

The sustainable impact that effective, practical, supportive practitioner-training can have on children in early childhood

In order for children to flourish, the development and enhancement of their maximum capabilities and potential, as well as making the most of their period of existence, are of the utmost importance (Gonzalez-Mena, 2011: xvii).

Authors: Lauren K. Stretch. Unisa Student. Research done for the partial fulfilment of the DEd

Prof Marike W de Witt. Study Leader and Research Fellow. Department Psychology of Education, Unisa.

Abstract

Early intervention is imperative; parents and care-givers need to be speaking, communicating and encouraging their children from a very young age. Practitioners need to ensure rich curricular activities and challenging opportunities for children, while valuing enquiry and thoughtfulness (Leseman, 2002: p4; Hendrick *et al.*, 2007: p275; Eliason *et al.*, 2008: p190).

Gonzalez-Mena (2011: xvii) clearly explains the importance of quality early intervention programmes, interactions and care – where children not only gain foundational knowledge needed for school and beyond, but also start to develop a sense of community – by understanding how to interact in co-operative ways with one another. Gonzalez-Mena goes on to state the long-term effects that high quality early childhood intervention has on the economy and society. This investment is extended from generation to generation (2011: xvii).

Naudeau, Martinnez, Premand and Filmer (2011: p10) state that there is substantial evidence that delays in cognitive development during the early years lead to negative consequences in the short and long term. A lack of adequate early intervention affects children's school readiness and performance, and can have a long-term impact through reduced employability, productivity and overall wellbeing. These same children are also more likely to have ill-

health, to engage in hazardous behaviour, such as substance use, abuse and addiction, risky sexual behaviour and even criminal and violent activities, as they get older. This can have a negative effect on any country.

The learning of concepts forms the structure and foundation of knowledge. It equips children, enabling them to organise and categorise information. During early childhood, children are constantly acquiring fundamental concepts and learning fundamental process skills.

The process of learning

Leseman (2002: p4) believes early childhood to be a *'rich, silent, cultural-psychological phenomenon'*. He believes that children learn and develop through interactions and encounters that they face, as well as through observational learning and social interactions. Haydon (2006: p6) believes that education, both at home and in the school situation, should be seen as a route to the spiritual, moral, social, cultural, physical and mental development of the child; and it therefore, influences the wellbeing of the individual.

Children begin the process of learning from a very young age, and move from one stage of cognitive development to the next, where they are constantly being stimulated by their environment and the happenings therein (Leseman, 2000: p8; Gordon *et al.*, 2008: p456; De Witt, 2009: p159 & p277; Walker, 2011: p115; McDevitt, 2013: p13). Cognitive development, according to Maxim (1992: p91), refers to *'the changes in mental structures that occur as children explore the world around them'*.

Developing and encompassing an understanding of children's thought patterns, their understanding and reflections are essential aspects of teaching and educating (Gordon *et al.*, 2008: p456). Although each child is born with his/her own capacity and intelligence, the circumstances and situations into which one is born play a vital role in the child's development and advancement as human beings (Eliason *et al.*, 2008: p45; McDevitt, 2013: p12).

The brain is an extremely complex and comprehensive part of the human body (Morrison, 2011: p173; Music, 2011: p85). Brain cells are formed within the first three weeks after conception; and they play an indispensable role in the development of the child, with between 100 and 200 billion neurons or nerve cells to be developed (De Witt. 2009: p78-79).

According to Brierley (1994: p5), the brain has full control over the body and its functions. The brain is made up of many parts, all of which play a different, yet vital, role in the day-to-day functioning of a human being (Brierley, 1994: p6).

The brain is encased in a bony structure called the skull, which is incredibly resilient and flexible during the first year of a child's life. According to Levey *et al.* (2011: p106-107), the brain consists of two halves, namely: the right brain and the left brain, which communicate continually with one another. The right brain is concerned predominantly with '*processing emotional nuances and visuo-spatial tasks*' (Levey *et al.*, 2011: p107). These are tasks, which utilize visual perception and spatial relationships. The left side of the brain is concerned with language and verbal reasoning, according to Levey *et al.* (2011: p107).

The amount of brain growth that takes place after birth has an immense impact on children's ability level (Johnson, 2011: p49). Every sight, sound, touch, smell and thought leaves an imprint on specific neuronal circuits and pathways, altering and transforming the way future sights, sounds, smells and thoughts will be registered. According to Eliot (1999: p4), '*Brain hardware is not fixed, but living, dynamic tissue that is constantly updating itself to meet the sensory, motor, emotional, and cognitive demands at hand*'.

According to Shonkoff and Phillips (2000, in Leseman, 2002: p8), there is much neuroscientific evidence, which has identified the importance of the social and cultural environment, and attempted to create an awareness by protecting children against stressful experiences, which could harm potentially healthy brain development in the emotional domain. Not only does this impact on children's emotional development, but it also have a positive influence on their cognitive and social-cognitive domains (Leseman, 2002: p8). Much of the early emotional learning that takes place in the first year or so of a child's life is procedural learning.

According to Music (2011: p84), Freud's view that a great deal of mental processing occurs in a non-conscious way has been confirmed through neuroscience. We now understand that initial learning that takes place requires a great deal of effort and concentration, but as a skill develops and understanding is prevalent, less conscious thought is needed (Music, 2011: p84).

According to Eliot (1999: p439), past research has shown that on average 40 per cent of people's memory skills can be attributed to their genetic formation; 60 per cent of a child's

memory ability and skills is shaped by experience. Memory improves with practice and through repetition, especially with deliberate efforts to acquire and retain new information. According to Walque (2011: 85), *'developmental experiences determine the organizational and functional status of the mature brain'*.

While genetics plays a major role in the sequence of neural development, the quality and eminence of development is formed by environmental factors (Eliot, 1999: p9). The primary role of the nervous system is to 'control, integrate and co-ordinate' the responses to stimuli, which enhance the child's ability to acquire learning and language (Hendrick *et al.* 2007: p10-11; De Witt. 2009: p78).

The role of culture in rearing children is fundamental; and it includes elements, such as *'values, aspirations, expectations, and practices'* (Shonkoff & Phillips, 2000: p25). Understanding the value of the environment in children's growth and progress is fundamental in determining how brain growth and culture share a joint influence on the process of development.

Lack of stimulation

The critical periods of brain development imply that the timing of intervention is important, and that the failure of such intervention and stimulation would negatively affect the later functioning of the brain.

There are an unlimited range of external factors, which impact on the development of children, according to their general framework of development. Some of these factors include genetics, external environment, nutrition, health, parental input, and learning experiences. According to Nadeau *et al.* (2011: p10), genetics influences only about half of the development of cognitive ability. Other areas of potential risk include that of *'less responsive parenting, less stimulating learning environments, higher incidence of maternal depression and stress, lack of access to adequate nutrition, higher incidence of intrahousehold violence, poor housing, dangerous neighborhoods, and pollution, among others'* (Nadeau *et al.*, 2011: p11).

Walker (2011: p115-117) states that not only does the exposure to early education, but also the quality of the children's environment, nutrition and health play a role in brain

development. When children are exposed to harsh living conditions and a lack of appropriate early experiences, these children are placed at a distinct disadvantage in their cognitive ability level at school entry, as well as being at risk of poor school progress (both short- and long-term) and lower educational attainment.

According to Nadeau *et al.* (2011: p11), in 2007 there were approximately 219 million children globally, under the age of five, from disadvantaged backgrounds. Disadvantaged children are often exposed to a number of risk factors, including a lack of access to clean water and basic sanitation infrastructure, access to quality health-care services, inadequate nutrition, parents with low education levels, and a lack of access to quality early childhood care.

According to Helmers and Patnam (in Friedman and Sturdy, 2011: p38) state that there is an increasing amount of evidence, which shows that '*improved parental education and skill are subsequently related to improved child survival, health, nutrition, cognition and education.*'

According to Starkey and Klein (in Saracho & Spodek, 2008: p270), if sufficient cognitive enrichment is not provided during the early years, a gap in the child's knowledge and ability to cope with life takes root. A detrimental result of a lack of stimulation is when the neuronal pathways wither and die. This has devastating effects on young children, as they may not be able to achieve any further development and growth (Brierley, 1994: p6; <http://www.childwelfare.gov/pubs /focus/earlybrain/ earlybraina.cfm>: 07/07/08; De Witt. 2009: p78-79).

The lack of stimulation in the child can negatively affect the child physically, permanently disabling the child and detrimentally affecting his/her progress and growth. Children need to be exposed to learning situations repeatedly, in order to ensure and build the brain circuitry, which would enable the young child to develop normally (Gordon *et al.*, 2008: p460).

Educational neglect is defined when parents continually prevent or hinder children from being included in the school system, failing to enrol children in a school and a lack of interest in the child's schooling. The following type of drastic, neglect can have detrimental effects on the child. The extreme neglect of stimulation can cause the neuronal pathways, whose primary objective is to provide for learning, to narrow and eventually disintegrate, causing permanent dysfunction (<http://www.childtrauma.org/ ctamaterials/neuros~1.asp>, 14/06/09).

Severe neglect and trauma can lead to parts of the brain withering and wasting away, which, in turn, causes developmental delay, as well as serious deficits in the ability to empathize, regulate emotions, manage intimacy and ordinary social interaction (Music, 2011: p93).

Cognitive development among young children in low-income families

According to Mead (2011: p8), there is great importance of high-quality intervention in the early years, and the boundless effect that these programmes have on children's academic and social skills, which in turn, help to build the foundation for success in the early school years. The same article states that the large numbers of children from low-income families who do not encounter quality early education are already developmentally behind their peers at the age of only five years.

Naudeau *et al.* (2011: p9) confirm the evidence that developmental and cognitive delays in the early years are more common in poor families, and that there is a strong correlation between cognitive development and socio-economic status.

According to Polakow (2010: p67), poverty is a global crisis, which is currently impacting approximately 1.2 billion people daily. Polakow (2010: p67) stresses the importance of direct and purposeful support for families, focusing on social protection measures, which would, in turn, promote family stability and economic survival, emphasizing the role that childhood plays in the development of human capabilities; since these shape the national human capital.

According to Penn (2010: p51), *'human capital theory is about the economic productivity of individuals over time and the situations in which it might be maximized. Human capital theory has undoubtedly contributed to a rethinking of macro-economic policies for education, and – in particular for early education'*. One of the key questions asked, which expands this thought is not which kinds of intervention are most important, but rather who should deliver the intervention, and how the effectiveness of the intervention is to be measured (Penn, 2010: p54).

Penn (2010: p58) discusses the situation of children living in extreme poverty-stricken situations, as one where HIV/AIDs is often prevalent, in child-headed households, or where grandparents care for children with no, or very little, financial support. Although there is a

great focus on children's rights worldwide, the implementation of these rights is often poorly implemented, and the execution is not evident in developing countries.

Penn (2010: p59) goes on to state that: '*If every child has basic entitlements, all children should have access to basic facilities, such as education, health care, shelter, clean water and sanitation*'. All children should have a quality education.

Naudean *et al.* (2011: p10) state that a low level of performance in early childhood sets the pace for school accomplishment and the expectations placed on the individual. Under-age and under-prepared learners, who have proven to be the most at risk in terms of school failure and drop-out, would certainly be minimized through the process of providing thorough early intervention and stimulation, as well as the laying of foundational concepts before children enter formal schooling (Education White Paper 5, 2001: p4).

According to Naudean *et al.*, (2011: p13), there is great importance in the documentation of the significance of early childhood development and the delays thereof in low-income countries. Through this, well-designed, effective, sustainable interventions should be designed, in order to combat the lack of effective early education in low-income households.

According to Friedman *et al.* (2011: p38), Bradley and Corwyn state that '*one of the major risks to skill formation in children is poverty. Conditions associated with poverty are, in turn, associated with worse physical health, psychological health, and cognitive outcomes observed in children.*' Over 200 million children globally, under the age of five years old do not reach their cognitive development potential, as a result of such factors (Friedman *et al.*, 2011: p53).

There is a recognisable correlation between the mental and physical health of children and education outcomes. According to de Walque (2011: p85-88), the impact that ill health, conflict, violence and trauma has on children is profound, and directly affects their emotional, behavioural, cognitive, social and physical functioning, which in turn impacts on children's education and learning potential. Walque (2011: 88) goes on to state that studies have been done which prove the impact that trauma, violence, poor early education and ill-health have on children; and that in many cases, increased aggression and a decrease in pro-social behaviour is evident.

According to Penn (2010: p56), '*The more a parent can afford, the better the quality of provision; the less the parent can afford, the worse the quality*'. Often the classroom situation

in South African early childhood centres is to fit many children into a small room with few carers (often which are unskilled), and with scarce and few resources to encourage learning (Penn, 2010: p65-66).

Early Childhood Education in the Eastern Cape has recently been targeted as a priority sector. There are 4.4 million babies and young children in South Africa; and according to the Education White Paper 5 on Early Childhood Development (2001: p2), in 2001 about 40% of the young children in South Africa are exposed to harsh living conditions, neglect and a lack of stimulation. Due to the neglect, poor living conditions and the lack of stimulation in the early years, when children enter formal schooling in Grade 1, the foundational concepts of learning are not developed, causing children to drop out of school, and in many cases to repeat grades.

Education in South Africa

Education is considered a major contributing factor in transforming a country and adding to the progress and growth of a nation (Choudhary, 2012: p62). According to an article by The World Bank, initiated by UNICEF (2008: p1), early childhood development is an element of children's growth, which is vital; and one that should take place in a nurturing, caring and safe environment, which enables children to live, be healthy – mentally and physically – and to be alert and emotionally secure with a high level of social skills and an ability to learn.

Luneta (2011: p16) states that there is evidence demonstrating that teachers who have been properly trained and prepared are more successful in enhancing children's developmental abilities, when compared with teachers that have little or no training. The Presidency of The Republic of South Africa issued a Situation Analysis of Children in South Africa in 2009 (xvi). This states that early childhood development *'encompasses all the processes that enable emotional, cognitive, sensory, spiritual, moral, physical, social and communication development of children from birth to school-going age'*.

According to Sahlberg (Ed. Darline-Hammond & Lieberman, 2012: p1), Finland is regarded as one of the world's most literate and well-educated countries, with considerable research and evidence indicating a nation of excellent teachers, resulting in a high level of education. The practitioner, although unqualified, in any educational context, is of great importance in the stimulation and development of the child in totality (De Witt, 2009: p211; Gordon *et al.*,

2008: p192). According to The Guidelines for Early Childhood Development Services in South Africa (2006: p9), the term ‘Practitioner’ refers to a person working in early childhood development, including those qualified by their experience and involvement in the sector – and providing early childhood services from homes, centres and schools.

Teaching and learning are unique and exclusive tasks that need to be adapted year in and year out, according to children, their circumstances, and other external factors, in order to make a significant difference and impact on the children’s development and learning (Eliason *et al.*, 2008: p19; Ornstein *et al.*, 2004: p23).

Because of the uniqueness of every child, the approaches that individual children take, as well as their reactions and perspectives, are different from one another; the ways in which they learn are different, and the entire ethos in the classroom is experienced differently from child to child. These all need to be accounted for. Leinhardt (2001: p334) believes that teaching ‘*is specific with respect to task, time, place, participants, and content, and that different subjects vary in those specifics*’.

According to Black (2011, p17), research has been done, which shows that having well-planned programmes, which cater for young children, help them to master reading and mathematics later on in life. Not only are the cognitive abilities enhanced, but also the child’s ability to interact socially, develop self-regulating skills, as well as a deep motivation and determination for success from within. The same article by Black, (2011: p17-18) states that the success of early intervention programmes depends on a range of important elements, which require dedication, time, effort and passion. These elements include:

- A school, or early childhood centre, which is organized and well-managed, with a strong sense of principal leadership
- Well-trained, qualified teachers
- Classrooms, which are well designed and cater for interactive learning
- A planned curriculum and its implementation
- Assessment and accountability systems for teachers and administrators
- Family and community involvement and support

A practitioner (a person working with young children) needs to have an understanding of the children in their class, and needs also to be aware of their thinking patterns.

Britto *et al.* (2011: p2) maintain that, according to the 2011 UNICEF report entitled Tracking Public Expenditure and Assessing Service Quality in Early Childhood Development in South Africa (2011: p1), a great deal has been invested in early childhood development in South Africa. The focus is now placed on reflecting on the progress and growth evident in the early childhood sector, to assess the competence and impartiality of public-expenditures in the sector, as well as to assess the quality of the services rendered to children.

Grade R in the public sector '*appears relatively well-organized; and many matters are well-institutionalized*'. According to the report, the Grade R practitioners and teachers are relatively well-experienced, and have an adequate level of ECD training and qualifications. Grade R is largely funded by the Department of Basic Education and Pre-Grade R by the Department of Social Development. Internationally, this approach lacking ownership has proven to be problematic; and it has led to the needs of young children not being met, and therefore, providing poor service delivery resulting from a lack of co-ordination and collaboration between the governmental departments, NELDS, (2009: p11).

Broadly speaking, according to policy, the situation in South African Grade R classes reflects a moderate teacher-pupil ratio, fair training and experience of teachers, moderate planning activity and programme quality. A growing concern, however, amongst others is that not enough effort is placed on the development of young children (UNICEF, 2011: vii, 17). This raises huge issues, as the development of young children is one of great priority – the laying of foundational concepts and understanding the growth and development of children is fundamental (Zepeda, 2012: p1).

An audit implemented in 2000 found that only a quarter of the teachers working in the early childhood sector had received some form of training (Situation Analysis of Children in South Africa, 2009: p68). This was identified as a priority in the Department of Social Development and the Department of Education (Situation Analysis of Children in South Africa, 2009: 68). In 2007, a national bursary programme was made available for student teachers in the priority areas of South Africa. The goal was to place and capture detailed information on teacher shortages and priority areas across the various provinces in 2008, as well as to implement accredited teacher training programmes, which focus on the development of critical skills.

Early childhood in South Africa is confronted with many challenges, resulting in an intensified national focus being placed on the sector (Maaga, UNICEF, 2008: p4; Desmond, 2012 in Harrison, 2013: p1). The increasing number of unregistered early childhood centres

that have untrained and unskilled practitioners engaging with children daily is a threat to the education system. There is a desperate need for practitioner-training programmes, which focus on governance and management, nutrition, principles of learning and teaching.

The poor infrastructure, as well as the lack of equipment, together constitutes another Goliath threat, amongst others. Desmond (UNICEF, 2008: p7) also raises the challenge of a lack of formalised training and support for practitioners working in the early sector. Harrison (2013: p3) makes a bold statement, intimating that the quality of intervention in early childhood needs to be viewed as a package, which includes, *'nutrition, parenting and psychosocial support, cognitive and language stimulation, literacy and numeracy development, and access to health and social services.'*

In South Africa, the birth to four-year old age-group is the responsibility of several government departments, namely: the Department of Social Development, and the Department of Basic Education (Samuels, UNICEF, 2008: p40). This lack of ownership over the age group could lead to neglect and abandonment in the sector.

According to an article in the Mail and Guardian, published on 6 May 2013, the mail headline reads, *'Teachers can't teach, report shows'*. This article continues to explain the results from the first-ever evaluation of Grade one, two and three children, and how weak the children's ability to read and write was shown up. The same article, (Mail & Guardian, 06/05/2013) states that *'many teachers did not know how to inculcate problem-solving and analysis skills, and concluded that billions of rands spent on teacher training and development in the past 10 years had failed to produce results in the classroom'*.

In a statement by Nick Taylor, the Department of Education's Head of Development stated that *'the teacher's poor subject knowledge was arguably the fundamental problem in the school system'*. This goes to show that the level of teacher training and implementation has a detrimental effect on the quality of children exiting the school system in South Africa.

Harrison (2013: p6) believes that *'in a society where families are so fragmented and parents themselves poorly educated, early childhood development is key to breaking the cycle of underachievement'*.

According to research and the literature studied, there is a direct correlation between poverty, nutrition, education, crime and a good work ethic. Figure 1 depicts the current cycle many South African families face daily.

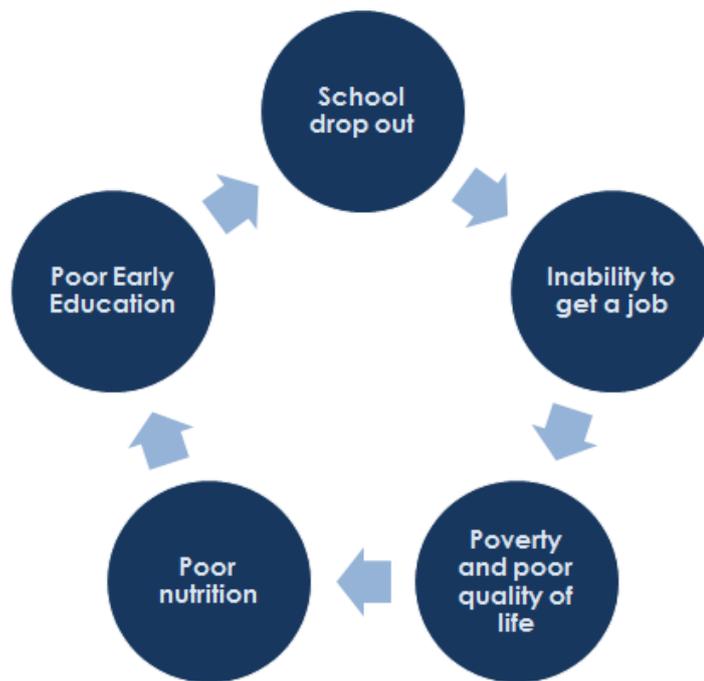


Figure 1 The current cycle of poverty that many South African families face daily

Early Inspiration Training Programme

According to Gordon *et al.* (2008: p22), Dewey believed in the innate goodness of young children; and he views children as valuable, and an integral aspect of human life, with childhood being an important phase. The focus that is placed on the child and his/her development in totality is crucial, and is also the focus in this study.

The Early Inspiration Training Programme used to train practitioners in this study places great focus on the child being the centre of the learning situation, and was devised, in accordance with the Constructivist theory, which focuses on the learning and development of the young child in the context of his/her environment, and stresses the importance of young children being active participants in the learning process (Gordon *et al.*, 2008: p24).

The Early Inspiration Training Programme has been designed specifically to empower unskilled practitioners working in the underprivileged sector of South Africa to provide them with knowledge and understanding of how children develop, and the ways in which to enhance growth and provide a stimulating environment, unleashing young children's potential.

The Early Inspiration Training Programme is designed specifically for current or prospective practitioners who deal directly with children aged birth to six years, who need to acquire skills which would enhance their overall development. Practitioners include those working in early childhood centres, day cares, crèches, baby-safe homes and orphanages.

This highly interactive Early Inspiration Training Programme is run over 8 months; and it requires a maximum of three days in the classroom at any given time, providing the practitioners with an understanding of young children's development, as well as acquiring the competencies and new skills needed to enhance the development of young children.

In addition, an accompanying mentoring programme ensures that practitioners are supported and guided throughout the eight-month programme, equipping them with skills for enhancing young children's development, assessing their abilities, enhancing community involvement, writing, reading and understanding texts, as well as interacting with other young children. This mentoring programme is performed in the practitioner's mother tongue, and is a form of support and guidance for practitioners.

A number of on-site observations take place throughout the eight-month training programme, where Early Inspiration staff can provide support and guidance for practitioners in their early childhood setting. Children are assessed, according to a set of criteria set out by Early Inspiration prior to the training intervention, and again after the eight-month training programme.

The Early Inspiration Programme not only creates an awareness of what to teach children, but it develops an understanding of how children learn, in order to promote the development of foundational concepts. This is done by means of educating and empowering practitioners and care-givers, as well as strengthening national resources and capabilities.

The Early Inspiration Training Programme also empowers practitioners and parents on ways in which to meet their child-rearing responsibilities by being provided with simple activities and expectations.

Strategic Objectives of the programme

Early Inspiration has established strategic planning initiatives considered critical to achieving its Mission and realizing its Vision. These initiatives are:

- Being a vessel where quality teaching and mentoring services foster student learning and long-term success.
- Investing in people through professional development and acknowledgment.
- Linking hands with various organizations in South Africa to help children succeed.
- Developing systems of continuous improvement and accountability.

Early Inspiration Course Overview

The Early Inspiration Training Programme has been accredited with the ETDP SETA (Education Training and Development SETA) with Education in the Early Childhood being the primary objective. This ensures that the Early Inspiration Training Programme is recognizable across South Africa.

Early Inspiration offers an NQF Level 02 skills programme, which is weighted at 38 credits, comprising six Unit Standards, as well as an NQF Level 04 qualification, which are 170 credits. The NQF Level 02 skills programme was implemented in this study, as it is a baseline programme for unskilled practitioners, with no prior accredited training.

Outcomes-Based Education is a model of education, which encourages participation in the learning process; it encourages students to take part, challenge views, question, and become actively involved in the learning environment. Some of these principles include:

- Learners have a clear focus on the learning outcomes;
- High expectations are placed on learners and educators;
- There are greater opportunities for learner success, as activities are practical and learner-based.

In order to allow for learners to gain a deep understanding and implementation of what has been learned, the training programme is mapped out over eight months. This ensures that practitioners are given time to implement what has been learned, and to develop a concrete understanding of the text, as well as the confidence to create the necessary opportunities for children to learn, instead of being bombarded with text, and not being allowed the time to implement this without any true understanding.

The support of the mentor allows learners to ask questions, raise concerns and work through challenges. It is important that the mentor be able to communicate in the practitioner's mother tongue.

The research question and the purpose of the study

The purpose of this study was to develop and field-test an instrument, which supports practitioners working in early childhood development's personal and professional competences. The instrument, which is an eight-month practitioner-training programme, devotes attention to building pedagogical thinking skills, empowering practitioners to manage managerial processes, while instilling knowledge, skills, practice, values and attitudes. The effectiveness of this practitioner-training programme is assessed through the developmental growth observed in children taught by these practitioners. This chapter describes the methods that were used to implement this practitioner-training programme, in order to ensure effectiveness and growth in children's' development, as well as including methods for exploring the validity and reliability of the study.

The literature was reviewed to establish the existing curricular approaches used in early childhood education, the importance of early intervention, the situation in the South African context, as well as the effective implementation of adult learning programmes. Furthermore, the ethical issues to be considered, in order to conduct the research in a sound and professional capacity are stipulated.

Various programmes and activities need to be logically planned, in order to aid cognitive development and enhance children's learning abilities. These need to be implemented through adequate practitioners' training programmes. Thus, the research question for this study can be formulated as follows:

- *What are the effects of the Early Inspiration Training Programme on the young children of South Africa?*

The principal aim of this study was to gain a comprehensive understanding of the effectiveness of the Early Inspiration Training Programme on the children whose practitioners undergo intervention, showing the importance of stimulation in the early

childhood years, and the envisaged long-term effects of this stimulation. This has been done by means of a literature study, as well as an empirical investigation.

Once an understanding of the effectiveness of the Early Inspiration Training Programme had been developed, further secondary questions arose, such as:

- *What is the child's ability to learn and develop critical concepts, general knowledge, critical thinking and problem-solving skills?*
- *How can the various cognitive concepts be provided for in the early childhood programme, preventing early drop-out rates and the repetition of grades?*
- *What can practitioners and parents do to enhance their children's development?*

An understanding of the stimulation and development of cognitive abilities in the young child, through the Early Inspiration Training Programme would provide practitioners with an understanding of the different developmental levels and methods of learning, as well as the ability of the young child to learn and develop abstract ideas and knowledge. It could further add to the body of knowledge with regard to what should be done by practitioners and parents, in order to enhance the young child's development.

This study was aimed at providing scientific knowledge of the impact of the Early Inspiration Training Programme in early childhood settings in South Africa.

The primary aim of this empirical study was:

- To assess the effectiveness of the Early Inspiration Training Programme in early childhood centres in underprivileged sectors of South Africa;
- To test the validity of the Early Inspiration Training Programme;
- To assess the growth and progress in young children's development over the eight-month period, in order to examine the effects of the stimulation concepts in young children;
- To indicate how such concepts can be provided for in the early childhood centre; and
- To establish the reliability of the application of the programme in South African early childhood teaching and learning.

McMillan *et al.* (2006: p22) define the research design as a comprehensive plan for creating empirical evidence, which would be used to answer the research questions, aims and objectives. For the purpose of this research, this study used a quantitative, experimental research design.

'The quality of action research depends on the reflexive sensitivity of the researchers, whose data collection, analysis and interpretations will all be mediated by their sense of self and identity' (Somekh, 2006: p14). The study was conducted by means of a true experimental design, whereby the subjects were measured before and after the treatment. This is the only design that can effectively determine the cause-and-effect procedure, as it involves a control group and an experimental group (McMillan *et al.*, 2006: p24).

This research method involved the data collection, the sampling method, the researcher as the instrument, ethical issues, and a suitable method, which ensured trustworthiness and data analysis.

The research design that was implemented was a quantitative method for capturing and analysing the data. Quantitative research is based on logical positivism, where one single reality is measured (Neuman, 2006: p13). The previous data were thoroughly researched, and the literature was consulted, so that the procedures to be implemented would follow a step-by-step plan.

The children selected to take part in this study were all isiXhosa home-language speaking children. A limiting factor was that early childhood centres included in the study needed to be isiXhosa-speaking underprivileged schools. All of the subjects were assessed in isiXhosa, in order to ensure a fair assessment.

A total of 648 subjects took part in the study; both males and females were included. The participants were classified by means of classification, according to class. The practitioners were selected by means of systematic random sampling into two main categories:

- The control group (277 participants)
- The experimental Group (371 participants)

The control group underwent the pre-test and the post-test procedures. The subjects continued with their daily programme at their current early childhood centre; and the practitioners received no supportive training from Early Inspiration whatsoever. The experimental group underwent the pre-test. The practitioners would then take part in an eight-month intervention

programme, focusing on effective practitioner-training strategies, management and the initiating of a deep understanding of early childhood development. After the eight-month intervention programme, the participants underwent the post-test.

Analysis of the data

Once the pre-tests and post-tests had been implemented, and the data had been collected, these data needed to be formatted in a way that is meaningful – prior to drawing conclusions and implementing the appropriate action (Koshy, 2005: p109). According to McMillan *et al.* (2006: p417), '*quantitative data are summarized using simple descriptive statistics (such as frequencies, the mean, the mode, the range and graphs)*'. The aim of the data analysis was for the researcher to determine whether it would provide the needed information, in order to achieve the goals and aims of the study (Koshy, 2005: p109).

The purpose of this study was to develop and field-test an instrument, which supports practitioners working in early childhood development's personal and professional competences. The instrument, which is a practitioner-training programme, devotes attention to building pedagogical thinking skills, empowering practitioners to manage managerial processes, while instilling knowledge, skills, practice, values and attitudes.

Hypothesis 1: Intervention

The null hypothesis (H_0) and the alternative hypothesis (H_1) for significance of intervention, comparing Control and Experimental groups:

$H_{1,0}$: There is no significant difference between the overall total development of the subjects in the control and experimental groups.

$H_{1,1}$: There is a significant difference between the overall total development of the subjects in the control and experimental groups.

The following tests were employed to test the hypotheses:

- Single variable statistics (mean, standard deviation and coefficients of variance), frequency histograms and one independent variable regression were used to give greater insight into the

pre-test and post-intervention scores. The reliability of the scores for the pre-tests and the post-tests was determined by the item-analysis-factor analysis, and the calculation of Cronbach's Coefficient of alpha (McMillan *et al.*, 2006: p54, p185-186).

- T-tests were implemented, in order to determine the level of significance in the control and experimental groups, as well as to compare the two groups' mean scores ($p \geq 0.001$ at the 0.1% level of significance).

- The level of significance of the study was determined by the p-level or level of probability (McMillan *et al.*, 2006: p292). A critical value at the five-percent level of confidence ($p \geq .05$) was required for significance.

- Analysis of co-variance, using the statistical software package program used by BMDP2007, in addition to the analysis of co-variance, where the treatment was the grouping variant; and the pre-test was the co-variant used to test the level of improvement in the scores, as a result of the intervention programme (McMillan *et al.*, 2006: p165).

- The item-analysis-factor analysis and the calculation of Cronbach's coefficient of alpha were used to test the reliability of the pre-test and post-intervention test scores (McMillan *et al.*, 2006: p185-186).

The subjects were scored in percentages, based on their work in each element assessed. The following formula was used to convert subjects' responses $x_1, x_2 \dots x_k$ to the k items on a five-point Likert scale with 1 = Poor to 5 = Excellent to an average percentage score:

$$Score = 25 \left[\left(\frac{\sum_1^k x_i}{k} \right) - 1 \right]$$

The categories for the score percentages are as follows:

[0 to 20)	Starting at 0 until (but not including) 20 – Poor
[20 to 40)	From (and including) 20 until (but not including) 40 – Below average
[40 to 60]	From (and including) 40 until (and including) 60 – Average
(60 to 80]	From (but not including) 60, until (and including) 80 – Above average
(80 to 100]	From (but not including) 80, until and including) 100 – Excellent

Subjects were assessed in each of the five domains of development, namely: Physical-Motor Development, Social-Emotional Development, Language and Speech Development, Cognitive Development and Visual Perception. The frequency distribution in each of the domains is presented and discussed – for both the control and the experimental groups for the pre-test and the post-test.

A Chi² Test of Independence and Cramér’s V statistic were implemented, to assess whether the distribution of scores obtained in each domain showed any significant difference in the pre-test between the Control and the Experimental Groups.

7.5.6.1 Pre-Test Scores in Experimental and Control Groups for Total Child Development

The frequency distributions of the Experimental and Control groups are depicted in Table 7.1, with the difference between the groups found to be significant [Chi² (d.f. = 4, n = 648) = 46.35; p < 0.0005; V = 0.27 Small]*.

Table 1 Frequency Distribution of Pre-test scores for Total Child Development

Total Child Development Pre-Test Scores					
	Experimental Group		Control Group		Total
[0 to 20]	9	4%	13	5%	27 4%
[20 to 40)	133	36%	166	60%	299 46%
[40 to 60]	180	49%	92	33%	272 42%
[60 to 80]	42	10%	6	2%	48 7%
[80 to 100]	2	1%	0	0%	2 0%
Total	371	100%	277	100%	648 100%

* 1 added to all observed frequencies to comply with Cochran's rules

The range [40 to 60] was the most frequent range overall in the Experimental group (49%); and the [20 to 40] range was most common in the Control group (60%). A mere 11% of the total scores in the Experimental group were 61% or above; while only 2% of the Control group scored above 61% for Total Child Development. A grand total of 98% of the Control

group scores were between 0% and 60%; while 89% of the experimental group's scores fell in this same bracket for Total Child Development.

Figure 2 presents the total frequency distribution (%) of scores for the Experimental group and the Control group in the pre-test for Total Child Development. It is clear that scores in the Control group and the Experimental group have a similar distribution in ranges with 89% of the Experimental group scores falling in the [0 to 60] range and 98% of the Control group scores falling in the same range. Only 11% of the total scores for the Experimental group were in the [60 to 100] range and 2% in the Control group.

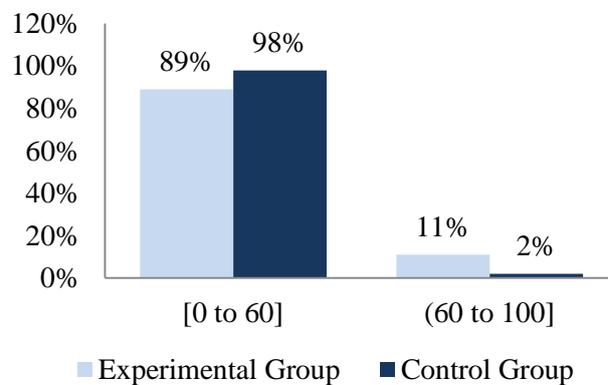


Figure 2 The Total frequency distribution for Total Child Development in the Experimental and Control groups during the pre-test

7.5.6.2 Post-Test Scores in Experimental and Control Groups for Total Child Development

The frequency distributions of the Experimental and Control groups are depicted in Table 2 with the difference between the groups found to be significant [χ^2 (df = 4, n = 648) = 287.88; $p < 0.0005$; $V = 0.67$ Large].

Table 2 Frequency Distribution of Post-test scores for Total Child Development

Total Child Development Skills Post-Test Scores						
	Experimental Group		Control Group		Total	
[0 to 20]	0	0%	3	1%	3	0%
[20 to 40)	12	3%	130	47%	142	22%
[40 to 60]	68	18%	98	35%	166	26%
[60 to 80]	172	46%	44	16%	216	33%
[80 to 100]	119	33%	2	1%	121	19%
Total	371	100%	277	100%	648	100%

The range (60 to 80) was the most frequent range overall in the Experimental group (46%) and the range [20 to 40] was the most frequent range in the Control group (47%). As many as 79% of the total scores in the Experimental group were 61% or above; while only 17% of the Control group scored in the same bracket for Total Child Development. Only 21% of the Experimental group scored between 0 and 60%; while 83% of the control group scored in the [0 to 60] range.

Figure 3 represents the total frequency distribution (%) of scores for the Experimental group and the Control group in the post-test for Total Child Development. It is clear that the Control group scores were distributed with a greater reflection in the [0 to 60] range with 83% and 17% in the (60 to 100) range. The Experimental group reflects a great improvement, with 21% of the scores in the [0 to 60] category and 79% in the [60 to 100] range.

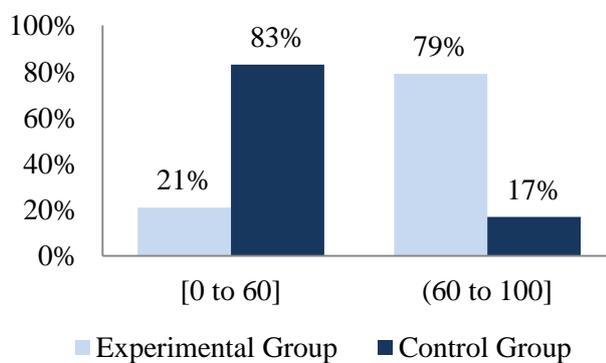


Figure 3 Total frequency distribution in control group during the post-test

7.5.6.3 Difference between Pre-Test and Post-Test Scores in Experimental and Control Groups for Total Child Development

The frequencies of the difference between the pre-test and post-test scores of the control and experimental groups were determined, and are presented in Table 4.

A Chi² Test of Independence was implemented and used to assess the difference in scores obtained in the pre-test and the post-test in the Control and the Experimental Groups, [Chi² (df = 4, n = 648) = 84.89; p < 0.0005; V = 0.36 Medium]. The difference in scores was calculated by subtracting the results of the pre-test from those of the post-test.

The subjects were scored in percentage, based on their work in each element assessed. The range categories are presented as follows:

- [-100 to 0)** Starting at -100 until (but not including) 0
- [0 to 10)** From (and including) 0 until (but not including) 10
- [10 to 20]** From (and including) 10 until (and including) 20
- (20 to 40]** From (and not including) 20, until (and including) 40
- (40 to 100]** From (and not including) 40, until and including) 100

Table 4 Frequency distribution Post-test minus Pre-test differences for Total Child Development

Frequency Distribution Difference: Total Child Development						
	Experimental Group		Control Group		Total	
[-100 to 0)	8	2%	72	26%	80	12%
[0 to 10)	33	9%	98	35%	131	20%
[10 to 20]	83	22%	56	20%	139	21%
(20 to 40]	167	45%	49	18%	216	33%
(40 to 100]	80	22%	2	1%	82	13%
Total	371	100%	277	100%	648	100%

The frequency distribution of the differences between the pre-test and post-test scores of the Experimental Group and the Control Group were determined and are presented in Table 4. The difference in scores was calculated by subtracting the results of the pre-test scores from

those of the post-test. These differences were found to be significant [χ^2 (df = 4, n = 648) = 218.31; $p < 0.0005$; $V = 0.58$ Large].

The greatest difference in the frequency distribution was by 45% in the (20 to 40) range in the Experimental Group. The difference in frequency distribution was 35% in the range [0 to 10] range in the Control Group. Only a 33% difference in frequency distribution was evident in the [-100 to 20] range in the Experimental group; while there was a 81% difference in frequency distribution in the same range in the Control group. A 67% difference in frequency distribution was evident in the [20 to 100] range for the Experimental group, but only 19% in the Control group.

Figure 3 presents the total frequency distribution (%) of scores for the Experimental group and the Control group in the post-test for Total Child Development.

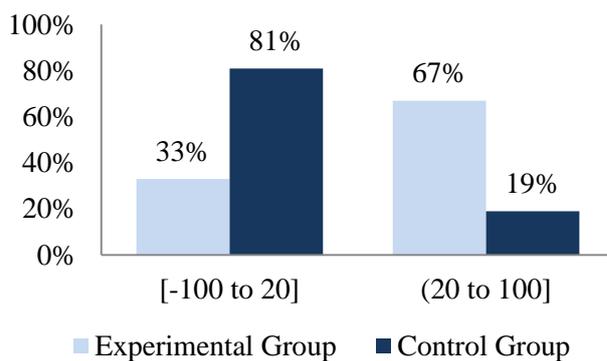


Figure 3 Total frequency distribution (%) of scores for the Experimental group and the Control group in the post-test

Conclusion

The null hypothesis (H_0) and the alternative hypothesis (H_1) for the significance of intervention, comparing Control and Experimental groups:

$H_{1,0}$: There is no significant difference between the overall total development of the subjects in the control and experimental groups.

H_{1.1}: There is a significant difference between the overall total development of the subjects in the control and experimental groups.

The null hypothesis is rejected at the 0.1% level of significance. Therefore, there is a significant difference between the Total Child Development of the subjects in the control and in the experimental groups.

All null hypotheses were rejected at the 0.1% level of significance, meaning that there is a significant difference between all the elements of total child development in the control group and the experimental groups. This displays the effectiveness of the Early Inspiration Training Programme in early childhood centres in underprivileged sectors of South Africa, by comparison of the control-group scores with those of the experimental-group scores. The importance and effectiveness of sending practitioners on the eight-month training and mentorship programme is clear.

The level of growth in young children's development over the eight-month period was assessed, in order to examine the effects of the stimulation of concepts in young children. The development displayed in children whose teachers received additional skills and knowledge through the Early Inspiration Training Programme was substantially greater than that in the children whose teachers had not received any additional training and support.

The knowledge gained through attendance of the Early Inspiration Training Programme clearly provided teachers with a deep understanding of early childhood development and growth; but it also provided practitioners with practical tools to use in their early childhood centre. Many early childhood centres in the underprivileged schools in South Africa have few resources, no electricity, and no running water. Although practitioners may lack resources and infrastructure, with the knowledge of early childhood development, a passion for children, together with a sense of empowerment and responsibility, practitioners can provide the concepts dealt with.

In 99.9% of the cases of practitioners attending the Early Inspiration Training Programme, effective stimulation and development became evident in young children, representing positive results. This is an outstanding result, encouraging the development of intervention programmes for all domains of developmental concepts – from an early age, through effective practitioner-training programmes. Effective early intervention would enable young children to gain an understanding of the cognitive concepts from an early age. This could

possibly prevent future barriers to learning resulting in a smaller number of children in schools struggling with the foundational concepts.

It may be assumed that with a decrease in the number of learners struggling with foundational concepts, the need for specialists, such as Occupational Therapists and Remedial Therapists should become substantially less; and more children from the underprivileged areas would be able to remain in the school system, thus reducing the number of children continuing the cycle of poverty.

Parents, teachers, social workers, therapists, extended family and siblings all play a vital role in the upbringing of children in today's society. These stakeholders all form part of an important hierarchy; and children's emotional, social, physical and intellectual advances will always need to be attended to.

Recommendations

Effective practitioner-training programmes should be readily available to early childhood educators. Ideally, a programme like the Early Inspiration Training Programme, should be implemented, which would provide practitioners with a deep understanding of young children's development in totality, relating to the different stages of child growth.

A step-by-step understanding could be implemented, which focuses on the various developmental levels (Chapter 2), an understanding of how children's brains grow, and develop, enabling children to learn (Chapter 2), as well as the various aspects of children's development, according to the new South African CAPS curriculum, namely mathematics, literacy and life skills, with their various sub-sections.

This Early Inspiration Training Programme, as well as an indication of the ways whereby concept development could be provided for in the classroom, should be explained to practitioners working in Early Childhood Centres. It is clear that the concepts discussed in Chapter 3 need to be provided for in Early Childhood Centres, as concept development has clearly proved to be crucial in the intervention programmes, as has been adequately demonstrated in this study.

Training Programmes endorsed by the Department of Education need to be aligned with CAPS training, and to provide a detailed understanding of early childhood development, ensuring that practitioners have the knowledge, skills, attitude and values needed to be an effective practitioner. Training programmes need to include elements in their training, which would support practitioners with the management of an ECD Centre; by planning programmes, assessing children, having attendance registers, ensuring parent-teacher contact, good nutrition programmes, and a safe, loving environment, in order for children to grow and develop.

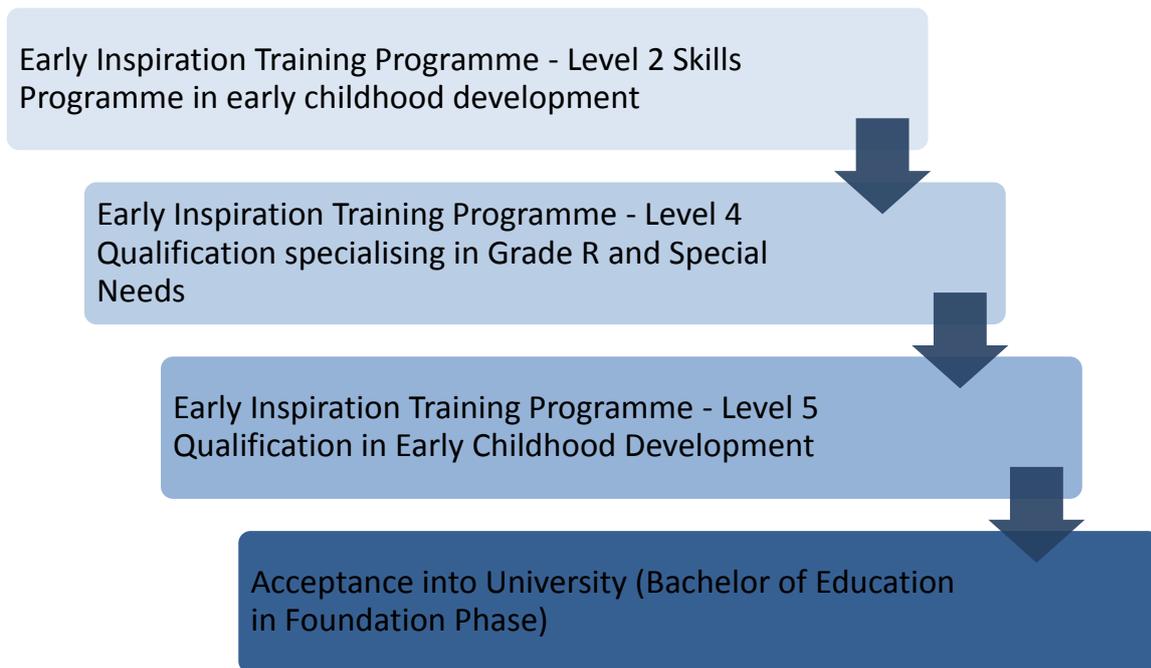
Another recommendation would be for the government to secure funding for organizations, which offer *quality* teacher-training programmes, so as to support the Department of Education in the training and equipping of practitioners.

A long-term vision for South Africa – in terms of early childhood development – should be to make available an effective growth chart of development for practitioners. This ensures that practitioners are life-long learners, continually growing and developing and ensuring maximum impact in their classrooms. A continuous process of teacher-training would ensure accountability; practitioners need to be producing children that are school-ready and achieving good results.

The long-term vision for Early Inspiration would be to provide a model of continuous development and growth, thereby enabling teachers to get to a high level of education and personal development. All practitioners trained at Early Inspiration need to begin on a Level 2 training programme (this is the training programme used for the purposes of this study). Once practitioners have received competence on Level 2, they should then proceed to a Level 4 qualification. Once the Level 4 Qualification has been achieved, practitioners would do a Level 5 Qualification in early childhood development. Once this has been achieved, they would be able to apply for acceptance at a local University to complete a Bachelor of Education (Foundation Phase) degree.

This vision is aligned not only to the provision of quality, trained teachers for the children of this generation, but also to empower and uplift the working class. The better trained a practitioner is, the higher the monthly remuneration would be. By providing high levels of skills training, we are educating and empowering the children – as well as the working-class generations. Figure 4 is a representation of the vision for Early Inspiration and the growth chart of development.

Figure 4 Early Inspiration Growth Chart of Development (for practitioners)



Another long-term recommendation could be to design a longitudinal study, to see whether these children retain the benefits of the intervention. This would be a longer study; and it could be influenced by a number of external factors, such as: the quality of future teachers, family environment, health, nutrition, abuse, neglect, educational influences, classroom situation, school situation, and suchlike.

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