Sewing your initials on a cloth		
	4. Copying numbers from a board		

Reflection

After completing the tasks, the participants discuss the following points within their groups:

1. Did your recorded time and skill improve after practice?
2. What did you find difficult?
3. Are there strategies you can suggest that can help others improve their timings?

Input

The caregiver must understand the importance of observation and support. Observation is important because if the infant is not within the boundary of the developmental milestones the caregiver must seek professional advice which must be followed. However this activity shows that each one of the participants has different abilities which make them unique individuals. The caregiver must support the infant by offering strategies to improve their skills. Motor skills form the basis for many activities which exercise and strengthen the muscles in the four limbs which is important for all movement.

Application

Eye-hand coordination is vital for problem solving in goal oriented tasks and in preparation for school. Work in pairs to create two more tasks for each category.

Type of Skill	Stimulation for 0-8 months	Tasks for 8-12 months	Tasks for 12 – 24 months
Eye-hand coordination	Shaking a rattle to make noise.	Picking food from the plate and putting it in the mouth.	Threading shoelace through holes. Throwing the ball up and catching it.

Threading bottle tops can create colourful creatures

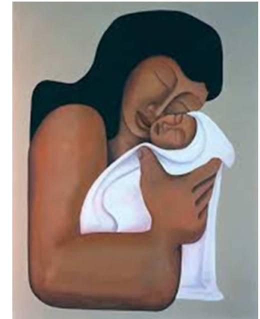
What	• What have you learnt in this session
Why	• Why is it important?
How	• How can I apply it to my situation?

SESSION 11

Emotional Development: Bonding & Attachment

Expected learning outcomes:

At the end of the session the participant should be able to:



1. Create a relationship of trust with the infant;
2. Describe the 2-ways relationship between infant and caregiver;
3. Identify symptoms of insecure attachments in infants.

Activity

The trainer can share the following video clip with the group:

https://www.youtube.com/watch?v=C6fY6RchNk4

Alternatively the trainer can show a power-point presentation on *The Importance of Bonding* (an adaptation of the video clip above). See Appendix 7-4.

The participants form groups of 3 or 4 and summarize the important points.

(The participants cover the points listed).

1. A secure attachment is vital for the infant to reach their developmental milestones;
2. Infants have their own thoughts and feelings and depend on their caregiver to organize their internal world of experience to make it a learning experience for them;
3. The quality of a baby's early experience has the potential to change the brain;
4. The infant's first two years has an enormous impact on them and will determine what they will become as adults;

5. Caregivers are ‘motion magnets’ and the infant absorbs their emotions. Therefore it is important to provide an environment that is safe, calm and with a regular routine. It is also vital that the infant whilst growing up feels able to depend on the caregiver at all times and is loved unconditionally.

Discuss: What happens when infants do not bond?

(This question was dealt with on the video clip and the following behaviour noticed).

An insecure infant will be less curious, play with less maturity (tend to regress), develop less cognitively and have low self-esteem. Furthermore, she/he will have difficulty making friends, sustaining a stable marriage and being a good parent.

Reflection

Questions to consider:

1. Have you experienced difficulties in bonding with infants?
2. Being a ‘motion magnet’ how would you ensure that your ‘motion’ would have a positive impact on the infant?

Input

An infant’s first attachment bond is made with the primary caregiver, the mother, which is reinforced with breastfeeding. However, attachments are formed with other caregivers in infancy which plays an important role in not only forming new close relationships but in how they relate to people throughout their life.

Attachment is a two-way behaviour. Infants show attachment in:

i) Proximity seeking behaviour (following their caregivers);

ii) Contact maintaining behaviour (touching, snuggling and holding).

Caregivers show attachment by being:

i) Watchful; mindful to their health and safety;

ii) Respond sensitively to the baby's (vocalizations, expressions and gestures);

iii) Caregivers must be present and attentive to the needs of their infants.

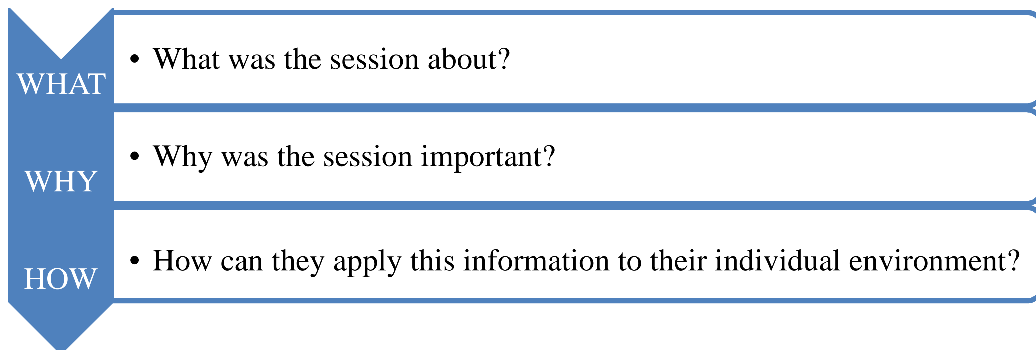
According to Bowlby's Attachment Theory there are four attachments that can be formed:

Type	Behaviour towards the caregiver	Reasons
Secure	The infant will feel comfortable and confident. She tends to look up at the caregiver to vocalize thoughts and goes back and forth for a hug. When left alone is able to play happily but looks for the caregiver and relieved to see her again.	Because the caregiver has a good relationship with the infant. She feel comforted to feel the presence of her caregiver and confident to explore.
Insecure-avoidant	The infant plays happily on its own and ignores the caregiver. It is clear that the infant is oblivious to the absence of the caregiver.	The caregiver has not developed a close relationship with the infant and shown indifference; not spent time and left the infant on its own.
Insecure resistant	The infant clings and preoccupied with the caregiver. When left on its own is unhappy and does not play. When the caregiver returns the infant is angry, may cry and clings.	The caregiver has given cause for the infant to be fearful and anxious due to an unstable environment hence the infant is unable to predict what will happen next causing the infant anxiety in a different setting and to be left alone.
Disorganized	The infant is very cautious.	The infant may have been exposed to a primary caregiver who was abusive to the infant or depressed or an active alcoholic.

(Berger, 2008)

NOTE: If you are a secondary caregiver it is important to observe an infant's behaviour and request for professional advice if an infant exhibits insecure-avoidant, insecure-resistant or disorganised attachments as it will result in detrimental and irreversible damage to the infants in their future. Looking after infants suffering for insecure attachments is beyond the scope of this training manual.

Application



SESSION 12

Learning of different Emotional Expressions

Expected learning outcomes:

By the end of this session the participants should be able to:

1. Identify the 5 different emotions;
2. Model the 5 different emotions;
3. Explain the importance for infants to learn to communicate these emotions to others.

Activity

1. The trainer will ask the participants to form pairs and give a set of 5 emojis to each pair to depict happiness, sadness, anger, surprise and disgust.
2. They will each take turns in acting out a situation that will express each of the 5 emotions and their partner will have to guess and hold up the appropriate emoji that is being acted out.

Reflection

Discuss in groups of 4 the following situations:

1. It is important to read cues: pulling at caregiver's clothing to sit down and play. The infant begins to pout because the caregiver has suggested that it is time for bath and dinner and the infant is not ready to give up playing yet. What would you do?

2. The puzzle the infant (18 to 20 months) is working at is not coming together and he starts throwing the pieces at the caregiver. His body language indicates anger but you can sense his trust in your understanding of his situation. What would you do?

Input

Signals reading and interpreting them is very important. Infants learn very quickly that certain behaviour will result in a reaction such as talking and eye contract stimulates babbling sounds as if in a conversation; refusing a toy results in crying and waving of fists which is indicative of anger. Furthermore, ignoring the infant causes screaming which is showing rage due to being ignored. Soon a caregiver becomes attuned the baby's sounds and is able to distinguish the meaning to the different sounds while baby becomes adept at communicating.

Actions to Model Appropriate Emotions for an Infant

Emotion	Action
Surprise (mild novelty)	Cover your face and slowly uncover it to show a smile.
Assertiveness	(Using cause and effect) often an active infant will have a favorite toy taking it away and then offer an even more attractive toy introduces the concept of '*exchange*' in a purposeful interaction.
Excitement	Make big eyes and exclaim with delight.
Happiness	Playing with a favourite toy and using the toy to tickle the infant and giggle demonstrating the pleasure it brings.
Sadness	Pouting and sulking. Use body language such as sitting forlorn and withdrawn.
Disgust	Respond with a sound'*yuk'* dropping an item after picking it in shock with a facial expression of disgust.
Anger, rage	Screaming; flinging toys out of the cot to gain attention.

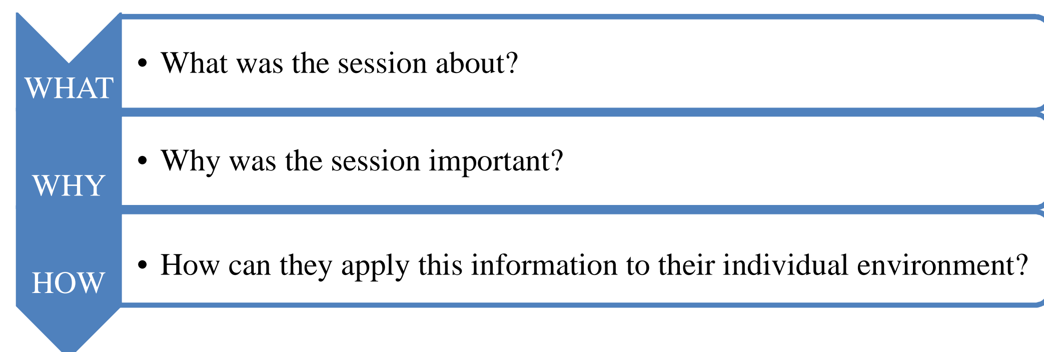
Babies of 3 to 4 months are capable of a variety of emotions through various sensory and motor systems. Caregivers observe their reaction to events in their environment such as happiness when recognizing their mother; rage for not getting their way; sadness because the parent ignored

his overtures; or fear when a new person is introduced. Often a preference can indicate that the baby has more practice of one emotion over another. If an infant does not respond to certain emotions, it means that he or she has not experienced those emotions. This is where caregivers have to help the infant to experience these emotions by taking the initiative to stimulate these emotions in the infant. There are some examples:-

With the infants between 12 and 24 months it steadily gets easier to enact stories and act out the emotion. Another way is to use hand puppets to illustrate a favourite story that has been repeated many times and the infant is aware of the plot but concentrates on the feelings illustrated by the puppets. Reddy (2008) terms this exchange as '*sychronicity*' adding that infants can 'read' the emotions of their caregivers but have to learn to reciprocate hence as caregivers we have to model the emotions for them to copy.

As infants grow they learn by imitation to express their feelings and this form of communication is vital to their future relationships both within their family and with other people. Educationists and psychologists suggest when reading a story ask them about the characters in this way caregivers get an insight into how the infants are thinking, developing and maturing.

Application



SESSION 13

Psychosocial Development: Trust Versus Mistrust

Expected learning outcomes:

At the end of the session the participant should be able to:

1. Understand the vital role of creating trust in making an infant feel secure;
2. Reduce separation anxiety;
3. See the importance of routines in an infant's life.

Activity

The trainer asks the participants to choose a partner least known to them from the group.

This activity requires that one participant two feet behind the other.

The one in front must fall backwards on the count of three and the partner must catch them

(assistance must be provided for those that unable to balance the weight).

After a few minutes the roles are swapped and the 'catcher' will be caught by their partners.

Reflection

Discuss the following questions in groups of 4:

1. How did it feel to put your trust in another person?
2. If you were not confident, were you free to fall?
3. How is this exercise relevant to the infants and caregivers?
4. How can caregivers instill this trust in the infant?

Input

Babies in the first six months feel secure when food, comfort and attention is provided with consistency and continuity by a caregiver that they recognize. This social interaction will in turn inspire trust and security in infants giving them courage to explore the social world around them.

Establishing a routine from six months onwards gives infants security to help them get used to a system and know what to expect as the day progresses. It also gives them a sense of predictability and they slowly learn that when they see certain items they know what to expect. For example seeing toys such as a duck and boat in a baby tub indicates it is bath time or being seated in the high chair in front of food is indicative of it being meal time.

Separation Anxiety'' is normal in the first year and tends to intensify in the second year. Infants at 12 months, fear facing life alone because they tend to be afraid of startling noises and anything unexpected, however, with repeated exposure and caregivers providing protection they begin to learn to overcome the anxiety and realize that the caregiver is close at hand. At 24 months, infants fear that the caregiver will not come back. This can be handled by explaining step by step what exactly the caregiver will be doing and when they will be back and that it is vital they keep their word.

Application

What	• What did I learn from this session
Why	• Why is this session important?
How	• How can I apply this session to my situation?

SESSION 14

Psychosocial Development: Autonomy

Tussle for Control

Expected learning outcomes:

At the end of this session the participants should be able to:

1. Recognize the time when infants want to experience control over their actions and bodies;
2. Explain the need for infants to explore (regardless of the mess they make);
3. Be creative to accommodate the infant's need for autonomy within a secure environment.

Activity

The trainer gives out sheets with the following table:

Baby's action	Caregiver's positive reaction
1. At mealtime, picking the spoon and throwing each spoonful on the floor studying how it falls.	
2. Deliberately walking through mud pools to cause a big splash getting all the clothes dirty.	
3. Unrolling a toilet roll all over the house.	
4. Scribbling with black crayon on the walls.	
5. Throwing all the story books on the floor and turning all the pages of the books, leaving a mess.	

Reflection

- When all the participants have completed the table the trainer asks them to discuss their answers in groups of 3 or 4 people.
- In as much as the infants are given a chance to explore their environment, discuss ways of ensuring their safety.

Input

Developing independence in infants is vital and when it manifests itself in their actions the opportunity must be taken regardless of the mess left behind. A caregiver must not punish these actions because they are not intentional but a part of their learning. However caregivers would be advised to accommodate these needs within the infant's environment to encourage and to enhance the growth in that area as suggested in the table.

Table of Caregiver's responses with positivity

Baby's action	Caregiver's positive reaction
1. At mealtime, picking their food and throwing each spoonful on the floor studying how it falls	*Put a large plastic sheet under the feeding chair and allow the infant to experiment. Or give them a task of spooning foods of different textures from one bowl to another.*
2. Deliberately walking through mud pools to cause a big splash getting all their clothes dirty.	*Putting the infant in old clothes, a raincoat and gumboots to play in the mud pools.*
3. Unrolling a toilet roll all over the house.	*Walk with the infant and help them roll the paper back on. And use different coloured streamer outside and run with them so that they unfurl in the wind.*
4. Scribbling with black crayon on the walls.	*Explain that it is dirty and ask them to help you clean it up. Then lay sheets of paper on the floor to scribble on.*
5. Throws all the story books on the floor and turns all the pages of the books, leaving a mess.	*Pick up the story books and read while the infant is seated on the lap and turns the pages. Discuss the pictures and let them learn to identify the characters.*

Infants between 1 and 2 years want to be involved in decisions of choosing clothes, books to read, what vegetable to eat. It gives the infant an opportunity to feel in control of their body and their environment but the caregiver must give them the freedom within limits.

Caregivers can also allow them to 'help' with the chores and can be given tasks to help their development. For example: giving them biscuit dough to make their own biscuits; peeling skins of nuts; carry items to the table when serving a meal; carrying clothes to the cupboard to be put away; finding matching socks; buttoning shirts; putting shoelaces; clearing up the toys; distributing items at meal time and serving equal portions.

Caregivers can make a habit of clearing the toys after every play session and infant will learn and copy the behaviour.

Caregivers must be encouraged to find solutions to their problems not get frustrated with the situation. If an infant is a *messy* eater, put a floor sheet but allow the infant to learn to eat independently and enjoy meal times.

Coping with messy eaters

At this stage it is vital that the caregiver maintains a secure environment within which an infant can explore. The table of Safety & Health:

	Safety	**Health**
1	Do not leave the infant unsupervised near or around water bodies such as ponds, lakes, and seaside or when at home near bathtubs, swimming pools. Care must be taken to fence off these areas when not in use.	Ensure that a habit is made of having water and plain milk instead of sugary drinks. Many mothers continue breastfeeding after the first year, which is ideal to supplement the diet.
2	Block off stairs with a small gate or fence. Lock doors to dangerous places such as the medicine cabinet, garage and basement.	Two years olds can be picky and erratic with their food. Remember that they need less food in their second year because their growth is slower. However, they have small stomachs that need to be fed small amounts frequently. Offer them healthy foods to make up a balanced meal.
3	The home should be infant proof: place plug covers on all electrical outlets when not in use; toilet covers should be clipped down; door should have sponges to prevent them from slamming and likely to crush little fingers.	Limit television watching. Caregivers should ensure that the programmes are age appropriate. This age group tends to imitate behaviour and look up to adults as role models. Hence watching violent scenes on television may cause them to act out that behaviour thinking it is normal.
4	Keep sharp objects such as scissors, knives, letter openers, and pens in a safe place.	The two year olds seem to be moving continually – running, kicking, climbing or jumping. Let him/her be active; in doing this he/she is improving his/her coordination and becoming strong.
5	Lock up medicines, poisons and cleaners.	
6	Toddlers should not be left alone in any vehicle (cars, truck, and van) even for a few minutes.	
7	Store any weapon in a safe place and out of reach of the infant.	

Laura, 2012 & Kail, 2011)

Application

WHAT	• What was the session about?
WHY	• Why was the session important?
HOW	• How can they apply this information to their individual environment?

SESSION 15

Nutrition: A Balanced Diet

Expected learning outcomes:

At the end of the session the participants must be able to:

1. Demonstrate the importance of the a balanced diet;
2. Describe the role of each of the nutrients in the body;
3. Recognize that growth at this stage of an infant's life is vital to their future development.

Activity

The trainer asks the participants to divide themselves into pairs. Each pair is given an envelope of pictures. Their task is to apply the 4 questions listed to every picture in envelope:

i) Will the infant like the food?

ii) Is the food healthy?

iii) Why is it unhealthy?

iv) What healthy alternatives can the caregiver provide?

There are various creative ways of making food attractive to infants.

Reflection

Infants do get bored of the same food and like variety. They like novelty in terms of the taste, texture and appearance. In fact, it is vital to slowly introduce new foods between the ages of 1 and 2 years so that they get exposed to all types of foods.

Input

Babies must be breastfed or bottle fed milk exclusively for the first 4 to 6 months of life. Thereafter solids must be introduced gradually. It is advisable to start with fruits juices and slowly move to cereals and vegetables; small amounts such as half or one teaspoon of each food should be introduced one at time as it is possible that an infant may be allergic to certain foods.

A Summary showing Food groups and suggested Preparations for each age group

Food groups	Nutrients	Forms of presenting the food to different age groups			
		4- 6 months	6- 8 months	8-12 months	12 - 24 months
Cereals: Wholemeal, wheat, maize, millet (Uji, Cerelac bread) Rice	Carbohydrates, vitamin B, calcium	Pureed and sieved to prevent choking. Feed the infant small amounts with a spoon.	Lightly mashed; soft by coarse. Allow the infant to hold the bottle or sipping cup under supervision.	Rice can be mixed and mashed lightly with vegetable & gravy. A biscuit can be soaked in milk and fed to the infant as a snack.	Maize cobs boiled and cut for the infant to hold and chew off the corn. Toasted bread.
Fruits: Orange, paw paw, bananas, apples.	Vitamin C & A	Pureed and sieved to prevent choking.		Allow the infant to hold a piece of fruit and chew or suck it slowly. Caregiver	

				must be vigilant to ensure that the infant does not choke.	
Green & yellow vegetables: cabbage, spinach, carrots, kale, green beans, tomatoes, pumpkin, potatoes, sweet potatoes, cauliflower,	Minerals, calcium, cobalt, zinc, magnesium, potassium & sodium. Carbohydrates vitamins A, B & C.	Small amounts of each should be pureed and sieved and introduced before mixing the vegs. Feed the infant small amounts with a spoon.	A mixture of pureed vegetables may be introduced.	Carrots can be peeled and given to the infant gnaw to relieve teething.	Potatoes, cauliflower and carrots can be cut into chunks & lightly boiled or fried to be held and eaten as finger foods. Play on the colours of the vegetable to make the meal interesting.
High animal protein: eggs, fish, cheese, beef, chicken			High animal protein must be introduced very slowly starting with fish.	Yolk of a hardboiled egg can be introduced after the infant is 1 yr.	Meat can be minced and mashed with potato or rice. Fish can be mashed and lightly fried to change its texture. Avoid sausages & processed meats.
High vegetable protein: legumes, pulses,		Legumes can be pureed and sieved to prevent choking	Pureed foods mixed with other vegetables.	Pulses and legumes may be mixed with rice and mashed.	Pulses can be dull in taste can may be incorporated in with colourful vegetables.
Milk & dairy products: Milk, yogurt, ice cream, cheese		The infant is very dependent on milk.			Chopped fruit in yogurt make a colourful combination. Cream and cheese are high in fat and should be avoided.

(Stoppard, 2011)

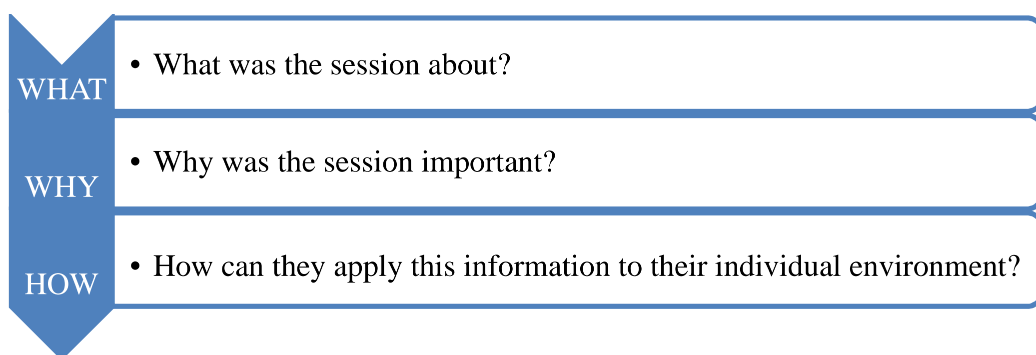
By 6 months babies must have a mixed diet of solid food and milk. Different foods should be introduced one at a time and care must be taken to ensure that it is pureed and sieved to prevent the infant choking.

Deficiency can lead to brain damage. Protein is the most important nutrient as it provides the building blocks for cell development. An infant is said to require 14.5 grams of protein per day (Stoppard, 2011). However, if the carbohydrates in the diet are insufficient, the proteins will be used to fill that need first, hence the importance of a balanced diet. Vitamins and minerals contained in fruits and vegetables act as catalysts for the smoothing function of the digestive system.

The body is growing at a fast rate too. In order to keep track it is advised that the infant is taken to the clinic to be weighed and the weight plotted against a graph of the average Kenyan child set by WHO. If the infant is not within the limits advice is given to ensure proper steps are taken to rectify the position.

Appendix 5.4 Clinic Card for Recording Growth

Application



SESSION 16

Play is part of Learning & Communicating

Expected learning outcomes:

At the end of the session the participants should be able to:

1. Explain the importance of play;
2. Interacting with the environment through play;
3. Adapt play to enhance growth in all 4 dimensions.

Activity

The trainer divides the group in pairs and each pair is asked to take a sock puppet and pick a card. Each pair then goes to the 'box' to choose appropriate embellishments to create their character to suit their storyline. The story must take only 5 minutes.

For this exercise it is important that the participants are requested to be childlike and free of their inhibitions in order to be productive.

The three simple storylines:

- The character is sad but at the end of the story is happy (7 to 10 months).
- The character is sick and at the end of the story feels much better (10 – 18 months).
- The character is playful and wants to make another sock character feel happy (18 to 36 months).

Each pair takes a turn at telling the other the story a short story that will take only 5 minutes.

Every participant has to evaluate their partner's story in achieving its purpose.

Reflection

Infants like the attention, the eye contact and the voice. Stories are very versatile and can suit any occasion or situation. The caregiver can adapt to any age level, mood, culture, language, stimulating experience thus sparking growth in any dimension. Caregivers need to be creative and resourceful using items easily available to them.

Self-play in a sand tub

Discuss:

1. What tools would you use for the different age groups?
2. Consider the use of play in the different dimensions of development and incorporating it in the infant's daily routine.
3. Think about how you would introduce socialization with other infants. What problems would you expect to encounter?

Examples of Play Activities to suit different age groups

Developmental Dimension	**0 – 8 months**	**8 – 18 months**	**18 – 24 months**
Biosocial development	Colourful mobiles above the cot. Playing with colourful toys	Floor activities; with a ball, rolling & crawling with the infant playing with toys. Water-play in the bath; imitating daily routine with dolls.	Encourage simple tasks: picking named objects Acting out stories: running jumping, waving magic wands. Pulling & pushing toys with string.
Emotional Development	Eye contact, caressing & comforting	Cuddling while reading a story. Acting out positive emotions.	Copying & imitating emotions of characters in stories. Teach positivity through

			play. Coping with *stranger anxiety.*
Psychosocial Development	Build trust with the infant by playing and interacting with the infant maintain a happy, content, calm & stimulating disposition.	Allow the infant to choose the toys they will play with.	Encourage the infant to complete the task & enjoy the satisfaction of completing it.
Cognitive Development	Awareness of the senses. Rock the infant to soothing music. Reading nursery rhymes, singing lullabies.	Different textures & sounds. Using play introduce Introducing story time: talk & read in different voices.	Talk about the characters in the story. Involve the infants – ask them to point to characters. Preparation for inter-action with other infants.

Input

Adapt this table to suit your situation as a caregiver.

Texture Board

Threading wool through holes in coloured paper.

Cutting shapes on the top of vegetable containers and help the infant to push their shapes through.

Socialize through play

Between 18 and 24 months infants should be encouraged to interact with one or two other infants in parallel play where they can use the toys such as building blocks side by side. At this age they tend to be self-centred at first but will modify their behaviour if praised. Caregivers must try

to facilitate socialization by giving them appropriate play material to share and keeping the play sessions short and supervised.

Ask the participants if they are having any difficulties? If so, please ask them to write their problem and put it in the *question box*

Application

WHAT
- What was the session about?

WHY
- Why was the session important?

HOW
- How can they apply this information to their individual environment?

SESSION 17

Cognitive Development: Body Language

Expected learning outcomes:

At the end of the session the participants should be able to:

1. Interpret the emotion expressed in body language;
2. Read and respond to body language;
3. Encourage and support infants to build their communication skills.

Activity

Each of the participants acts out one of the following scenes (characteristic of infants below 24 months):

1. Pulling mummy towards the car;
2. An infant drawing attention to herself while daddy continues to read the newspaper;
3. Sitting in a corner sucking her thumb.
4. Rubbing his eyes and laying his head on the table.
5. Flinging toys at the caregiver.
6. Presents the caregiver with a tea cup and pieces of play-dough on a plate with enthusiasm.

The group has to answer the following questions:

i) What message is the infant trying to convey?

ii) How should the caregiver respond?

The trainer writes each of the following 6 scenarios (characteristic of infants below 24 months) on separate pieces of paper. Each participant may choose a partner to illustrate their scenario. The group has to guess the emotion that the group is trying to communicate.

1. You have received a present for your birthday but did not like it. (Disappointment)
2. You are frustrated because you cannot understand your school-work. (Anger)
3. Mother gave you a pet which you really wanted. (Surprised)
4. Your friend did not invite you to her birthday party. (Hurt, sad)
5. Your dog vomited all over your toy basket. (Disgusted)
6. Daddy came home early from work to play with you. (Happy)

Reflection

Discuss in groups of 4:

1.The use of body language to communicate emotion.

2.The interpretation of body language and how it influences our response.

a.Self esteem

b.Shyness

3.Building self-esteem and overcoming shyness.

Input

Cognitive development involves the processes of thinking which involves learning, language and memory in the first 2 years of life. According to Piaget children follow these six stages:

Primary Circular Reactions	
The first two stages involve the infant's own body.	
First stage (birth to 1 month)	Reflexes: sucking, grasping, staring, and listening.
Second stage (1-4 months)	Adaptions: accommodation and coordination of reflexes. Examples: sucking a pacifier
Secondary Circular Reactions	
The next two stages involve infant's responses to people and objects	
Third stage (4-8 months)	Developing awareness of things: responding to people and objects. Example: clapping hands and exclaiming
Stage four (8-12 months)	Showing anticipation: responses more deliberate and purposeful. Example: putting mother's fingers on the infant's stomach to tickle her/him.
Tertiary Circular Reactions	
The last two stages are the most creative: first with action and the other with ideas	
Stage Five (12-18 months)	Active experimentation: showing creativity Example: throwing toys in the toilet and flushing it.
Stage Six (18-24 months)	Combining different mental processes: providing the infant with new ways of achieving a goal Example: hesitating to grab the balloon because the last time it burst or climbing on a chair to get an object out of reach.

(Berger, 2008)

Infants as indicated earlier follow a circular reaction of assimilation, accommodation and adaptation. They assimilate their experiences and store them in their memory. When they reach the right developmental age they are able to think about the goal and begin to understand how to reach it. Infants have difficulties in reading situations and problem solving and it is vital that Caregivers help to organize the infant's internal feelings. They are unable to explain or communicate their feelings instead of acting it out in gestures, emotions, noises, facial expression and with their body. A caregiver must be attuned to the cues and read them accurately and provide an appropriate response. Vocalizing the infant's need will demonstrate a method to make known their need in an acceptable manner.

Application

WHAT	• What was the session about?
WHY	• Why was the session important?
HOW	• How can they apply this information to their individual environment?

SESSION 18

Cognitive Development: Verbal Language

Expected learning outcomes:

At the end of the session the participant must be able to:

1. Explain the different methods of helping babies acquire verbal language;
2. Demonstrate the use of vocabulary to vocalize one's thoughts and feelings clearly;
3. Differentiate between talking and communicating.

Activity

The trainer will list 4 different methods of helping babies acquire vocabulary:

i) Naming objects;

ii) Talking to an infant through various processes eg changing, feeding, bathing;

iii) Singing and reciting age old nursery rhymes over and over again;

iv) Telling stories, pausing and asking for an infant's opinion.

Discuss in pairs the following:

1. What impact does talking have on a baby who is less than 3 months?
2. What is the value of reading to infants of 8 to 12 months even if they are unable to follow the story line?
3. Why must we ask a two year old for their comments when reading a story?
4. How does repetition help with language development?

Reflection

Share the answers of the group.

1. **What impact does talking have on a baby who is less than 3 months?**

   The baby may not have the capacity to talk but is absorbing the environment and the brain is developing through the sensory perception. The brain is not only hearing the words but taking in the facial expression, the tone and communicating via eye contact. The mind is unconsciously storing the words in the memory for use later.

2. **What is the value of reading to a baby of 8 months to 1 year even if he is unable to follow the story line?**

   The value of reading is not in the story itself but the atmosphere in which it is read. The caregiver usually has the infant on the lap, using a gentle voice the infant will feel secure and loved and form a positive impression of the feeling committing it to memory for life.

3. **Why must we ask a two year old for their comments when reading a story?**

   It is important that infants feel their opinion is valued. In addition, it gives the caregiver a chance to see how much of the story and its context has been absorbed. Infants below 24 months have not yet developed defense mechanisms and will share thoughts, worries and stresses thus giving the caregiver a chance to provide comfort and lay their mind at rest.

4. **How does repetition help with language development?**

   Infants learn the words of the song together with the rhythm by repetition. It makes it fun to learn and builds vocabulary.

Input

The participants will recall the table distributed earlier listing the developmental milestones of the spoken language in the first two years. Cognitive development is a *thought process* that is

complicated where language is a medium used to communicate these thoughts to others. Infants slowly acquire the concepts with the use of language. They often use the same word to describe similar things for example anything of varying temperature will be 'hot' and all four legged animals will be 'dog'. This is not because they do not know the difference but because they lack the vocabulary. It is the same when infants keep asking 'why' perhaps what they mean to say is 'what does it do' or 'how does it work.'

Infants of 18 to 36 months tend to get frustrated because they are unable to communicate and look up to their caregivers to interpret the turmoil within. It may range between a cry for attention or fury for being ignored to over-tiredness at the end of a busy day (Miriam Stoppard, 2011). It is helpful to them if the caregiver vocalizes the thoughts of the infant, in this way infants will learn to use words and appropriate vocabulary to express their feelings.

Sock puppets are easy to make and are very versatile as they can represent the hero or the villain of any story. Puppets can also be used as a tool; the caregiver can use the puppet to demonstrate to infants how to communicate the different emotions.

Application

WHAT
- What was the session about?

WHY
- Why was the session important?

HOW
- How can they apply this information to their individual environment?

SESSION 19

Common Challenges

Expected learning outcomes:

At the end of this session the participants should be able to:

1. Respect the infant and be open to understanding the problem.
2. Explain the importance of praise and consistency.
3. Demonstrate positivity when problem solving.

Activity

The trainer will ask the participants to form groups of 3 or 4 people. Each participant will then be given a copy of the table : Trouble –shooting and asked to discuss solutions within their groups.

In addition the trainer will go through the questions in the box that the participants have written in the course of the week and address them at the end of this session.

'Trouble –shooting'

Problem	Solution
Colic	
Temper tantrums	
Refusing to comply	
Throwing toys	
Playing with the food	

Reflection

1. Do you think corporal punishment is a solution? Why ?
2. What have you learnt in the sessions that you can apply?
3. How does praise and consistency shape behaviour in an infant?
4. Why is positivity very important?

Input

Infants: Various challenges and suggested solutions

Problem	Cause & Solution
Colic	*Causes pain or discomfort and the baby needs to be comforted until it passes. Babies eventually outgrow the phase. If it persists seek medical advice.*
Temper tantrums Refusing to comply	*Caused by tiredness; feels discomfort but does not know how to express himself appropriately; strong willed and cannot control it in a socially acceptable way.* *Distract the infant with a favourite toy; offer comfort; talk gently through it while trying to sooth him/her. Try to understand that they are as confused and do not know how to hand themselves and look to the caregiver to model the appropriate behaviour.*
Throwing toys	*The baby is exploring its environment; watching a falling toy is part of the learning experience. The caregiver can make a game of putting the toys back in the basket. The infant will model the adult's behaviour and learn from that too.*
Playing with the food	*Present colourful foods, tastes and textures to babies over 6 months. This too is sensory learning of tastes.* *Making meal times enjoyable and pleasant with a stories about food. Caregivers must also take note of the foods enjoyed and those disliked.*

The trainer will ask the participants to add a few more problems to the list. The group can discuss the causes and make suggestions for solutions with the help of the trainer.

List the challenges caregivers face:

Refer to session 4 where 'self-awareness' was discussed and encourage the group to share their experiences when tired, frustrated and stressed.

Caregivers: Various challenges and suggested solutions

Caregiver	Solution
Tired	*Self-care: Primary caregivers (mothers) have a lot of other chores to complete before the end of the day. Playing with a baby may not be possible as she is too tired.* *Delegating work enables primary caregivers to spend more time to bond with their baby.*
Frustration	*Caregivers may get frustrated as it may not be the job option they want. It is important to be self-aware and take steps to make the right choices.*
Stressed	*Other worries may interfere with the time with the baby – self- awareness is important and stresses must be put aside when with the baby.*

Praise and consistency

The caregiver needs to praise the infant not only for achievement but for *trying or the effort* to attempt a task. It is vital to remember that specific praise is *most* effective. Consistency in praising or showing displeasure after a certain behaviour or action is vital. It is confusing for the infant to learn social behaviour if the caregiver is not clear with her response. If for example the caregiver shows displeasure when an infant spits at visitors one time and laughs the next time, it gives an unclear message to the infant; it may reinforce the behaviour because the infant will think it is positive and amusing.

Application

WHAT	• What was the session about?
WHY	• Why was the session important?
HOW	• How can they apply this information to their individual environment?

SESSION 20

Evaluation & the Future

Activity

The participants are asked individually how they benefited from the training. Thereafter are asked to fill an evaluation form see Appendix 7-2 Post Training Evaluation Form.

Discuss:

1. Did the training programme meet your expectations?
2. Would you like to be part of a support group that meets to help each other and organize other training sessions as and when required?
3. Did you face challenges in any related areas of this training programme?

Reflection

The trainer gives the participants a chance to ask questions and share ideas and thoughts for the future with the group.

Finale

Distribute the certificates of participation.

CHAPTER FIVE

THE CONCLUSION

5.0 Introduction

The project aimed to provide caregivers with the basic knowledge, strategies and tools to enhance the development of infants below 24 months. The training manual enables infants to acquire a holistic development by covering four dimensions of growth: the biosocial, emotional, psychosocial and cognitive thus giving infants the opportunity to realizing their potential. This chapter takes into account the various factors that influence the effectiveness of the training and discusses the limitations, the envisaged impact and the future orientation.

5.1 Limitations

Research in many parts of sub-Saharan Africa has shown the need for intervention programmes to boost ECD but it has also been noted (Ford & Stein, 2016) that each environment and strata of society has its own distinct challenges in addressing poor early child development. A good example is the urban area where the pace of life has led to two problems: the parents or primary caregivers have the knowledge and awareness of the sensitive period but are overburdened with working towards their livelihood that it takes precedence over caring for their infants. They are reliant on secondary caregivers which pose a second problem (Gachutha, 2016). There are secondary caregivers such as house-helps who are irresponsible '*working for the sake of earning money*' and disinterested in the welfare of the infants (Muasya, 2016) leaving them vulnerable and unprotected. On the other hand, there are dedicated caregivers with a low level of education, (below standard 8), who do not have an income and who will not qualify to attend the training programme. Ironically these are the very people that most require it! Arguably, to accommodate

this, the level of the training sessions will have to be set at a lower level which may in turn affect the outcome of the project.

The training manual although versatile and easily implemented, has not been trialed as a pilot study hence its effectiveness has not been determined. Feedback from the training sessions of this project would be very useful to improve its efficacy. Generalizing the effects of this training manual on infants of different family situations is difficult. Studies have shown that infants are resilient and develop self-soothing skills such as rocking and feeding (Carr, 2009). However, in prolonged stressful home situations infants may be at risk of developing an anxiety disorder later in their lives.

However, this training manual is designed for the average normal adult caregiver, taking into consideration any of the limitations would result in it not being applicable to the majority.

5.2 Envisaged Impact

This project hopes to train parents, grandparents, adult family members and house help to provide a holistic development for infants in their care. The sessions not only impart the knowledge but give the trainees a chance to apply it to real situations. Furthermore they are encouraged to share their experiences and learn from one another and discuss strategies to overcome challenges in their own unique situations. The training provides ideas and tools to encourage growth in four dimensions of development: biosocial, emotional, psycho-social and cognitive in an infant below 24 months.

In addition this programme hopes to form of support groups out of each group of participants in order that they may support one another and grow through each other's experiences.

5.3 Future Orientation

There is a move in other parts of SSA for parenting intervention programmes such as this project to be annexed to the antenatal clinics where there is access to other facilities such as counselling and assessment pertaining to ECD. It also makes it easier to organize for support group meetings and seminars from time to time in order for caregivers to be able to keep abreast of developments in the field. In Jamica the JHV have been able to teach caregivers to make toys for their infants with household items. South Africa programmes such as the EBS (Gladstone et al, 2017) have proved to be useful for mothers to get access to books to share to improve cognitive development in their infants.

The government of Kenya could introduce a requirement for caregivers (house helps) to hold a certification of competence to safe guard the rights of the infant. Infants are particularly vulnerable as passive, silent victims because they are unable to voice their complaints and their parents remain oblivious. In addition, this project can partner with a programme of child protection to further safe guard the rights of infants.

Child protection is an essential component and home-based caregiving as caregivers have a moral responsibility to care for their infants. Furthermore, according to the Children's Act, (part III), parents have a legal obligation to protect their infants from neglect, discrimination and abuse. Partnering with a training programme in child protection will raise awareness among both parents as well as house helps to ensure that proper steps are taken to protect their infants from maltreatment on both sides.

5.4 Recommendations

The Trainer (the proprietor of the manual) is available to recruit and train Assistants to set the manual in motion. It is inevitable that the Trainer will need assistance in handling groups of more than ten participants and can use that opportunity to train the assistants to become future trainers and in this way promote the manual.

In the future it would be beneficial to the project if a sequel was designed for children between 2 and 4 years as herein lays a gap. Literature indicates that there are limited training programmes for this age group. Although the Government of Kenya has acknowledged that 0 to 8 years is a critical window for development and has made a provision for Holistic education programmes for preschoolers (4 to 8 years) in the 2030 vision (MOEST, 2005), it assumes home care for children below 4 years (Adhiambo et al, 2013).

Furthermore, although Kenya has reduced its mortality rate to 7.6% (Demombynes & Trommlerova, 2012) further research (Ford & Stein, 2014) shows that maternal post-partum depression (PPD) has a negative outcome on the infant. PPD affects maternal-child interaction is affected which results in less cognitive development in the infant. This project would benefit greatly from PPD intervention in the form of home visits by health workers as has been trialed in South Africa (Crankshaw et al, 2016).

REFERENCE

Abubakar, A., Holding, P., Van de Vijver, F., Bomu, G., & Van Baar, A. (2010). Developmental monitoring using caregiver reports in a resource-limited setting: the case of Kilifi, Kenya. *Acta Paediatrica*, *99*(2), 291–297.

Adam, M. B., Dillmann, M., Chen, M., Mbugua, S., Ndung'u, J., Mumbi, P., Waweru, & E.,Meissner, P. (2014). Improving Maternal and Newborn Health: Effectiveness of a Community Health Worker Programme in Rural Kenya. *PLoS ONE*, *9*(8), 104027.

Adhiambo, M.J., Emeke, E.A., & Ngigi,.S.K. (2013). *Early Childhood Education for Holistic Development of the Child.* Nairobi: CUEA Press.

Ainsworth, M. S. (1979). Infant–mother attachment. *American Psychologist, 34*(10), 932-937.

Anderson, L., Krathwohl, D.R., Airsian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). *A taxonomy for learning, teaching and assessing: A revision of Bloom's taxonomy of education objectives.* New York: Pearson, Allyn & Bacon.

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs, 75*(1), 43-88.

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology, 4*(1), 1-103.

Becker, S. (2007). Global Perspectives on Children's Unpaid Caregiving in the Family: Research and Policy on 'Young Carers' in the UK, Australia, the USA and Sub-Saharan Africa. *Global Social Policy*, *7*(1), 23-50.

Berger, K. S. (2008). *The developing person through the life span,* (8th ed.). New York: Worth Publishers.

Berument S.K. (2013). Environmental enrichment and caregiver training to support the development of birth to 6-year-olds in Turkish orphanages. *Infant Mental Health Journal 34(3),* 189-201.

Black, M.M., Walker, S., Fernald, L.C.H., Anderson, C.T., DiGirolamo, A.M., Chunling, L., ... Grantham-McGregor, S. (2017). Early childhood development coming of age: Science

through the life course. *Advancing Early Childhood Development: From science to scale, 389*(10064), 77-90.

Bleske-Rechek, A. & Kelley,J.A. (2014). Birth order and personality: A within-family test using independent self-reports from both firstborn and later-born siblings. *Personality and Individual Differences, 56,* 15-18.

Boston Basics (2017). A series of evidence based parenting principles designed for children under the age of three (Trustees of the black philanthropy fund (BPF). https://www.theatlantic.com/education/archive/2017/04/can-love-close-the-achievement-gap/523131/

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment.* New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: anxiety and anger*. New York: Basic Books

Burger, K. (2010). How does early childhood care and education affect cognitive development? An international review of the effects of early interventions for children from different social backgrounds. *Early Childhood Research Quarterly, 25(2),* 140-165.

Busolo, B & Agembo, W. (2017). Access and equity in early childhood education: Challenges and opportunities. *Baraton Interdisciplinary Research Journal, 7,* 1-7.

Cabrera, N.J., Shannon, J.D., West, J., & Brooks-Gunn, J. (2006). Parental interactions with Latino infants: Variation by country of origin and English proficiency. *Child Development,* 77, 1190-1207.

Carr, A. (2009). Social and emotional development in the preschool years. In D. Skuse, H. Bruce, & L. Dowdney, (Eds.), *Child Psychology and Psychiatry: Frameworks for clinical training and practice* (pp. 83-85). Singapore: Wiley Blackwell.

Cluver, L., Orkin, M., Boyes, M.E., Sherr, L., Makasi, D. & Nikelo, J. (2013). Pathways from parental AIDS to child psychological, educational and sexual risk: Developing an empirically-based interactive theoretical model. *Social Science and Medicine, 87,* 185-193.

Crankshaw, T., Gibbs, A, Butler, L., Tomlinson, M., & Inglis, R. (2016). *Research Project Report: Development of a parenting intervention to promote effective parenting practices in South Africa*. South Africa: HEARD, University of KwaZulu-Natal.

Devi, V. (2008). *How infants know minds.* London: Harvard University Press.

Demir-Lira, O.E., Voss, J.L., O'Neil, J. T., Briggs-Gowan, M.J., Wakschlag, L.S. & Booth, J.R. (2016). Early-life stress exposure associated with altered prefrontal resting-state fMRI connectivity in young children. *Developmental Cognitive Neuroscience*, *19*, 107-114.

Demombynes, G. & Trommlerova, S. K. (2012). What has driven the decline of infant mortality in Kenya? *Policy Research Papers,* 48. World Bank eLibrary.

Elder, J.P., Pequegnat, W., Ahmed, S., Bachman, G., Bullock, M., Carlo, W.A., … Sweat, M. (2014). Caregiver Behavior Change for Child Survival and Development in Low- and Middle-Income Countries: An Examination of the Evidence. *Journal of Health Communication, 19(*1*),* 25-66.

Erikson, E.H (1963). The stages of psychosocial development in infants and toddlers. In K. S. Berger, (Eds.), *The developing person through the life span,* (pp. 183-185). New York: Worth Publishers.

Ford, N.D. & Stein, A.D. (2017). Risk factors affecting child cognitive development: A summary of nutrition, environment and maternal-child interaction indicators for sub-saharan Africa. *Journal of Developmental Origins of Health and Disease: Importance of Research for Africa, 7(2),* 197-217.

Fox, N. A., Henderson, H.A., Rubin, K. H., Calkins, S. D. & Schmidt, L. A. (2001). Continuity and discontinuity of behavioural inhibition and exuberance: Psychological and behavioural influence across the first four years of life. *Child development, 72*, 1-21.

Gachutha, C. (2016). *Effective parenting: parenting in the 21st Century*. Nairobi: Evangel Publishing House.

Gewa, Constance, A. Leslie, & Timothy F. (2015). Distribution and determinants of young child feeding practices in the East African region: demographic health survey data analysis from 2008-2011. *Journal of Health, Population and Nutrition*. *34(*6*)*, 1-14.

Gladstone, M., Phuka, J., Thindwa, R., Chidzalo, K., Chitimbe, F., Chandna, … Maleta, K. (2018). Care for child development in rural Malawi: A model feasibility and pilot study. *Annals of New York Academy of Sciences, 1419(*1*),* 102-119.

Goldin-Meadow, S. (2006). Nonverbal communication. The hand's role in babbling, talking and thinking. In K. S. Berger, (Eds.) *The developing person through the life span,* (pp. 169). New York: Worth Publishers.

Gona, J.K., Newton, C.R., Hartley, S., & Bunning K. (2013). A home-based intervention using argumentative and alternative communication (AAC) technique in rural Kenya: what are the caregivers' experiences? *Child: care, health and development, 40(*1*),* 29-41.

Granqvist,P., Sroufe, L.A.,Dozier, M.,Hesse E.,Steele, M., … Duschinsky, R. (2017). Disorganized attachment in infancy: a review of the phenomenon and its implications for clinicians and policy-makers. *Attachment and Human Development*, *19*(6), 534-558.

Grantham-McGregor, S. & Smith, J.A. (2016). Informing Policy for children at risk. *Journal of Applied Research on Children, 7(*2*),* 1-34.

Green, E., Stroud, L., O'Connel, R., Bloomfield, S., Cronje, J., Foxcroft, C., … Venter, D. (2016). *Griffiths III Scales of Child Development, (3rd Ed.).* Association for Research in Infant and Child Development. UK: Hogrefe Ltd.

Greenspan, S.I. & Greenspan, N.T. (2003). *The clinical interview of the child, (*3rd ed.). Arlington, VA: American Psychiatric Publishing, Inc.

Grossman, K. E., Grossman, K. & Waters, E. (2005). *Attachment from infancy to adulthood. The major longitudinal studies.* New York: Guilford Press.

Hanson, Jamie L. et al. (2015). Behavioral problems after early life stress: Contributions of thehippocampus and amygdala. *Biological Psychiatry*, *77(*4), 314 – 323.

Hayes, E. (2011). *Tantrums: Understanding and coping with your child's emotions*. London: Octopus Publishing Group Ltd. Bounty Books.

Hefferon, K. & Boniwell, I (2011). *Positive Psychology: Theory, Research and Application.* Berkshire: Open University Press. McGraw-Hill.

Herzog, J.A. (1969). *A survey of parents of nursery children in 4 communities in Kenya.*

Holford, P. & Colson, D. (2007). *Optimum Nutrition for your Child's Mind: Maximise your child's potential*. London: Piatkus Books.

Hotz, V.J. & Pantano, J. J (2015). Strategic parenting, birth order, and school performance. Journal of Population Economics, *28*(4), 911-936.

Huttenlocher, J., Waterfall, H., Vasilyeva, M., Vevea, J., & Hedges, L. V. (2010). Sources of variability in children's language growth. *Cognitive Psychology*, *61*(4), 343-365.

Johnson, M.H. (2015). Developmental neuroscience, psychophysiology and genetic. In Bornestein, M.H. & Lamb, M.E., (Eds.), *Developmental Science: An advanced textbook* (pp. 187-222). Mahwah, NJ: Erlbaum.

Kail, R. V. (2011). *Children and their development* (6th Ed.)., (My development lab Series). Englewood Cliffs. N. J. Prentice Hall.

Kirwen, M.C. (2008). *African cultural domains book 1: Life cycle of an individual.* Nairobi: Mias Books.

Kolb, A.Y. & Kolb, D.A. (2017). *The experiential educator: Principles and practices of experiential learning.* Kindle version. Kaunakakai: EBLS Press.

Laird (2015). Protecting children from nutritional and medical neglect in Sub-saharan Africa: A five-country study. *International Journal of Social Welfare, 25(*1*),* 47-57.

Lasser, J., Fite, K.., & Wadende, A. P. (2011). Fatherhood in Kenya ethnic communities: Implication for child development. *School Psychology International*, *32*(1), 49-57.

Laura, E.B. (2012). *Infants and children: Prenatal to middle childhood.* London: Allyn & Bacon.

Legestee, M., & Varghese, J. (2001). The role of maternal affect mirroring on social expectancies in three-month infant. *Child Development*, *72(*5*),* 1303-1313.

Leonard, C.J. (2003). Neural substrate of speech and language development. In M. De Han, & M.H. Johnson, (Eds.), *The cognitive neuroscience of development* (pp. 127-156). NewYork: Psychology Press.

Lewis, M., Sullivan, M. W., & Kim, H. M.-S. (2015). Infant approach and withdrawal in response to a goal blockage: Its antecedent causes and its effect on toddler persistence. *Developmental Psychology, 51*(11), 1553-1563.

Licata, M., Paulus, M., Thoermer, C., Kristen, S., Woodward, A.L., & Sodian, B. (2014). Mother-infant interaction quality and infant ability to encode actions as goal-directed. *Social Development, 23*(2), 340-356.

Maynard, A.E. (2002). Cultural teaching. The development of teaching skills in May sibling interactions. *Child Development*, *73,* 969-982.

Meins, E. (2013). Sensitive attunement to infants' internal states: operationalizing the construct of mind-minedness. *Attachment & Human Development, 2013, 15*(5-6), 524-544.

MOEST. (2005). *Background report of Kenya,* UNESCO/OECPD Early Childhood Policy Review Project, Nairobi: MOEST.

MOEST, (2012). *Background report of Kenya, UNESCO/OECPD* Early Childhood Policy Review Project, Nairobi: Busolo & Agembo.

Montessori M.(1967). *The absorbent mind.* New York: Dell Publishing Co., Inc.

Muasya, G., (2016). Work-Family balance choices of women workin in Kenyan Universities. *Sage Journal*, *6(*1),1-12.

Muasya, G. (2016). Is work-family balance a possibility? The case of Kenya female teachers in urban public schools. *International Journal of Educational Administration and Policy Studies 8*(5)*,* 37-47.

Mwangi, H.N. & Njuguna, G. (2012). *Child Growth and Development.* Nairobi: Sasa Sema Publications, Longhorn Kenya Ltd.

Mweru, M. (2010). Why are Kenyan Teachers still using Corporal Punishment eight years after a Ban on Corporal Punishment? *Child Abuse Review, 19,* 248-258.

Ochome, E.A. (2013). Factors that influence access to and equity in early childhood education in Kenya. *Early Childhood Education for Holistic Development of the child* (pp 3-20). Nairobi: CUEA Press.

Ong'ong'a, H.M.O. (2009). *Community development.* Nairobi: Longhorn Publishers.

Onis, M., Dewey, K.G., Borghi, E., Onyango, A.W., Blossner, M., Daelmans, B., … Branca, F. (2013). The world health organization's global target for reducing childhood stunting by 2025: rationale and proposed actions. *Maternal and Child Nutrition, 9(*52*),* 6-26.

Otto, H.W.R, Schuitmaker, N., Lamm, B., Serdtse, Y., Abels, M. , Yovsi, R., & Tomlinson, M. (2016). Infants' social experiences in three African socio-cultural contexts. *Child Development, 00(*0*),* 1-16.

Palm, G. & Fagan, J. (2008). Father involvement in early childhood programmes: review of the literature. *Early Child Development and Care*, *178*(7-8), 745-759.

Piaget, J. (1952b). *The origins of intelligence in children*. (Cook,M., Trans). Oxford, England: International Universities Press.

Pretorius, K. & Van Niekerk, A. (2014). Childhood psychological development and fatal injuries in Gauteng, South Africa. *Child: Care, Health and Development, 41(*1*),* 35-44.

Pruden, S.M., Hirsh-Pasek, K., Golinkoff, R.M., & Hennon, E.A. (2006). The birth of words: Ten-month-olds learn words through perceptual salience. *Child development, 77*, 266-280.

Puckering, C. (2008). Promoting infant mental health: Why the early years matter. In D. Skuse, H. Bruce, & L. Dowdney, (Eds.), *Child Psychology and Psychiatry: Frameworks for Clinical Training and Practice* (pp 109-113). Singapore: Wiley Blackwell.

Ramchandani P., Stein A., Evans,J., & O'Connor, T.G. (2005). Paternal depression in the postnatal period and child development: a prospective population study, *The Lancet*, 365: 9478, 2201-2205. ISSN 0140-6736.

Reddy, V., (2008). *How infants know minds.* USA: Harvard University Press.

Rogoff, B. (2003). *The cultural nature of human development.* New York: Oxford University press.

Rono, J.K.. (2002). The impact of the structural adjustment programmes on Kenyan society. *Journal of Social Development in Africa. 17,* 81-98.

Rothbart, M.K. & Bates, J. E. (2006). Temperament. In W.Damon & R.M. Lerner, (Series eds.) & N. Eisenberg, (Vol. Ed.), *Handbook of child psychology Vol.3. Social emotional and personality development* (pp. 99-166). Hoboken, NJ: Wiley.

Rovee-Collier, C. (2001). Information pick-up by infants: What is it, and how can we tell? *Journal of Experimental Child Psychology, 78, 35-49.*

Shonkoff, J.P., Garner, A.S., Siegel B. S., et al. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*, 232-246.

Siegal, D.J. (2012). *The whole child: 12 Revolutionary strategies to nurture your child's developing mind.* New York: Bantam Books.

Silverman, W. K. & Dick-Niederhauser, A. (2004). Separation anxiety disorder. In T.L.Morris, & March, J. S. (Eds.), *Anxiety disorder in children and adolescents* (2nd ed., pp 164-188). New York: Guilford Press.

Skovdal, M., Campbell, C. & Onyango, V. (2013). Supporting 'Young Carers' in Kenya: From policy paralysis to action. *Child Care in Practice*, *19(*4*)*, 318-339.

Skuse, D, Bruce, H. & Dowdney, L. (2017). *Child Psychology and Psychiatry: Frameworks for clinical training and practice* (3rd ed.). Singapore: Wiley Blackwell.

Steele, H., & Steele, M. (2008). Early attachment predicts emotion recognition at 6 and 11 years. *Attachment and Human Development*, *10,* 379-393.

Stoppard, M. (2011). *You and your toddler.* London: Dorling Kindersley Limited.

Swadener, B.B. et al. (1996). Does the village still raise the child? A collaborative study of changing child-rearing and community mobilization in Kenya. *Paper presented, Conference of the American Education Research Association*. New York.

Taipale, J. (2016). Self-regulation and beyond: Affect regulation and the infant-caregivers dyad. *Frontiers in Psychology, 7(*889*),* 1-13.

Thompson, R.A. (2006). The development of the person: Social understanding, relationships, conscience, self. In Damon, W & Lerner, R.M. (Series Ed.), & Einsenberg, N. (Vol. Ed.)

Handbook of Child Psychology: Vol. 3 Social, emotional and personal development (6th ed., pp 24-98). Hoboken, NJ: Wiley.

Trevarthen, C. (2003). Intrinsic motives for companionship in understanding: Their origin, development and significance for infant mental health. *Infant Mental Health Journal, 22(*1-2), 95-131.

UNESCO. (2005). *Early childhood and family policy series:* Policy Review project for Brazil, Indonesia, Kazakhstan and Kenya. Retrieved from http://www.unesdoc.org.

UNICEF World Health Organization. Participant Manual: Care for child development. Retrieved on 20/10/2017.

Vally, Z., Murray, L., Tomlinson, M & Cooper, P.J. (2014). The impact of dialogic book-training on infant language and attention: a randomized controlled trial in a deprived South African community. *Journal of Child Psychology and Psychiatry, 56*(8), 865-873.

Wachs, T.D., Sigman, M., Bistry, Z., Moussa, W., Jerome, N., Neumann, C., Bwibo, N. & McDonald, M.A. (1992). Caregiver child interaction patterns in two cultures in relation to nutritional intake. *International Journal of Behavioural Development, 15*(1), 1-18.

Wadende, P. A., Fite, K. & Lasser, J. (2016). The Kenyan parent in changing times. In H. Seline *Parenting across culture: Childrearing, motherhood, fatherhood in non-western cultures*, (pp. 267-276). Switzerland: Springer Nature.

Wadende, A.P., Oburu, P. O. & Morara, A. (2016). African indigenous care-giving practices: Stimulating early childhood development and education in Kenya. *South African Journal of Childhood Education* 6(2), a446.

Walker, S. P., Baker-Henningham, H., Chang, S. M., Powell, C. A., Lopez-Boo, F. & Grantham-Mcgregor, S. (2018). Implementation of parenting interventions through health services in Jamaica. *Vulnerable Children and Youth Studies, 13*(2)*,* 127-141

Walker, S.P., Chang, S.M., Smith, J.A., Baker-Henningham, H., (2018). The reach up early child parenting programme: Origins, contents and implementation. *Zero to Three Journal, 38(*4*),* 37-43.

Walker, S.P., Wachs, T.D, Grantham-McGregor, S., Black, M.M., Nelson, C.A., Huffman, S.L., Baker-Henningham, H., Chang, S.M., Hamdani, J.D., Lozoff, B., Gardner, J. M.M., Powell,

C.A., Rahman, A. & Richter, L. (2011). Inequality in early childhood: risk and protective factors for early childhood development. *The Lancet 2011(378),* 1325-1338.

Wan, W.W., Green, J., Elasbbagh, M., Johnson, M., Charman, T., Plummer, F. & the BASIS team. (2013). Quality of interaction between at-risk infants and caregiver at 12-15 months is associated with 3-year autism outcome. *The Journal of Child Psychology and Psychiatry, 54(*7), 763-771.

WHO (2009). Gross Motor Development Milestones. In *WHO child growth standards and the* identification of severe acute malnutrition in infants and children - A Joint Statement. http://www.who.int/childgrowth/standards/motor_milestones/en/

World Bank statistics of Employment to population ratio of 15+ females(%) https://tradingeconomics.com/kenya/employment-to-population-ratio-15-plus--female-percent-wb-data.html

APPENDICES

7.1 Appendix 1 The Learning Matrix

Expected Learning Outcomes *At the end of the training, the trained caregivers should be able to:*	*1 - Overview of the program*	*2 – The Environment*	*3- The Role of the Caregiver*	*4- Caregiver: Personality Style*	*5 – The infant as an Absorbent mind*	*6- Importance of Holistic Development*	*7- – The Sensitive Period*	*8 - Brain & body development*	*9 – Gross Motor & Fine Motor*	*10 – Eye-hand cordination*	*11 – The Bonding & Attachment*	*12 - Learning the different Emotional Expressions*	*13 – Trust versus Mistrust*	*14 –Autonomy*	*15 – Nutrition – Balanced diet*	*16 – Play is Learning*	*17 Body Language*	*18 Verbal Communication*	*19 Common Challenges Faced*	*20 – Evaluation & Future*
1 -Respect the infant as an individual	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
2 -Make use of the understanding of the milestones to identify infants at risk'	√		√	√	√	√	√	√	√	√	√	√		√		√	√	√	√	
3 -Support an infant to develop healthy attachments	√	√	√	√		√	√	√			√	√	√	√		√	√	√	√	√
4 -Modify techniques to stimulate physical growth in infants	√	√	√		√	√	√	√	√	√				√		√			√	√
5 –Offer a balanced diet (nutrients) to the infant	√		√				√	√	√					√	√	√			√	√
6 -Distinguishing between psycho-social stages to ensure the infants reach them.	√		√	√	√	√	√	√	√	√		√	√	√		√	√	√	√	√
7 –Accompany the infant in building skills for language development	√	√	√	√		√	√	√			√	√				√	√	√	√	√
8 - Adapt play to combine different skills with socialization	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

7.2 Appendix 2 Post-training Evaluation Form

HOLISTIC DEVELOPMENT OF INFANTS

EVALUATION OF THE TRAINING

Dear participant,

We thank you for using this time to evaluate this training. This will help us improve similar programmes in the future.

Please circle one number in the scale of 1 to 5. *Date:*

	Very weak	**Weak**	**Ok**	**Good**	**Very Good**
1. The training as a whole	1	2	3	4	5
2. The length (duration) of the training	1	2	3	4	5
3. Quality of the content of the training	1	2	3	4	5
4. The methodology (activities) of training	1	2	3	4	5
5. The application of the training for you	1	2	3	4	5
6. Interaction among the participants	1	2	3	4	5
7. Interaction between trainer(s) and participants	1	2	3	4	5
8. The general ambience (venue and logistics)	1	2	3	4	5

Mention three themes that were most meaningful to you:

1.
2.
3.

Mention three elements in the workshop that have impressed you most:

1.
2.
3.

Mention three elements/themes that need to be improved:

1.
2.
3.

Kindly fill in your details:

Name:

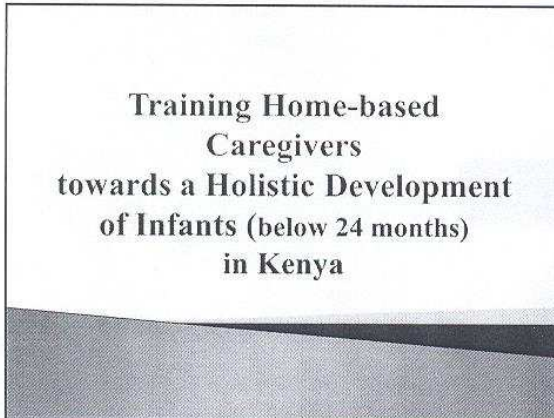
Address:

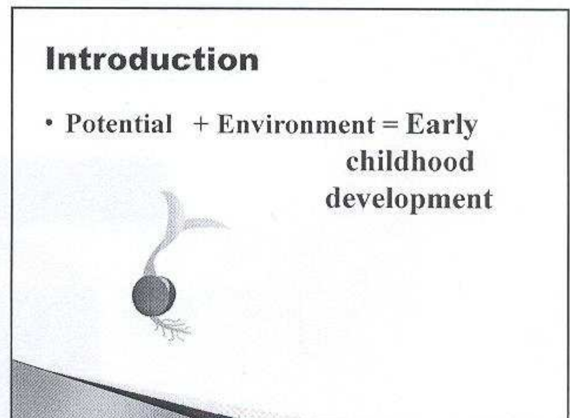
Email address:

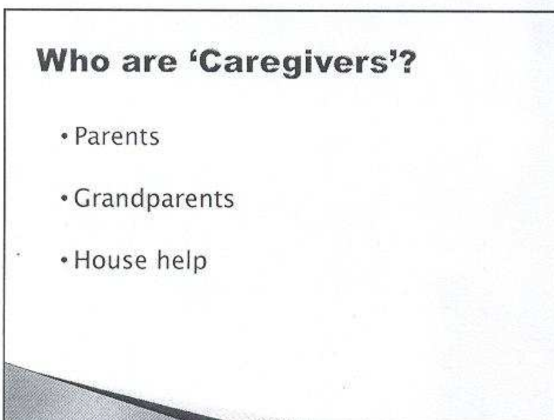
Telephone No.:

Thank you for your co-operation in participating and completing this evaluation form.

7.3 Appendix 3 Powerpoint Presentation of the Overview of the Project (printout)







Biosocial Development

Development
- Body in physical growth
- Brain (75% is formed in first 2 years)

Vital for caregivers to support this with:
- Nourishment
- Exercise
- Stimulation

Psychosocial Development

Develop
- Concept of trust
- Concept of independence & control of their actions.
- Social referencing

Vital for caregivers to support this with:
- Attentive care
- A safe environment for the infant to explore
- Self aware of being a good role model

Emotional Development

Develop
- Secure attachments with their caregivers
- Good relationship in the future
- An ability to respond & express emotion

Vital for the caregiver to support this with:
- Unconditional love to the infant
- Interact with the infant demonstrating different emotions.

Cognitive Development

Develop
- Learning through the senses
- By assimilating, accommodating & adapting

Vital for the caregiver to support this with:
- Understanding why an infant put everything in the mouth.
- Allowing an infant to explore to learn in a safe environment.

Qualities of a caregiver:

A good caregiver must be:

- Observant
- Able to support and encourage growth
- Positive and proactive
- Able to create an environment conducive for development
- Self aware and a good role model

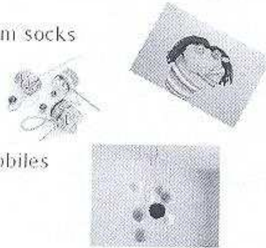
The Environment

In order to be effective it must be:

- Attentive
- Safe
- Hygienic
- Supervised
- Stimulating
- Age appropriate

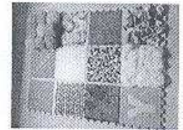
Skills include:

- Making toys from household items & scraps:
  - ✓Puppets from socks
  - ✓Rattles
  - ✓Hanging mobiles



Techniques include

- Being intuitive to the needs of an infant:
  - ✓Caressing, singing and rocking to comfort the infant
- Being creative:
  - ✓Stimulating the senses of an infant with suitable music, colours, textures

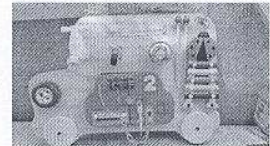


- (when age appropriate)
  - ✓using household items for toys
  - ✓Feeding the infant with colourful nutritious food

- Routines
  - ✓Set a time for meals, sleeping & play
  - ✓Incorporate activities to enhance:
    - *Biosocial development* – eg exercise the limbs
    - *Psychosocial development* – eg. self-exploration
    - *Emotional development* – eg. expressing emotions
    - *Cognitive development* – eg. play with body language; eye contact

Tools

- Toys
- Story books
- Designated 'play area'
- 'Busy board'



Questions?

7.4 Appendix 4 Powerpoint Presentation - Importance of Bonding & Attachment

Bonding with the Caregiver

Caregivers do not realize Babies:

✓ have their own thoughts & feelings

✓ need caregivers to organize their internal world of experience

✓ need caregivers to influence their curiosity and interest in exploring their environment

Secure attachment tells the baby:

✓ I am loved unconditionally

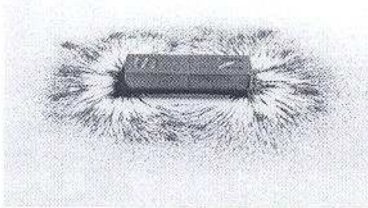
✓ Someone is on my side always

✓ **I am worth it**

A Baby's Early Experience:

- Changes the architecture of the brain
- Impacts long term development in influencing who they become as adults

Parents & Caregivers are motion magnets



When babies are insecure they are:

✓ *Less curious which affects their learning*

✓ *Less mature in their play style*

✓ *Less developed cognitively*

✓ *Develop low self esteem*

- When they are stressed the baby is stressed

- Babies are reliant for:
  - ✓Safety
  - ✓ calming
  - ✓ Regular routines

Later as adults they have:

✓ ***difficulty making friends***

✓ ***difficulty in sustaining a stable marriage***

✓ ***difficulty in parenting their own infants***

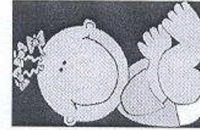
What should caregivers be doing?

- ✓ Read the baby's cues
- ✓ Be good observer
- ✓ Watch over the baby
  - so that if a dog barks the baby knows he or she can come back to you for help
  - so that when the baby is scared she or he knows they can back for comfort

Showing a baby affection

- Gives them pride and a cognitive map that says:

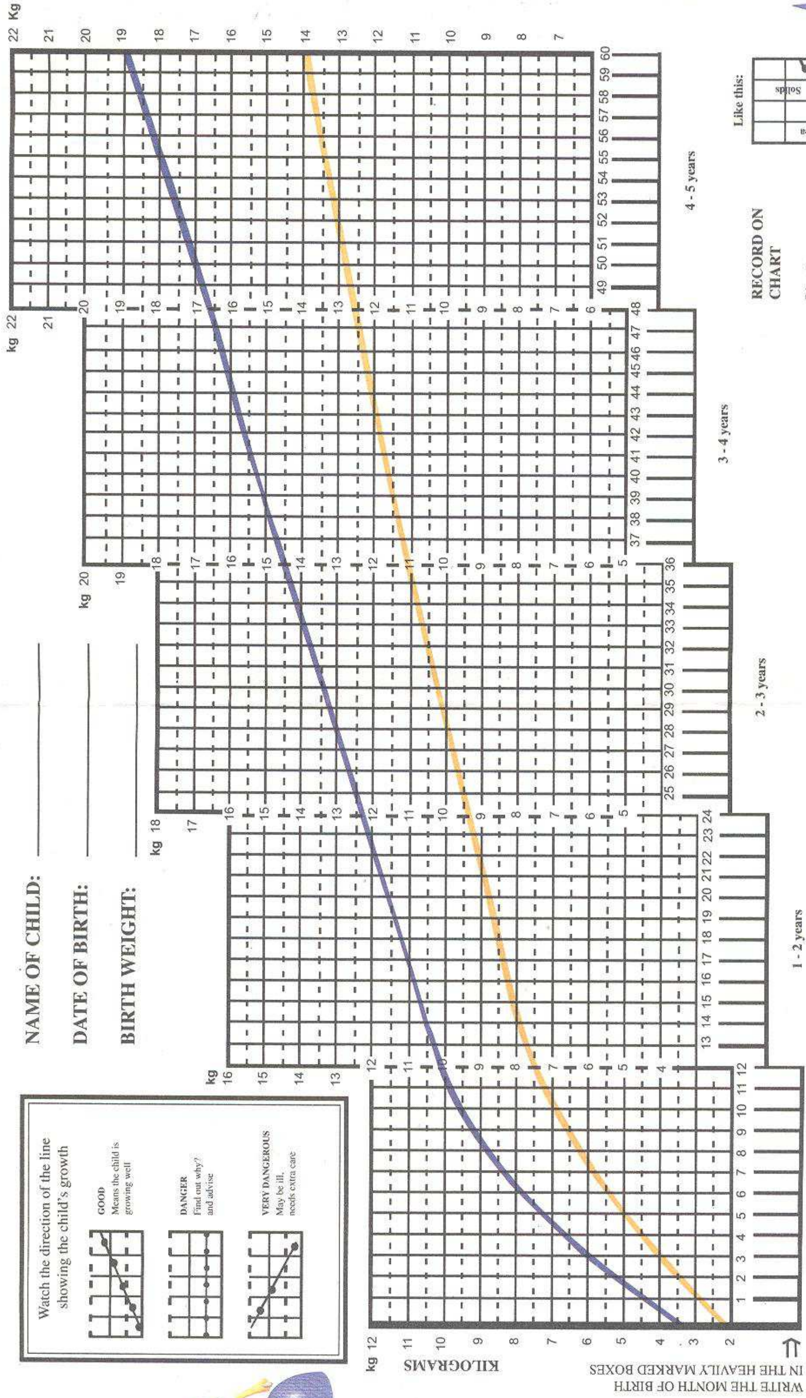
I'm a good person and people like being with me



MISCONCEPTION

- Holding & bonding with the baby is <u>not</u> ***Spoiling the baby***
- But simply responding to a baby's need

7.5 Appendix 5 Growth Graph



7.6 Appendix 6 Plagiarism Clearance Certificate

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Development of Infants (aged 0 -24 years) in Kenya

Carmen Maria Moniz