THE INTERPRETATION OF CHILDREN'S DRAWINGS:
GUIDELINES FOR TEACHERS

by

MTANDI WESIZWE PATRIOT NOQAMZA

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The Interpretation of Children’s Drawings: Guidelines for Teachers

M P NOQAMZA
"I declare that: THE INTERPRETATION OF CHILDREN'S DRAWINGS: GUIDELINES FOR TEACHERS is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references".

(M P Noqamza)

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The primary aim of this research was to determine whether teachers in their initial or in-service training have acquired a basic knowledge of the interpretation of children's drawings of human figure.

A literature study was done in which the focus was placed on major aspects such as:

- The normal development of children's drawings according to different stages, and
- Those drawings that deviate from the normal development and their implications.
- Reliability of children's drawings as a projective tool.

A measuring instrument was developed in order to measure the basic knowledge of teachers with regard to the interpretation of children's drawings of human figure. The results of the empirical research indicated that teachers have limited basic knowledge with regard to the interpretation of children's drawings. The educational implications with reference to teachers, education system and other professionals were discussed. Recommendations for further research on similar topics were made.

Key Words: Children's drawings of human figure, Interpretation of drawings, Guidelines on drawings, Awareness of drawings, Prior knowledge of teachers in drawings, Formal interpretation of drawings, Normal and Abnormal development of drawings, Importance of children's drawings, Basic training of teachers in drawings and Uses of Children's drawings.
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CHAPTER 1
AN INTRODUCTORY ORIENTATION

1.1 INTRODUCTION

Research has shown that many young children do not voice their problems and emotions to people in their immediate surroundings like teachers. They often use drawings as one of many means to communicate their feelings when they have personal problems. Therefore children's drawings can be a useful means to investigate the underlying causes of their own (children's) problems. But researcher's recent experience has shown that many teachers in remote areas are neither aware of nor empowered to use children's drawings as one of the tools to be used to assess the latter's personal problems. However, this problem can be addressed if teachers are made aware and are empowered to be able to understand to a certain level the differences between normal and abnormal development of children's drawings. This chapter is therefore an introductory orientation to the study which aims at investigating whether teachers have had basic knowledge with regard to the interpretation of children's drawings of the human figure and whether they can do so (i.e. interpret some) if they are given some guidelines by means of an in-service training programme.

1.2 ANALYSIS OF THE PROBLEM

1.2.1 Awareness of the Problem

The author became aware of the problem while doing research on emotional and behavioural problems of learners in 1998. Certain teachers in remote areas of the north-eastern parts of the Eastern Cape Province could not believe that drawings could be used to study the root causes of behavioural, emotional and learning problems of children. For example, during the discussion with teachers at the workshop on Developmental Appraisal there was a section in the document which was discussed and which could allow learners to evaluate an educator by answering a questionnaire.
and those who are in lower grades could do so by means of drawing their teacher. Many teachers could not accept this assessment tool. As a direct result of this experience the author decided that a basic study on the prior knowledge of teachers followed by some guidelines on the interpretation of children's drawings of the human figure could be useful.

1.2.2 Statement of the Problem

It appears that the majority of teachers in remote areas have never had basic training with regard to the interpretation of children's drawings, hence they are not aware of their usefulness in the identification of children's underlying causes of behavioural, emotional and learning problems experienced by children. Therefore an investigation with regard to the interpretation of children's drawings of the human figure will be conducted with the following questions in mind:

- How can we ascertain whether teachers received any basic training at their training institutions or any in-service training with regard to the interpretation of children's drawings of the human figure?
- Will teachers be able to interpret children's drawings after they have received in-service training?
- How can we help to enable teachers to use, to a certain extent, children's drawings in order to identify certain causes of behavioural, emotional and learning problems?

1.3 EXPLORING OF THE PROBLEM

The fast changes in South Africa's education system in general require a flexible and holistic approach in teachers in order to face the day-to-day classroom situation and problems realistically, and the initial training of a teacher does not necessarily satisfy all the teacher's needs. This view is echoed by Black and Hallowell (2000:115) when saying that pre-service teacher education cannot prepare them well for the realities of teaching. This implies that there should be continuous in-service training that is relevant to the needs of the day-to-day teaching situation.
This study may therefore be beneficial in that it may be part of the programme of the latest developmental tools of the changing education system in South Africa. It appears to have particular relevance to teachers because there is currently a great emphasis on specialisation as well as on being flexible and holistic in one’s approach to matters. In this regard Van Staden (1997:26) states that the incorporation of the interpretation of children’s drawings may help in teaching because drawing:

- Is a means of self-expression.
- It reduces tension and anxiety from the drawer (i.e. the child).
- Helps the child to use it as a method of expressing his or her feelings and this is beneficial to the teacher since child’s speech is still limited.

Other researchers state the following values of children’s drawings:

- Pictures provide a quick and easy way of learning and can act as an organisational tool (mnemonic) for narrative production for a seven-year-old child with a range of achievement level (McFadden 1998:64).
- Koroscik (1997:187) says that the study of children’s human figure drawings can help to cultivate intellectual development in those who have interest in them.
- Akshoomoff and Stiles (1995:385-386) also conducted an experiment in which results showed that reproduction of a figure by drawing produced more detailed information than verbal reproduction.
- Drawings are a natural form of expression of feelings by a child and one can deduce the feeling of a child from the figure she or he has drawn (Brown 1992:15).
- They have a facilitative effect on the child’s memory. For example, as the child draws one aspect of a drawing, it may activate other attributes stored as part of the same memory.
- They are universal (for example, scribblings are all similar).

Butler, Gross and Hayne (1995:605) say that drawings are valuable because,
- They are universal (for example, scribblings are all similar).

Clemence, Aymard and Roumagnac (1996:412) and Brakarsh (1995:9) found that drawings are valuable because they can explain cognitive development in children.
Van Staden (1997:26-33) states that the needs and problems in many areas relevant to a child, e.g. affective, intellectual, social, physical, creative and aesthetic, may be reflected in her or his human figure drawings.

Some researchers proved the following important information on children’s drawings:

As given by Cox (1992:202), children’s drawings are important to the teacher because:

- They help the child to develop motor control over a pencil or a crayon and this facilitates the formation of letters and figures at a later stage.
- They also develop children’s imagination and creativity.

According to Shatil (1995:xxxiii), while the child draws for enjoyment she or he exposes herself or himself or to the adult, hence the adult can learn more about the child’s inner world. Norris, Mokhtari and Reichard (1998:73) and Brenneman, Massey, Machado and Gelman (1996:402) in their study of the relationship between drawing and writing found that:

- The act of drawing prior to writing appeared to be important and beneficial to writing performance among third grade children in their experimental group.
- Drawing is important in that it is an effective planning strategy for students who appear to rely on their drawing as reference point to prompt them towards what should come next in their writing. Integration of drawing and writing may be used to motivate students to write and enjoy it. Power (1997:87) says that the importance of drawings can be attributed to the fact that after children have been asked to draw, they may be encouraged to label the picture. This can help them to improve writing as well. This is also supported by Johnson and Carlisle (1996:45-46) when they say that early scribbles are largely perceptual motor acts and their importance lies to the fact that: From scribble and playful activities children gain information about lines, shapes and other perceptual features related to writing. For example, through practice and interaction with adults, a circular scribble may become a ball, a sun or a letter “O”.

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Teachers can therefore benefit from the use of children's drawings. Therefore this study may be relevant to teachers and South African education in general. According to Sishuba (1989:2), the advantage of using drawings in diagnostic and therapeutic purposes lies in the fact that art is an activity that the child enjoys and it belongs in her or his world. It is also imperative that the user should have a thorough knowledge of developmental stages to avoid misinterpretation of the child’s art.

1.4 AIMS OF THE STUDY

The main aim of this study is to investigate whether teachers in their initial training or in-service training acquired basic training in the interpretation of children’s drawings of human figure and whether they are capable of doing so if they undergo in-service training. In addition to this the researcher will:

- Conduct in-service training as part of investigation and
- Write some guidelines in order to help teachers to be able (to a certain extent) to identify some of the underlying causes of emotional, behavioural and learning problems to the level of their training. This information shall be put together as guidelines in a manageable way, so that it can be used to help teachers to understand some of the children’s problems by analysing their drawings.

It should also be borne in mind that this study does not intend to include therapeutic intervention or intensive assessment that could be done by a qualified psychologist. It is simply intended to help teachers in a teaching practice to be able to identify simple underlying causes of children’s problems by the use of drawings. It is also important to note that even though in the past drawings have been used by psychologists, recent developments in the national education demand that a teacher must be able to meet the diverse needs of any learner in the classroom. According to Consultative Paper No 1, (1999:39), the focus should be on the changes that are needed to increase the flexibility of the curriculum in order to accommodate a diversity of learner needs.
1.5 METHODS OF RESEARCH AND DEMARCATION OF THE FIELD OF STUDY

1.5.1 Methods of Research

A literature study and empirical research forms the basis of the study. A Pre-Experimental Design was chosen in the form of a questionnaire which will be followed by a Pre-test and Post-test. The questionnaire and tests will be applied to a group of randomly selected teachers from Bizana in the north-eastern part of the Eastern Cape Province.

1.5.2 Demarcation of the Field of Study

This study will focus specifically on human figure drawings as its field of research. This is preferred because human figure drawing is a natural activity for a young child. Rudenberg, Jansen and Fridjhon (1998:107) state that the use of the children’s drawings as a projective technique in an assessment method can reveal information about the child’s inner world and individual feelings in a manner which may not be possible through direct communication and may not be influenced by either the teacher or the parent. DiGallo (2001:197) states that drawings may offer an opportunity for children to express their feelings without giving up resistance. In some cases it is not possible to communicate with the child, e.g. a deaf child. In such cases, Zwiebel (1988:93) states that drawings are a principal means of assessing the child’s inner world. According to Jones (1992:4) children’s drawings reflect their own desires, feelings, beliefs and fancies rather than objective reality and therefore are representations rather than reproductions because they express an inner and not a visual realism. Gross and Hayne (1998:163) state that if children are given the opportunity to draw and tell, they can report more than twice as much information as children asked to tell only. Cox and Catte (2000:301) in their research on 44 severely disturbed children found that human figure drawings of severely disturbed children contain more emotional indicators than those of well-adjusted children. According to
Malchiodi (1990:7) when a child is a victim of domestic violence, her or his pain can be depicted better through visual art modality. Veltman and Browne (2000:329) state that the use of drawings may even be more valid when considering the fact that some children may not possess the language to describe what happened to them. Children spend a large amount of time with their teachers and it is therefore worthwhile to investigate the level of basic knowledge of teachers with regard to the interpretation of children's drawings which can be of good help to them. Drawings used in this study were taken from children of ages six to twelve years and were from the foundation phase to grade seven learners. Six-year-olds were found in grade one in this area because there were very few pre-schools (at the time the research was conducted).

1.6 DEFINITIONS OF CONCEPTS

1.6.1 Agnosia
Loss of ability to interpret sensations (Oxford Dictionary 1995 sv "agnosia").

1.6.2 Apraxia
Is a seizure in which symptoms such as confusion, listlessness, headache and slurred speech manifest themselves to the person at the end of the attack (Kruger & Smith 1997:84).

1.6.3 Baseline
Is a starting line in drawings or in writing (Oxford Dictionary 1995 sv “baseline”).

1.6.4 Behavioural Problem
Any problem of a child which is morally and socially unacceptable to the family, the school and the community at large. These are the anti-social activities such as aggression towards peers, withdrawal, hyperactivity etc (Aardweg and Aardweg 1993:160).
1.6.5 Cephalopods
From Latin, cephalicus = head, French, kephale = head and from Greek kephlale(head) + pous podos(foot). Hence cephalopods are the marine mollusc of the class cephalopod with distinct head and feet (Oxford Dictionary 1995 sv “cephalopods”).

1.6.6 Circumvent
To evade something difficult (e.g. by finding another way around a problem) (Oxford Dictionary 1995 sv “circumvent”).

1.6.7 Conventional figures
Those human figure drawings that children see in picture or story books and which are normally drawn by adults (Cox 1993:24).

1.6.8 Curvilinear
Something consisting of (or contained by) curved lines (Oxford Dictionary 1995 sv “curvilinear”).

1.6.9 D-A-P
D-A-P means draw-a-person and is the term used when a child in question is required to draw any single human figure (Kaufman & Wohl 1992:14).

1.6.10 Dimension
A measurable extent of any kind, as length, breath, depth. Hence two dimensional or three-dimensional (Oxford Dictionary 1995 sv “dimension”).

1.6.11 Emotional Problems
Is a term used for a condition manifested by inability to learn in a way that can not be explained by intellectual, sensory or health factors or inappropriate types of behaviour or feelings under normal circumstances or tendency to develop fears associated with personal or school problems (Aardweg & Aardweg 1993:82).
1.6.12 Family
The word family refers to mother, father (and/or relatives) and children living
together or who periodically live together (Aardweg & Aardweg 1993:158).

1.6.13 F-K-D

1.6.14 H-F-D
Human Figure Drawings are the drawings of human beings which are usually
drawn by young children (Motta, Little & Tobin 1993:162).

1.6.15 K. F. D
K.F.D means Kinetic Family Drawing and is a term used when a child in
question is required to draw his or her family members doing something,
therefore the word kinetic (Stein 1997:334).

1.6.16 Kinaesthesia
The brain’s awareness of the position and movement of the body, limbs etc
by means of sensory nerves in muscles and joints (Oxford Dictionary 1995 sv
“kinaesthesia”).

1.6.17 Learning Problems
Learning problems are often reflected in different forms of disorders such as
reading, spelling, handwriting, mathematics, oral language and motor, visual
and auditory discrimination (Aardweg & Aardweg 1993:139).

1.6.18 Projection
Projection refers to the unconscious attribution of one’s own impulses or
wishes to someone else (Meier, Minirth, Wichern, & Ratcliffet 1995:354).
1.6.19 Sadistic

A form of sexual perversion characterised by the enjoyment of inflicting pain or suffering on others (Oxford Dictionary 1995 sv “sadistic”).

1.6.20 Teacher

A teacher (educator) is the one who voluntarily elects to follow a profession which seeks to help youth to become equipped for life in order to realise their potential and assist them on their way to self-actualisation and to ultimate adulthood (Aardweg & Aardweg 1993:234).

1.7 SUMMARY OF THE PROGRAMME OF INVESTIGATION

Chapter 1

An introductory general discussion of what this study is about was given in this chapter. The following aspects were covered:

• Awareness of the problem
• Analysis of the problem
• Aims of the study
• Statement of the problem and
• The meanings of some of the fundamental terms used in the investigation.

Chapter 2

This chapter will concentrate on the normal development of children’s drawings of the human figure. An attempt will be made to help the reader to be aware of the normal development of children’s drawings so that she or he can identify some simple deviations if they occur. It will also address the actual interpretation of children’s drawings of the human figure. Some classical examples will be taken from the literature in order to differentiate between the normal and abnormal drawings.
Chapter 3
This chapter will give an overview of the literature with regard to the historical background of the uses of children's drawings and their reliability as a projective medium and reference will also be made to early and recent developmental studies on drawings.

Chapter 4
The design for empirical research will be explained in this chapter.

Chapter 5
The actual empirical research will be discussed in this chapter.

Chapter 6
Some of the aspects which will be considered in this chapter include the following:

- Conclusions based on the literature
- Educational implications of the research
- Contributions of the research
- Limitations of the research
- Recommendations for further research
- Summary and Conclusion.
CHAPTER 2

FORMAL INTERPRETATION OF CHILDREN'S DRAWINGS OF HUMANS

2.1 INTRODUCTION

Every child is unique but at the same time children have general similarities which they are expected to display at a given stage of development. Even though each child may have a unique drawing different from another child, there should still be some common aspects in children's drawings which are the characteristic of a certain age group. This chapter, therefore, looks into different stages of normal development of children's drawings and those drawings that reflect children who deviate from normal development. Its purpose is to help teachers to be able to see when the child is showing signs of inadequate development. It also looks into factors that may affect the normal development of children's drawings. Various salient indications of children's problems in their drawings will be given as an interpretive tool to be used by teachers.

Although the scope of this study focuses specifically on drawings of children between the ages of six years and twelve years, in this chapter reference is made to children younger than six years for the purpose of overlapping and continuity. This is done in order to identify the general stages at which children are expected to produce meaningful drawings. According to Shatil (1995:xvii) if one wants to understand better how children's drawings (in quality and quantity) change according to developmental stages, one needs to start one stage earlier than the stages of interest. For instance, if the researcher is interested to study stages from five to ten years, then it is wise to start with four-year-old children.

Albertyn (1996:48) provides the following guidelines for a picture analysis:

Avoid interpreting at first glance, instead try to gain a feeling of the first impression created by the drawing.
• Try to observe what the drawer is trying to tell.
• Add all the information gathered from individual components and assemble this into a whole.
• Record observation in details, and
• Analyse each picture objectively and focus on the focal point (e.g. size or proportion).

Trevisan (1996:225-226) cautions that drawings should not be assumed as having an absolute answer for all children’s problems. Riethmiller and Handler (1997:458 & 470) reiterate that there are problematic methods and unwanted conclusions in D.A.P, hence when using drawings in assessment, there should be more studies that combine drawing variables and outside information before reaching a conclusion. Petrick and Lessing (in Jacobs, Griesel, Petrick, Lessing, Wiechers & Burger 1992:106) provide the following guidelines which are supposed to be followed when a child is required to draw a person:

• An ordinary A4 sheet of paper is placed in front of the child.
• She or he is given a pencil and/or a coloured pencil and a rubber.
• She or he is asked to draw a complete person on the paper.
• Tell the child to do his or her best.
• Concerning the time limit she or he can take as long as she or he likes but not the whole day.
• She or he may rub out if necessary and
• A record is kept of how long she or he takes to finish the drawing.

2.2 DEVELOPMENTAL STAGES

The following are the expected stages of a normally developing child. Research reveals that the development of children’s ability to draw human figure drawings follows a certain sequence of stages as the child grows. Sutton and Rose (1998:87) provide the following categories of children’s drawing development:
• Children under the age of eight years tend to produce intellectually realistic drawings that reflect their knowledge of the conceptual structure of objects and
• After the age of eight, children tend to produce visually realistic drawings in which they inhabit their conceptual knowledge and reflect their visual world. Even though the stages and their characteristics of drawings are demarcated according to ages, the understanding in this work is that these are overlapping tendencies from one stage to another. The description of the stages is based on the current literature and will begin from ages older than one year until about twelve years. The stages are as follows:

2.2.1 The Scribbling Stage

Schirrmacher (1993:98) divides this stage into the following overlapping phases (sub-stages), each of which has its own characteristics within a given age. These phases are:

2.2.1.1 Phase 1 (1½-2½ years)

According to Schirrmacher (1993:98), scribbles of this phase are random, motoric and the child explores the processing of tools as if she or he wants to know what she or he can do with the tool in her or his hand (e.g. a crayon, a pencil or a piece of chalk). Holding and moving a tool produces interest and pleasure. Schirrmacher (1993:98) further says that scribbling and mark making is to drawing while crawling is to walking. Some examples of scribbles produced by young children are shown in figures 1 (a) and (b) below.

Figure 1 (a) and (b). Matthews & Jessel (1993:48-49): Scribbles produced by young children.
Herberholz and Hanson (1995:159) have the following to say about the drawings of this phase, namely that children begin to draw very early in life (usually between first and second years) when:

- They first trace a finger through spilled oatmeal.
- They move a stick on a surface of sand (e.g. on beaches).
- They make a crayon or chalk mark on a piece of paper.

This phase corresponds with one of Shatil's (1995:2-6) psychographic stages, called the "motoric stage", which begins from the day the child is able to handle any implement through 2 years of age, and is characterised by graphic products (i.e. drawings) and recording the movements of an implement. These marks are the line, the extension, the coil and the point. Shatil (1995:2-6) describes the marks as follows:

- **The Line**
  The line is a raw material which is the product of a random pencil scribbling across the surface of a page without setting an initial point and final point, and need not be straight.

- **The Extension**
  The extension is a line with a defined initial point, but with the final point undecided. Extension is formed by a random sticking of the pencil onto the page and sending off a line in an outward direction as the case is in figure 2 below.

![Figure 2: Shatil (1995:5)](image)

Two-year-six-months old boy. The motoric drawing. "Extensions and Points".
• The Coil
A coil is a sequence of circular lines and is a sign that the drawer has acquired some learning. This implies that the drawer can change the direction of a pencil drawing on a paper without raising the pencil off the page. The coil is similar to a coil of threads whose windings have loosened (see figure 5 on page 17).

• The Point
A point is a graphic mark formed by sticking the pencil onto the page and removing it without drawing a line (see figure 3 below). According to Shatil (1995:6) many children discover the point-making technique in their very first drawing attempt and enjoyably persevere with it.

![Figure 3: Shatil (1995:5)](image)
Two-year-nine-months old boy. The motoric drawing. “Points”. A crude effort to draw a human.

Martlew and Connolly (1996:2749) observed that the drawing in this category comprises one dimensional line, zigzags or curving marks. Yamagata (1997:355) reveals that researchers have suggested that children at this stage produce scribbles from motor pleasure or from perceptual interest in marks appearing on the paper. According to Cox (1993:7) the first scribbles appear around the ages of 12 months and children enjoy scribbling primarily because of the motor movement it involves. Cox (1993:7) says that when a child is given a pencil-like implement which does not leave a mark when using it, the child loses an interest in that activity.
Cox (1993:11) also adds that, in ages between 1½ and 2½ years, children begin to monitor the marks they create on the page and accidentally may see pictures in them. Cox (1993:12) calls ability to recognise something in the scribble a *fortuitous realism*. The results of the experiments conducted by Adi-Japha, Levin and Solomon (1998:28-41) showed that the occurrence of the drawings representation of children's first scribbles have smooth and broken curves (see figure 4 (a)-(d) below).

Barrett & Eames (1996:232) says that progress in drawings is age related. This means that, as the child grows his or her drawing ability improves from scribbles which are from meaningless to meaningful drawings. Kaufman and Wohl (1992:15) have the following to say about the scribbles of this phase. That they are:

- non goal-directed
- utilised primarily for motor expression
- unplanned gestures created with or without the benefit of eye control
- the foundation for artwork and
- the results of a dot, a single line, multiple lines, roving lines, loops and circles, which children respectively begin with drawing.
Mortensen (1991:13-15) describes children's drawings of this phase as follows:

- At first, the child's motoric development allows her or him to use the whole arm when drawing, then
- The lower arm and eventually the hands are used.
- The pencil is gripped by the fist and the point is held vertically towards the paper.
- The longer lines are gradually drawn and the pencil is less frequently lifted from the paper.
- The scribble is still not planned by the child, but develops during the work and the child will observe and admire it after she or he has finished his or her work.
- Children have their own preferences for the placement of the scribble on the paper. For instance, the drawing of this stage may cover the whole page or may be in diagonal form.

Mortensen (1991:14-15) describes the scribbles of this stage as mainly motorically determined and finds that the child is particularly interested in the rhythmic element of the drawing activity. Drawing at the earliest stage is to the child mainly a kind of movement on paper and relates elemental scribbles to her or his elemental state and forms of movement that are known to her or him.

Anderson (1994:27) adds that the child develops the eye-hand coordination necessary to pick up a drawing instrument and make a mark on the paper at about 2 years of age. The initial marks are made at random and in a disorderly fashion across the paper. The random scribbles are the records of kinaesthetic action and may be pleasurable to the child. Hence the child does not make a connection between the marks and the movements. The major characteristics of this phase can be summarised as follows:
• The average period at which the child will begin to handle a drawing instrument is between 12 and 30 months.
• Large muscles still play a major role, hence the drawing is first executed by moving the whole arm.
• There are still haphazard lines with no clear end.
• The whole-hand grip of a tool is still used when drawing.
• The child might look at the paper while drawing.
• Accidental and random motoric marks are made.
• The child may scribble beyond the confines of the paper and
• There is a tight grip of the tool with a rigid wrist position.

Golomb (1992:13) provides the following list of twenty basic scribbles:

<table>
<thead>
<tr>
<th>Scribble</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scribble 1</td>
<td>Dot</td>
</tr>
<tr>
<td>Scribble 2</td>
<td>Single vertical line</td>
</tr>
<tr>
<td>Scribble 3</td>
<td>Single horizontal line</td>
</tr>
<tr>
<td>Scribble 4</td>
<td>Single diagonal line</td>
</tr>
<tr>
<td>Scribble 5</td>
<td>Single curved line</td>
</tr>
<tr>
<td>Scribble 6</td>
<td>Multiple vertical line</td>
</tr>
<tr>
<td>Scribble 7</td>
<td>Multiple horizontal line</td>
</tr>
<tr>
<td>Scribble 8</td>
<td>Multiple diagonal line</td>
</tr>
<tr>
<td>Scribble 9</td>
<td>Multiple curved line</td>
</tr>
<tr>
<td>Scribble 10</td>
<td>Roving open line</td>
</tr>
<tr>
<td>Scribble 11</td>
<td>Roving enclosed line</td>
</tr>
<tr>
<td>Scribble 12</td>
<td>Zigzag or waving line</td>
</tr>
<tr>
<td>Scribble 13</td>
<td>Single loop line</td>
</tr>
<tr>
<td>Scribble 14</td>
<td>Multiple loop line</td>
</tr>
<tr>
<td>Scribble 15</td>
<td>Spiral line</td>
</tr>
<tr>
<td>Scribble 16</td>
<td>Multiple-line overlaid circle</td>
</tr>
<tr>
<td>Scribble 17</td>
<td>Multiple-line circumference circle</td>
</tr>
<tr>
<td>Scribble 18</td>
<td>Circular line spread out</td>
</tr>
<tr>
<td>Scribble 19</td>
<td>Single crossed circle</td>
</tr>
<tr>
<td>Scribble 20</td>
<td>Imperfect circle</td>
</tr>
</tbody>
</table>

Figure 6. Rhoda Kellogg’s Twenty Basic Scribbles. (Courtesy of Rhoda Kellogg, Analysing Children’s Art 1969).
2.2.1.2 Phase II (2 ½-3 years)

According to Schirrmacher (1993:98), this phase is characterised by better visual and motoric control of the drawing. This means that the child uses wrist motion with a greater control and watches intently while drawing. While during the previous stage the child could scribble beyond the confines of the paper, at this stage the scribbles remain within the area of the paper as the case is in figures 7 (a)-(f) on page 22.

Anderson (1994:27) points out that the child develops the eye-hand coordination necessary to pick up the drawing instrument and make uncontrolled and pleasurable marks on the page, but at about 2 ½ years the child starts to realise that there is a connection between the scribbles and the moves she or he makes with the drawing tool.

Herberholz and Hanson (1995:78) call this stage a stage of controlled scribbles and describes it as follows:

- At about 2½ years children develop some control and discover that they can make marks to get what they want.
- They become consciously aware of the scribbles.
- They begin to vary their motions when drawing.
- They repeat some lines that give them particular satisfaction and spend a longer time on this activity and
- They make circular and longitudinal scribbles.
Figures 7(a)-(f), Schirmacher (1993:93): Between 2 and 3 years scribbles become more controllable and the child becomes concerned with the placement.

This phase corresponds with Shatil’s (1995:10-17) second psychographic stage called “The Circle”, which is described as follows:
The circle stage is the first stage from which the child learns to draw deliberately. It is called the circle because the child starts to draw a circle at this stage, as seen in figure 8 below. Shatil says that the circle is the first defined form of child drawing. It is the easiest and most intuitive form and that is why the child comes to it first. Shatil also states that the transient process from motoric stage occurs around the age of 2 years 7 months and it begins by the integration technique of “diminishing circles” and large “sea-animals” which are drawn for each of the circle drawings (see figure 9 page on 24).

Figure 8: Shatil (1995:14)
A three-year-old boy. Departure from the motoric stage on to the circle. Experiments in the diminishing technique.

In order for a child to draw a defined graphic form, whether abstract or real, she or he must acquire an element called a “segment” (in addition to the line, the extension and the coil). According to Shatil a segment is a line (straight or rounded) with a deliberate initial point and deliberate terminal point. Therefore a segment is the building stone of a graphic structure. At this stage the planning of a circle movement has not been motorically acquired yet. When the child starts to draw a circle she or he will begin by drawing tiny unplanned circles which may sometimes look like dots. Shatil (1995:15) calls these small circles “diminishing circles”. The child begins by drawing circles of different shapes and sizes and some will look like large sea-animals or tadpoles. The first and second stage are characteristics of two to three-year olds (Shatil 1995:xviii).
Mortensen (1991:13) also confirms the characteristics of this stage in saying that the child at this stage discovers that she or he can draw a specific form of a drawing e.g. circle or diagonal cross. Further, children may be seen exercising their newly discovered skills repeatedly. Cox (1993:12-13) points out that towards the end of their second year, children begin to construct forms on the page which have more visual-spatial correspondence to the object they intend to represent. Golomb (in Cox 1993:13) gives similar views when remarking that children’s main concern during the transient period from scribbles to representational form is the visual likeness of the object. That is, the visual picture dominates and the child intends to capture some visual aspects of the object, e.g. the shape. Golomb (in Cox 1993:14) further says that it is the child’s representational intentions which determines the choice of forms and these intentions usually concern the urge to represent something of the visual characteristics of the real world.
Thomas and Lange-Kuttner (1995:120) observe that children’s reproductions of the formulae for making pictures at this stage are inflexible and resistant to change. Anderson (1994:27) says that at about two years, the child develops the eye-hand coordination necessary to pick up a drawing instrument and make a mark on a page and six months later (at about 2½ years), the child will begin to exercise some control over randomly-made scribbles or marks. Further, at three years the child completes a drawing before declaring what it is and at this stage the child can realise that there is a connection between the scribbles and the moves she or he makes with a drawing tool.

Mortensen (1991:17) describes the development of children’s drawings during this stage as follows:

- The child draws human figure drawings as circles to which long lines are fastened as legs.
- Sometimes two horizontal lines are added to the circle as arms.
- Generally the arms are omitted in the beginning.
- The child is likely to add details such as eyes, mouth, nose etc, but not correctly placed.
- The body is rarely drawn.

Kaufman and Wohl (1992:16) give the following similar and corresponding explanation of this phase, namely that:

- The child at this stage generally alters the line direction of the scribble and often places the scribble on top of the other.
- Children do guide their drawing action so that distinct suggested shapes are made.
- They can put their drawing on paper with awareness of paper edges.

Kaufman and Wohl (1992:16) say that children can create diagrams using single lines to make crosses and to outline triangles and other forms. They call this exercise “emergent diagram shapes”. The characteristics of this phase can be summarised as follows:
• There is awareness of the scribbles.
• There is awareness of paper edges.
• There is some realisation of connection between scribbles and movements.
• The circle is the first form to be drawn.
• The child uses wrist motion with greater control.
• The child watches intently while scribbling.
• There is a variety of lines and drawing activity can be deliberate.
• Better visual and motoric control over where to make lines.
• Inflexible formulae for drawing may be used at this stage.

2.2.1.3 Phase III (3 ½ - 4 years)

According to Schirrmacher (1993:99), this sub-stage occurs between 3½ and 4 years and the child moves from sheer physical expression to making marks that stand for something else by giving them a name. Anderson (1994:27) also found that at about three and half years, the child begins to give names to the scribbles she or he has drawn. Although the marks look like any controlled scribbles, the child has already begun to think symbolically and can identify the marks she or he has drawn with names. Another characteristic of this stage is the verbalising of the child while drawing. According to Thompson (1990:215) children of this stage frequently accompany their drawing activities with descriptive, reflective-social conversation and verbal monitoring supplementing and sharing the progress of their marks.

Herberholz and Hanson (1995:78-79) call this stage a “Naming of Scribbles Stage” and describe it as follows:

• It begins at about 3 ½ years.
• The child’s thinking has changed from kinaesthetic to imaginative
• The child is starting to connect his motions to the world around her or him
• At this stage the young child can talk the entire time while drawing
• The child can announce what it is when she or he has finished it
• The next day the same drawing can be called something else
• Colour does not play an important role at this stage.

When comparing this sub-stage with Shatil’s stages, we find that this stage accommodates the end of the circle stage and beginning of the third stage which Shatil calls “the square” (Shatil 1995:xviii). Although this phase starts as a third stage after three years, its full attainment is at around four and half years. Since the circle stage was discussed in the previous section, here we are only going to consider the beginning of the square stage. The acquisition of the square is a process which is achieved via three phases which usually overlap. Shatil (1995:24-28), describes these phases as follows:

• The Construction of a Segment:
  This is achieved through regular experiments carried out during the previous stage (the circle). The child keeps on changing the direction of a rounded line and incidentally forms corners or cuts line at others. It is only at the end of the second phase of this square stage that the child finds the principle that by cutting one line by another, she or he creates a terminating point which according to Shatil forms a “segment”. Shatil defines a segment as: Two lines vertically cutting each other lengthwise at two points to form a segment with a defined beginning and end.

Other phases of this square stage are the Line-Square and One-Line Quadrangle. These will not be discussed here because they fall outside the scope of this work. Mortensen (1991:14-15) and Van Staden (1997:40-41) call this stage a transition between scribbling and preschematic phases and describe it as follows:

• Around the age of three years children begin to draw mandalas (i.e. circles cut by a cross), (see figure 10(a) on page 28).
• They develop these mandalas into a sun where the cross is extended beyond the circle, (see figure 10(b) on page 28).
• The middle cross finally disappears (see figure 10(c) on page 28).
They change the mandalas into a human being where the circle represents the head.

The arms and legs are often fastened to the head similar to the way in which the radiants of the sun are linked to the sun itself.

The child at this stage is more likely to add details such as eye, mouth, hair or nose and these may still not be correctly placed.

The body is rarely drawn at this stage.

Van Staden (1997:42) says that the child draws various schemes before drawing heads and arms (see figure 11 on page 29). Mortensen (1991:14) is also cautious in this regard and warns that children at this stage do not actually aim at a representation of a human being that actually resembles one, but they endeavour to place something on the paper in such a way that:

- It looks right and satisfies the child's sense of balance, rhythm and proportion.
- The attainment of balance is an essential goal for the child. For instance, big hats or voluminous masses of hair curls serve the purpose of balancing long legs.
Kaufman and Wohl (1992:16) support the progression of drawing development in this stage when saying that:

- Three to four-year-old children can progress to placing each scribble on a separate page rather than overlapping them on the same sheet.
- By the age of four years children use the outline of a form and combine scribbles more intricately than the previous stage.

Cox (1993:23) also agrees with Mortensen and Kaufman in that a young child's first drawing of a human figure often consists of only a head which may include facial features and legs and arms, if they are present, are attached to the head. Some other items such as hair, ears, hands and feet may be added. But indications that a figure has a tummy or torso are rare (see figure 12 on page 30). Cox (1993:23) calls these first human figures (with circle and lines) “cephalopods” or tadpole figures and the age from which they start is above 3 years.
Tadpole figures that are drawn by children between the ages of 3 years 4 months and 5 years 3 months.

Cox describes tadpole drawers as follows:

- They draw tadpole figures irrespective of whether they are conventional figures or not.
- Children know many more features about human form than what they include in their drawings.
- Tadpole drawers certainly know that a human figure consists of more than simply a head and some legs.

The summary of the characteristics of this sub-stage is as follows:

- A child gives names to the scribbles but the name can change in the process.
- There is a further increase in concentration during drawing activity.
- The child can relate scribbles to the environment.
- Changes in drawings are still quantitative.
- Mandalas and tadpole structures are drawn as a starting point to the drawing of a human figure.
- There is no overlapping of scribbles.
- The child knows more about the human figure than she or he includes in the drawing.
- The child can identify and name body parts and
- The child usually talks the entire time while drawing.
2.2.2 The Preschematic Stage (4-7 years)

Schirrmacher (1993:99) defines a schema as a general symbol that represents a specific concept. For example, a child's stick-figure drawing is mostly used to represent all people. Schirrmacher (1993:98-100) explains this stage as follows:

- The placement of lines and geometric shapes is built up into very personal symbols and designs. For example, a circle with line on each side becomes a stick figure representing a human figure regardless of age, sex, or build. Other examples include:
  - A circle that tapers at the top being used to portray trees and flowers and
  - A square box becoming a schema for all buildings.

Schirrmacher (1993:100) calls personal symbols and shapes (that is, drawings of this stage) *pictographs* or “simplified flats” or *two dimensional shapes*. The child adds, omits, distorts, exaggerates or streamlines these very personal symbols. Anderson (1994:24) also puts the preschematic stage at between 4-7 years and it is at this stage that the graphic symbol for human being begins to develop. Anderson (1994:27) further says that this early graphic symbol is usually a circular shape with straight lines coming out of it to symbolise legs, feet or arms depending on where the lines are placed. Berti and Freeman (1997:521) in their research on representational change in resources for pictorial innovation in children found that children at this stage are in the throes of re-describing their pictorial knowledge at an explicit level under the guidance of their framework theory.

Anderson (1994:27) says that at around five years, other symbols representing houses, trees, sun and birds are drawn and fluctuate in the same way as the child alters sound. They fluctuate until the age of seven when they become stable. This explanation agrees with that of Schirrmacher (1993:100) which says that the child adds, omits, distorts, exaggerates or streamlines personal symbols during the pre-schematic stage. At this stage, children can identify words and learn simple counting skills, but reading
sentences does not occur until the child adds a baseline. According to Anderson (1994:100), once the child adds a baseline, this indicates that she or he has attained the next stage, which is the schematic stage. Cox (1993:48-68) says that children at this stage can draw separate circles for the head and body and single lines for arms and legs, as is the case in figures 13, 14 and 15 below.

Herberholz and Hanson (1995:81-83) say that at about 4 to 5 years, children make the remarkable discovery that they can make a closed rounded shape and repeat it at will. They also give following developments of this stage:

- They can add two lines to this object to represent “mommy”, and these researchers call this symbol “Head -Feet” or “Polliwog”.
- These “Head-Feet” symbols may not be easily recognised without the child naming them.
- The objects are neither related to one another in position or size nor related to the ground.
- It satisfies the child enough to be aware that they have created a symbol that is recognised as a person, animal or house.
- Herberholz and Hanson (1995:81) call this the “Early Symbol of Schema” and there is also what they call the “Late Symbol of Schema” at which children begin to experiment and modify the “Head-Feet” symbols.

Figure 13: Cox (1993:68)
Girl, Jewish, age 5yrs 9months, Kindergarten.

Figures 14 & 15: Cox (1992:48)
Stephen, aged 5yrs 5months, has used separate circles for the head and body of his figure and single lines for the arms and legs

Figure 15
The head and body of Simon's figure have a shared boundary at the "neck".
This stage corresponds with the three stages of Shatil (1995:37-49) which overlap together to form the preschematic stage and are described as follows:

- The Diagonal stage (Shatil’s fourth stage):

The diagonal is any straight line (unlike an ordinary line or segment), that passes across a page in a direction parallel to the direction of an imaginary line connecting the two opposite corners of the drawing sheet. Its lines are motorically more difficult to carry than a straight line drawn parallel to the margins of a page either from the top to the bottom or from right to the left and vice versa. The reason for this difficulty lies in the need to plan ahead because where the diagonal ends it requires high skill. This stage is attained at the age of about four to five years. Figure 16 below is the example of Shatil’s diagonal figure that can be drawn by a four years and five months old child.

Figure 16: Shatil (1995:38)
Hana. Four years and five months old. Entry into diagonal and cross stage. “A taking advantage” of the corners of the page. Awareness of the creation of four triangles, and their decoration.
• The Triangle stage (Shatil’s fifth stage):

This stage is attained at about five years of age and Shatil (1995:42-43) explains it as follows:

It seems as if the child is now aware of the triangles which are created at the corners of the page when drawing a diagonal and takes advantage of this. From the point of view of psychographics motorics, the diagonal, X and a cross + are not far from a triangle in their process of acquisition. But the construction of a triangle is a difficult process, therefore it appears relatively late, around the age of five years, possibly due to the following reasons:

(i) When drawing a triangle the child has no possibility of producing a triangle by one continuous line coming out of the circle as was the case when drawing a four sided figure (see figures 17 and 18 on pages 34 and 35).

(ii) Another possible reason is that every triangle has at least one diagonal and all other triangles except the right-angled triangle include at least two diagonals.

Figure 17: Shatil (1995:41)
Hana: Four years and five months old. Transition from the square to the triangle.
- The Mounting of Forms stage (Shatil's sixth stage, also called Complete Picture).

This stage is attained at the age of about five years and seven months and is explained as follows:

(i) The child attempts to represent real objects graphically and integrates them into a complete picture, hence the name "complete picture".

(ii) It is the beginning of the schematism of forms and figures.

(iii) The child tries to implement, easily and spontaneously, complex structures and figures from different combinations of basic structures.

(iv) From the motoric aspect the child wants to internalise the "route instruction code" of these forms.

Figure 18: Shatil (1995:42)

Rina: Five years old. Entry into the triangle stage: The dress, the road and the roof-attempts at triangles.

Mortensen (1991:15-17) describes this stage as follows:

- This stage is a transitional one with not only quantitative changes but also qualitative ones. This means that the child will not only add certain items to the drawing, but there will also be an improvement to the existing ones.

- The child is able to give the drawing a "representational content".

- There is still a lack of stability in object representation, i.e. the representation of an object may vary from one day to the next.

- The child has not yet worked out any fixed schema for various objects.
• The head is just a circle and the same circle may sometimes represent the sun, a flower or a balloon.
• Around the age of five years, they usually have found a certain mode of human representation where the major body parts are all included (see figure 19 below).

Figure 19: Mortensen (1991:18)
Preschematic drawing (Girl, 5 years old).

A summary of this stage is as follows:
• A change in drawings is both quantitative and qualitative.
• The child makes first representational attempts.
• There is an appearance of recognizable geometric shapes e.g. triangles.
• Head-Feet representation of human figure.

2.2.3 The Schematic Stage (7-9 years)

Schirrmacher (1993:99-100) describes this stage as the stage of the "achievement of form concept" and explains it as follows:
• The drawing now reflects what a child knows, that is, the child's concept, not perception, of an object.
• A human is no longer drawn as a head and stick.
• The child now is very concerned that the observer recognises the content or subject matter of the drawing.
• Women are drawn with longer hair and wear dresses.
Houses are no longer drawn as a triangle on top of a square but windows, steps, fence, etc. may be added.

Drawings can now be detailed and decorative.

This stage corresponds with Shatil’s (1995:64-66) seventh stage, called “the game of forms”, and is described by Shatil as follows:

- It begins at the age of about six years and six months.
- Shatil calls it the game form because the child now does not draw just a picture but presents the sort of pictures that give real meaning than in previous stages.
- Shatil also calls it a stage of liberation of the child’s graphic activities from the real object of drawing and devotedness to complexity, colourfulness and even to originality in which different forms can appear.
- The child at this stage is engulfed, delighted and enjoys the gratifying and self-satisfying fruits of her or his psychographics’ achievements.
- The entire range of shapes are integrated and the acquired elements are brought together to the surface to give a meaningful whole.

Anderson (1994:33-36) describes the schematic stage as follows:

(i) Schema is the child’s repeated visual symbols for objects such as person, sun, house etc.

(ii) During the schematic stage the child begins to develop personalised symbols or schema for the sun, person, house etc. and has the following characteristics:

- This stage begins at the age of about 7-9 years.
- The graphic symbols that are developed are universal and have some feature that is unique to the child.
- The child usually repeats these symbols until she or he draws them in a consistent manner.
- The symbols are not stereotypic, but are the child’s visual language that reflect the information that the child has about the object.
• The child at this stage can include a baseline when she or he is about eight years old and this usually implies that the child is ready to read words in a sentence.

• The child is now interested in drawing objects in two dimensions.

• The child has a schema for colours of items she or he draws, but there are few variations in colours, e.g. flowers are usually made red, sun is made yellow, trees are made green etc.

Herberlhoz and Hanson (1995:82-84) share a similar view with Anderson and state that:

(i) By the time children are six years or seven years old, they usually have developed definite schemas that are important for them.

(ii) They can repeat the symbols without variation unless they are made to deviate by some experience or motivation, i.e. a symbol that represents the sun today will represent it even tomorrow.

(iii) Depicting objects and people is related to several factors such as:

• the degree to which the child’s passive knowledge has been activated by remembering or engaging in an experience.

• the keenness of her or his perception and overall awareness.

• Her or his possible intellectual capacity, since a large number of details in drawings often indicate a higher intelligence and a more highly developed personality.

(iv) A greater awareness of how to deal with spatial ideas is probably the most noticeable achievement at this stage of development.

Mortensen (1991:18-20) says the following about the schematic stage:

The drawings of this stage are usually fixed and stable unless special factors motivate the child towards something else. For example, Mortensen (1991:19) distinguishes between pure schema and a drawing through which the child intends to communicate something specifically, i.e.:
• When a child draws a person performing some activity which is important to herself. In that case, the well established schema may change.
• The child for example may want to represent some kind of movement such as running, throwing, or a feeling of cold or some strong emotional experience.
• Children at schematic stage are still unable to draw a model. They are still more influenced by their inner concepts of objects than by perceptions of them.

Kaufman and Wohl (1992:16) call this stage the development of awareness of realistic representation and gives the following features:

• It is a stage between 7 and 10 years of age.
• The youngster becomes increasingly concerned with a realistic representation of the selected objects.
• The figures are readily recognisable as human beings (see figure 20 below).
• There is a concern about symmetry, placement, size and use of space.
• There is awareness of suitable environment in which the object is drawn. For example, if a tree is drawn in the forest or next to a house, the youngster will attempt to depict accurate proportions between tree and house.

Figure 20: Lange-Kuttner & Thomas (1995:33)
By a girl aged 7 years 6 months. An attempt for realistic representation.

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The summary of this stage is as follows:

- There is a development of the visual symbol.
- Development of creative drawing.
- Changes are mostly qualitative but also quantitative.
- The child is interested in drawing objects in two dimensions.
- Children have developed a schema for colours.
- Drawings are usually stable.
- An attempt to depict accurate proportion is made (e.g. between tree and house next to it).
- Children can draw recognizable human beings at this stage.

3.2.4 The Dawning Realism Stage (9-12 years)

According to Schirrmacher (1993:100-103), this stage occurs around the age of 9 to 12 years and has the following characteristics:

- Children are very concerned with size, placement, shape, colour, proportion and shading.
- Objects are drawn smaller and less distorted.
- Children are more self-conscious about their art.
- They have greater awareness of their details and use them (i.e. details) to approximate reality.

While Sishuba (1989:2) calls this stage Storytelling stage and states that it corresponds with Piaget's concrete operations stage, Herberholz and Hanson (1995:91) call it the "Realistic Stage" and have the following to say about it:

- It begins around the age of 8 years.
- Children at this stage desire a more representational approach to figures.
- There is a greater emphasis on realistic proportions and less exaggeration and distortions.
• Children may attempt to shade objects and may try to include shadows in their drawings.
• They include more details, patterns, texture etc. in order to depict things more carefully and thoroughly.
• They are often critical of their own work and are dissatisfied when something does not look like what they want.
• It is a time of great adjustment and child-like symbols and schemas are avoided as much as possible.

Mortensen (1991:20-21) calls this stage the “Growing Naturalism Stage” and gives the following description:

• Children begin to experiment with the drawing of the body in different positions.
• Profile drawings become more common.
• Many transitional stages are found between profile drawings and canonical drawings
• Children’s ability to observe improves greatly. This means that children do not only look at and see what they draw, but there is also an analysis of the observations and visual impressions.
• Children also begin to be interested in representation of sexual characteristics and to differentiate between men and women in their drawings.
• They also try to characterise specific kinds of persons like a sailor, a spaceman a princess, etc.
• Children want to include as many details as possible and one of the most difficult parts to draw is an eye (Mortensen 1991:22).

Mortensen (1991:22) says that the representation of three dimensionality is one of the last things to be mastered by a child and a stage not reached by all children. Most often boys reach this stage of three dimensionality after 11 years of age. Mortensen (1991:23-24) also provides a further explanation of this stage when saying that:
• The child at this stage can no longer unreflectively enjoy the drawing process. This means that the results of the work are more important than just enjoying the motoric movements of the drawing instrument.

• Children develop self-criticism and to some, the degree of self-criticism becomes so high that it can cause the child to stop the drawing activity.

• These ideas are also repeated by Jolley and Thomas (1995:344) in the results of their research on sensitivity and expression of mood in drawings when they found that unlike 5 and 8 year-olds, most 11-year-olds did not only opt for the completion of the drawing, but they were also preoccupied with the subject matter. That is, what the drawing is all about, other details about it, etc. (see figure 21 below and figure 23 on page 45).

Figure 21: Lange-Kuttner & Thomas (1995:33).
A real human by a boy aged 9 years 5 months.

Mortensen (1991:24) distinguishes between two developmental lines in adolescents, namely:

(a) The Primary Visual Children
• These children represent their experience of the whole as spectators.
• Their starting point in drawing is the whole which is first analysed into its components and then again synthesised into the whole. This implies that the visual person will begin by sketching the whole and later put in details.
The Heptic Children, who:

- Approach their theme by concentrating on its details first.
- Concentrate on sensory impressions and kinaesthetic experience, which to them are more important than purely visual impressions.
- Concentrate on details that they find important when drawing. That is, they base their drawings on what a person’s drawing will look like and what it will be doing or feeling or thinking etc., and try to reflect those features in their drawings.

Andersen (1994:39-43) calls this stage the “Dawning Realism” Stage or “Gang-Age Stage” and states that it has the following characteristics:

- Starts from 9 years to 12 years.
- There appear to be different interests in drawings done by males and those done by females.
- Boys’ artwork will include sport, space and their heroes.
- Girls’ artwork will have subjects dealing with horses, parties and only-for-girls organisations.
- In both cases vocational roles appear in their artwork.

Generally:

- Their figure drawings have more details such as dress including different patterns.
- There are attempts to show action.
- There is some differentiation in figures to show waist, hair, hips, but still not totally represented.
- Colour also becomes more representational (for example green representing grass).

Kaufman and Wohl (1992:16) call this stage the stage of “Realistic Portrayals” and describe it as follows:

- It begins at the age of about 10 years.
- The ability to represent objects improves, (see figure 22 on page 44).
The drawings reflect additional details compared to the previous stages.
- Two dimensions or even three dimensions will appear.
- The youngsters become more critical about their own work if it does not match their reality perception.

Figure 22: Mortensen (1991:21)
Beginning realism (By a boy, 10 years old)

The summary of the Dawning Realism Stage is as follows:

- The ability to represent objects improves.
- Spatial representation is shown by using overlapping objects.
- There are attempts to show action.
- Different interests are reflected in drawings done by different sexes.
- Children develop self-criticism.
- The results of the work done are now more important than mere enjoyment of motoric movements of fine drawing instruments.
- Children include more details in their drawings than the previous stages.
- There is an increase in emphasis on proportions and less exaggerations and distortions.
Figure 23: Shatil (1995:149)
“A snow man”-Complete figure based on the circle-element. An exercise in integrating and filling up circles in colour.
2.3 FACTORS THAT MAY AFFECT DRAWING DEVELOPMENT

Although drawings of a given group are expected to have some common features, there are factors that may retard the progress of development of the child, hence the quality and/or quantity of a drawing will also be affected. The following are the main factors:

2.3.1 Behaviour and General Illness

Shatil (1995:193) suggests the years around 4½ years to 5 years as the ideal period to identify children with drawing problems, but further warns that it may not be easy to estimate whether a 4½-year-old will close the gap naturally when she or he reaches a point where she or he “leaps” into progression, because psychographic development happens sporadically. In this regard Shatil (1995:193), suggests that a preoccupation with the child for the purpose of close checking will not harm the child, but can improve the situation. Shatil (1995:194-195) then gives three types of illness that can retard the drawing progress of a child, namely:

(i) Low Muscle Tone
This happens when the child has a neurological deficiency cantering on the tone of the muscles and has the following symptoms:
• Clumsiness
• Certain slowness in reactions or in general development and
• Inertia in general motorical functioning and deceleration of speech.

(ii) Hyperactivity and Attention Deficit Disorder
This is a neurological deficiency finding its expression in hyperactivity, constant restlessness, difficult in concentration and focussing of attention.

(iii) General Difficulties of Coordination and Orientation in Space
These children have no specific, recognisable difficulty, and yet they do not perform on the level of their peers.
They have difficulties in perception as well, which leads to the difficulties in activities of copying a shape according to a certain mode. As a result, these children are generally unsuccessful in their attempt to draw a human figure, a house or tree, etc. Anderson and Thomson (1994:9) mention another child illness that may lead to the retardation of drawing progress. Children with severe mental retardation will as a result have difficulties in artistic development, in the following ways:

- They may not go beyond the scribbling stage.
- Some move as far as preschematic stage.
- Some have problems with gross and fine muscle skills.
- They exhibit passivity in many things, hence in drawings as well.

2.3.2 Physical Injuries

Anderson and Thomson (1994:19-20) remark that physical disability in children can be the result of various reasons such as:
- Vehicle accidents.
- Burns and
- Falls caused by neglect or abuse.

As a result of these problems, developmental and task-related problems may arise. These can be:
- A lack of mobility.
- Easily becoming tired.
- More time is required to complete a task.
- A need for frequent rest.

Other problems such as neglect and abuse may lead to a situation in which some situational and physical needs are not met. This in turn may lead to a feeling of lack of confidence and lack of independence. Unlike highly talented children, who advance rapidly throughout various developmental stages, children with mental or
physical disabilities have barriers that impede progression (Herberholz & Hanson 1995:145). For instance, school-age children with disability often encounter problems and frustrations in their everyday life which other children do not experience. Herberholz and Hanson (1995:145) suggest that art activity can help to ease the frustration of the disabled learner, provided that children are encouraged to improve muscular control, perceptual awareness and their sense of personal achievement. Stiles et al (1997:299) also confirm that brain injury can alter and delay the progress of the child’s drawing development.

Stiles et al (1997:299) also stipulate that children with perennial injury to the right hemisphere of the brain region show impairment of spatial integrative functions, similar to that observed among adults with comparable injury. Stiles et al (1997:299) further say that even though these children may show considerable improvement, the improvement is of limited scope and reflects the development of compulsory strategies which are task-specific and allow children to circumvent rather than overcome their spatial disorders. Hence children with right hemisphere brain injury do not employ spatial reorganisation (as is the case in left hemisphere injury) when solving the problem of drawing a house and this shows the limited flexibility of their graphic expression (Stiles et al, 1997:311).

2.2.3 Gender Differences

Different researchers have made various comparisons between drawings done by boys and girls based on the quantitative and qualitative aspects of drawings rather than on developmental stages alone. Mortensen (1991:71-72) has the following to say about quantitative and qualitative differences:

(a) Quantitative differences consist of different rates of progression through developmental stages of the two sexes, and

(b) Qualitative differences are found when specific traits are present only in the drawings of one sex rather than in those of the other, without any connection with development.
Mortensen (1991:72) found the following quantitative differences between drawings of boys and girls of similar ages:

- Drawings of boys surpassed those of girls in nearly all aspects.
- Girls progressed more slowly and none of them reached the fourth stage of development, namely "Drawing Naturalism".
- But only a few of the boys could reach the fourth stage of development, which is characterised by the ability to draw spatial relationships.
- The degree of difference between sexes was found to vary with the theme of the drawing, such as:
  - In drawings of human beings and animals, the difference was found to favour boys.
  - While in flowers there were fewer differences, or the drawings of girls were as good as those of boys.
  - The boys were also more superior in drawings of cars, houses, churches and in depiction of a scene.
  - The area in which girls surpassed boys was in decoration and colouring. Similar observations were also made by Mortensen (1991:72) in which the following were noted:
    - Girls had a better sense of colour than boys.
    - Girls were better in decorations, patterns and details, while
    - Boys surpassed girls in depiction of proportion, humour, originality and perspective.

Mortensen (1991:72-73) found slight difference compared to Burt and Kerschensteiner, when she found that girls were noticeably superior in drawing a man at every age except at 12 years, and attributed this to a large degree, to the standardisation of tests which are used to test sex differences. The qualitative differences which Mortensen (1991:73-74) found characterising the drawings of boys and girls were respectively the following:
**MASCULINE CHARACTERISTICS:**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>BOYS</th>
<th>GIRLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Larger than Trunk</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>Arm length not greater than head length</td>
<td>11</td>
<td>26</td>
</tr>
<tr>
<td>Curly hair</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Legs not more than ¼ trunk length</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>At least head and feet shown in profile and same direction</td>
<td>58</td>
<td>36</td>
</tr>
<tr>
<td>Some characteristics present such as pipe, cane, umbrella, house or scenery.</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>Trousers transparent</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Heel present</td>
<td>53</td>
<td>37</td>
</tr>
<tr>
<td>Figure represented walking or running</td>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>Arms reaching below knee</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Neck shown</td>
<td>25</td>
<td>14</td>
</tr>
</tbody>
</table>

**FEMININE CHARACTERISTICS:**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>BOYS</th>
<th>GIRLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nose represented only by two dots</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>Feet less than 1/20 body length</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Eye showing two or more of the following details:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brow, eyelashes, pupil, iris</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Hair very smooth or neatly parted</td>
<td>13</td>
<td>34</td>
</tr>
<tr>
<td>&quot;Cupid's bow&quot; mouth</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Cheeks shown</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Trousers flaring at base</td>
<td>6</td>
<td>21</td>
</tr>
</tbody>
</table>

The view of girls being more advanced than boys in terms of number of details included in their human figure drawings while recognizing the superiority of boys, was echoed by Cox (1993:92). Cox (1993:92) observed that girls draw taller figures than boys and attributed this to the greater amount of details the girls intended to include in their figures (e.g. decorations), hence they make their drawings to accommodate such details. Chen & Kantner (1996:44) also revealed that when drawing a man:

- Girls were superior on eye details, clothing, transparencies, body contours and hair, while
- Boys were better on proportion of foot, indication of heel, of nose and portrayal
of action of the arms.

- Girls were also superior on most facial features, jewellery, inclusion of necklace and skirt flares.

Chen and Kantner (1996:44) found that girls were six months ahead of boys in differentiation of a trunk from the head and in including the waist and double lines for legs. Girls were first in including cosmetic lips, eyebrows, clothing and figures of clearly identifiable gender, while boys were first to include ears and teeth.

Chen and Kantner (1996:45) revealed that in drawing human figure, boys could include non-detailed eyes, disproportionately larger heads and human in profile, while girls' drawings would include detailed eyes, hands and frontal human figures. According to Chen and Kantner (1996:95) girls are generally thought to have better drawing skills in human figures. Flannery and Watson (1995:115) compared drawings of human figures of different sexes along three variables, namely: realism, aggression and artistic skills, as briefly outlined below:

- Realism
  Boys were found to prefer mostly drawings of monsters, dinosaurs, vehicles and spaceships. Hence their thematic choice appeared to be supernatural and outside everyday life, while girls' preferences in drawings were those of kings, queen, landscapes, domestic sciences, people and animals. Hence their (girls) thematic choices appeared to be more realistic and in line with everyday life experience.

- Aggression
  Boys drew more violent scenes, e.g. weapons, while girls drew more tranquil scenes.

- Expressiveness
  The findings showed that in their drawings girls were found to be more preoccupied with their emotions than boys. Chen and Kantner (1996:45) compared sex differences in terms of form and shapes in drawings and found that:
  - Girls preferred to use curvilinear lines and would include round shapes in drawings of human figures, whereas
• boys would include angular shapes.

In terms of choice of colours, Chen and Kantner (1996:45) found that girls preferred bright colours whereas boys preferred sombre (gloomy or dark) colours.

2.3.4 Cultural Factors

Children across cultures express themselves in a variety of ways, one of which is drawing, but studies involving the observation of development in children’s drawings seldom refer to culture (Brown 1992:15). This may indicate that very little research has been done on cultural factors. However in research conducted by Readdick (1994:73) on the relationship of drawing and early home manipulation, it was found that children who frequently made drawings, coloured and pasted them while still at home, drew drawings of higher quality, with different tools, than those who did not have an opportunity at home. Hence the environment can influence the quality of a child’s drawing to a certain extent. A related research conducted by Payne (1996:577) indicated that the analysis of children’s drawings of human figure of a family can provide information about general cultural values.

Brown (1992:18) conducted research in which a comparison was done between eight-year-old Australian children with European background and eight-year-old children with Asian background. The research showed that there was a statistically significant difference between the drawing scores of Australians (with European background) and those of the Asian (Vietnamese) ethnic group. This was reflected as follows:

• The mean score of the Asian group was higher than that of the Australian group which could appear to indicate that those children had a drawing ability superior to that in the Australian group.

• The Asian group scored higher on all domains, namely shape, details, balance, dominance, symmetry, transparency and proportion.

Brown (1992:18) says that these children were coming from similar socio-economic backgrounds with similar ages, the differences could be attributed to cultural or
ethical background. Cox (1993:102) conducted research on cultural factors, using 6 to 11-year-old American and Indian children in six different tribes and found that Indian children had a higher score than white children. It was noted that in these Indian groups art had a higher status among the adults, hence Indian children practised drawings more often than white children. In their discussion of “drawbacks of drawings”, Haney, Russell, Gulek and Fierros (1998:40) warn that drawings can be influenced by peoples’ stereotypes. Cox (1993:102) also conducted research which showed that, whereas profile figures do not appear in Western children’s standard drawings of human figures until about the age of nine years, they are generally regarded as in an advanced form. Cox (1993:102) also found that graphic art in modern China is held in high esteem and children are given formal tuition in calligraphy (fine and pleasing handwriting), drawing and painting as early as the beginning of kindergarten.

A study conducted by Amenomori, Kono, Fournier and Winer (1997:738) using American and Japanese children also revealed that:

- Japanese children showed an increase in torque (ability to draw circular objects) with age, whereas
- American children showed non-torque drawings and a tendency to move away from torque between the late elementary school years and adulthood and this was attributed to the differences in education and practice that the children had had in writing (Amenomori et al 1997:738).

Chen and Kantner (1996:45) distinguish between the following components of gender, before they talk about cultural factors, which are:

(a) A person’s sex which is biological, and
(b) A person’s role which is cultural.

It is then against this background that Chen and Kantner (1996:45) mention some of the cultural stereotypes that may be regarded as sexist. Hence children’s drawings will reflect some sex roles in accordance with their cultural background, namely

- Goal orientation in boys, and
- Role orientation in girls.
2.3.5 Exceptional Children

Some children are more interested in drawings and draw more often than others and some are more talented than others. This view is held among others by Cox (1992:180) who attributes these differences to a number of factors. These differences include inborn aptitude, personality and encouragement from family, school and church. Cox (1992:180) also warns that a child who performs outstandingly in drawings at an early age is not necessarily destined to become an artist. Cox (1992:180-183) gives the following description of talented and exceptional children:

- Exceptional children are talented children who can be recognised from the ages of 5 to 11 years old.
- They are usually (but not always) above average and many are of very high intellectual ability.
- They probably go through an early schematic phase of drawings like all children, but their development is accelerated.
- They show willingness in drawing new topics.
- They are interested in adult topics.
- They have a richer store of schema as well as more curiosity about how objects actually look.
- Their pictures show more details and a greater flexibility in depicting the various postures and movements of figures.
- They usually use multiple ground lines when other children use one.
- They are interested in the challenges of depicting groups of figures, while other children may take this as a problem and reduce the number of objects in the picture.
- They have a very good visual memory.

Cox (1992:183) allowed 6 to 15-year-olds to observe a ceramic polar bear for about three minutes. It was slowly rotated in front of them and then the model was taken away from them. When they were asked to reproduce a drawing of the model the following was observed:
• It was found that, over a time the average children had lost their visual memory of the bear.

• In contrast, most of the talented children reproduced not only the picture of the bear, but were also able to reproduce details such as texture, turn of the head and slight curve of the body.

In their research, Barnet and Henderson (1992:341) made some observations on the drawings of clumsy children and found that some children had exceptional difficulties with tasks requiring motor coordination. These children were not suffering from a generalised developmental delay, they had no physical deformities. Their difficulty could not be explained on the basis of any identifiable neurological disease (Barnett & Henderson 1992:341). Some of the children had educational or behavioural problems. Barnett and Henderson (1992:351) cited different options which led to difficult delimitations of the term clumsiness. For example, clumsiness might be equated to motor delay, which simply implies a temporary condition that will disappear over time. Barnett and Henderson (1992:351) equate clumsiness with developmental agnosia and apraxia, which is a condition that mirrors one that occurs in adults with known and irreversible brain damage.

2.4 DRAWINGS THAT SHOW DEVIATIONS

2.4.1 Deviations that May be Intentional

It is important to note that some young children may deviate from the normal and expected drawings for their ages, not because they have developmental problems, but because they have certain intentions about their drawings. For instance, a child may omit certain parts of a drawing because she or he:

• has seen no importance in it or

• has just forgotten it.

Grobler, Faber, Orr, Calitz and Van Staden (1996:84) suggest that an adult must be able to predict what a child is capable of doing at a given stage so that she or he can (i.e. the adult) see when the child’s drawings are deviating.
Krascum, Tregenza and Whitehead (1996:446) in their research on hidden feature inclusion in children's drawings, found that a child might omit a certain part of a figure because of the position in which she or he is sitting when drawing an object. For instance a child may omit the handle of a mug if she or he is sitting on a side where she or he cannot see the handle. It is also important to note that different people attach different levels of importance to different parts of a human body. For instance, a child may attach more importance to the mouth, eyes, hands and feet because of their value to her, whereas these parts may feature more prominently in her drawing than other parts.

Mortensen (1991:267) notes that people vary in the attention they give to the body and to the surroundings with regard to the specific meanings attached to various body parts and this may lead to the omission of certain body parts. In some cases, a child's drawing may look like it is deviating from the normal expected drawing of his or her age, but this is not necessarily due to his or her developmental problems, but may be because she or he was trying to depict certain aspects, e.g. a movement. Cox (1992:85-87), Cox (1993:65-66) and Golomb (1992:71-75) suggest the following important aspects concerning the depiction of drawings in action: That a child's drawing may:

- Spread legs to indicate walking or running e.g. figures 24 and 25(a) and (b) on pages 57 and 58 respectively.
- Depict her parents bigger than other people, e.g. figure 37 on page 80.
- Depict a bigger head in order to accommodate other facial features, e.g. ears.
- Depict big or long hands to indicate that the child wants to pick up something, e.g. a ball (see figure 26(a)-(e) on page 59).
- Depict a big head to symbolise that the head is the most prominent part in a person and
- Use dotted lines or more lines to indicate a movement.

Cox (1993:86) further says that a child may draw big parts due to:
In a nutshell, drawings must always be used with other available data as a supportive component of an assessment. In view of the results of their research in size, detail and line heaviness in children's drawings as correlates of emotional distress, Joiner, Schmidt and Barnett (1996:138-139) warn that these indices may be useful in rapport building, but are not always a useful measurement. Deregowski and Dziurawiec (1996:421-422) add that the surface on which the child draws can affect the child's drawing quality. They compare a child's drawing with that of a draughtsman who needs to dismiss the effects of the gradient in order to draw an "untenanted" outline.

Figures 24: Cox (1992:64)
Children becoming increasingly able to modify their figures in order to show them walking.
Children becoming increasingly able to modify their figures in order to show them running.

Figure 25 (a) and (b): Cox & Ralph (1996:252-253).
2.4.2 Deviations that Imply Problems or Certain Personalities

As indicated in section 1.3.1, drawings play a significant role in assessing children's personality, emotional and developmental problems. Even though drawings are so important, they may not be used alone. They should be used with other scientifically gathered information. Fuller, Vance and Awadh (1997:882) emphasise that drawings should be administered as part of a "comprehensive battery of tests". According to Johnson and Carlis (1996:55) it has also been revealed that drawings can be used to reveal learning disabilities. Winston, Kenyon, Stewardson and Lepine (1995:120) also confirm the necessity of drawings in diagnosis situations, saying that children are capable of expressing their emotional world through drawings.
In the following guidelines, the implications of the position of a drawing in a page are going to be discussed. According to Albertyn (1996:53) a page on which the child draws is divided into four equal parts called quadrants. Each quadrant has a specific meaning which is explained below, based on the following writers: Albertyn (1996: 53-56), Gillespie (1994:92-113), Kaufman and Wohl (1992:18-19) and Cox (1993: 77-78 ). In the following explanation of this particular section, only the position of a drawing in a page is considered. Other factors (e.g. the proportion of a drawing in a page) are taken as normal.

2.4.3 Implications of the Position of a Drawing on a Page

(a) When a drawing is more or less equidistant from all margins of a page, usually it indicates that a person:
- Wants to be in the centre of attention or tends to have a well balanced personality,
  or
- Has indications of inflexibility, or
- Wants things to be done in a prescribed manner (analytical), or
- Is normal and reasonably secure, or
- Is self-directed and self-centred.

(b) A drawing placed in the top half of the page may be an indication of a person:
- Who strives for a high level of achievement
- With high degree of fantasy and optimism.

(c) A figure placed in the bottom half of a page may suggest
- A feeling of personal inadequacy
- Insecurity or depression
- A confinement to immediate life and
- A curtailed imagination.

(d) A figure drawn in the upper left section of a page may indicate the following:
• A possibility that the drawer could be successful in fine art or music.
• An escape from passivity to self-expression.

(e) If a figure is drawn on the upper right of a page, it may be a sign of:
• Ambition (especially in business) or that
• The life of the drawer was influenced by a male person of the family (e.g. father).

2.4.4 Overall Size of the Drawing (in proportion to the page)

Apart from the relation between the drawing and its position on a page, the size of the drawing in relation to the page on which it is drawn is also equally important in the assessment of children's drawings. In their research, Bertrand and Mervis (1997:46-47) found the following relationship between spatial ability and the mental age of children in the drawings:

That children with a mental disability, e.g. Williams Syndrome or emotional problems, found it difficult to recognise or copy figures they were given because of their diminutive sizes. Leevers and Harris (1998:409-410) called these disproportional and diminutive figures "Impossible Pictures" because of their sizes.

Nicholls (1995:322) also conducted research on young children's depiction of object proportion using two groups of children, one with 5 and 6 year-olds and another with 7 and 8 year-olds and compared the results. The findings revealed that even children younger than 8 years can reflect a certain proportion in their drawings. Albertyn (1996:49) also emphasised the need to consider the proportion of the drawing in relation to a page when diagnosis is done and cited the following guidelines:
If a drawing is out of proportion, either too small or too big, try to find out what the reason is for this disproportionality. Also, according to Kaufman and Wohl (1992:19&93), an average human figure drawn on a page measuring 8.5 inches (21.6cm) by 11 inches (27.9cm), (that is approximately an A4 page) drawn by a child of at least 5 years is generally 9 inches (22.9cm) in length. If the figure is larger than 9 inches (22.9cm) or less than 2 inches (5.1cm) this may indicate signs of a problem related to immaturity which Kaufman and Wohl (1992:19) call "infantile grandiosity".

In the following paragraphs, the implications of the size of a drawing in relation to the page on which it is drawn are discussed. This discussion is based on writers such as Albertyn (1994:49-50), Cox (1993:86-87), Kaufman and Wohl (1992:19), Jones (1992:73-88) and DiLeo (1983:86-87). The following are the characteristics of "Disproportionate Figures":

(i) Small Figures

- Insecure children tend to draw tiny drawings.
- Shy children tend to draw more tiny figures.
- Children with low self-concept (self-esteem) tend to draw smaller drawings as well.
- Drawers usually reduce significantly the size of a threatening object, e.g. a witch.
- A tiny drawing is also an indication of a strong feeling of inadequacy, inferiority and weak ego. An individual is unable to defend herself or himself against these feelings as they break through into her or his consciousness, thus creating anxiety and depression (Kaufman & Wohl 1992:19).

(ii) Big Figures

- Secure children tend to draw big figures.
- Disproportionately big figures may also indicate infantile compensatory defence which are used to camouflage deeper feelings of powerlessness and infectiveness.
• They may also indicate aggressive and bullying behaviour.

2.4.5 Exaggeration of Certain Body Parts

This section provides some guidelines on certain implications of specifically exaggerated body parts of a drawing. These guidelines are based on the work of the following writers: Cox (1993:79, 82 & 87), Golomb (1992:156) and Kaufman and Wohl (1992:16-19, 96 & 121):

(i) Exaggerated parts

• May imply aggression or extroversion
• May occur because of immaturity.
• A head can be made big in order to accommodate other parts e.g. ears.
• May imply a learning difficulty.

(ii) Big hands or feet

• Could be made big because the child is preoccupied with the functions of hands or feet.
• May be made big as an indication of the parent's power and his or her ability to inflict physical punishment (see figure 27 on page 64).
• The child may draw a big hand or foot if she or he wants to show someone taking or kicking something, e.g., a ball (see figure 26 on page 59).
By a girl 4 years old. The exaggerated size of the right arm and the two feet indicates Jessica's concern with her mother's power and her ability to inflict physical punishment.

(iii) Exaggeration of ears may indicate a/an

- Distrustful individual
- Suspicious person or
- Over sensitivity to social opinion and criticism.

(iv) Excessive colouring of hair may suggest

- Perfection or
- Aggression.

(v) Excessively large genitals may suggest

- Sexual problems.
(vi) Large and exposed teeth may suggest

- Aggressive mood or
- A possibility of a sadistic experience.

(vii) Manly clothing (over emphasis of man's clothes) may indicate

- A father replacement drive or
- An accent on social appearances (that is, to emerge on top of others in social gatherings).

2.4.6 Omission of Certain Human Body Parts

Omitting certain salient body parts (like hands) can be an indication of a psychological problem in a child. As Karp (1997:276) puts it, omission of significant body parts could signify a sense of loss of physical integrity or denial of physical trauma. Having all these facts, it is also important to keep in mind the warning given by Cox (1993:81-82) that it is important to check and see whether the normal developmental trends are in order, in order to avoid erroneous assumptions that the omission of a certain body part reflects emotional problems.

This section is therefore devoted to the possible implications of omissions of some significant body parts by a drawer. The following discussion is based on the work of Gillespie (1994:121-122), Kaufman and Wohl (1992:32&92), Jones (1992:62-68) and Cox (1992:77-82):

(i) Omission of mouth, eyes or chin may indicate

- Timidity
- Introversion
- Avoidance
(iii) Omission of arms or hands (see figure 28 below), usually indicate

- Timidity
- Passivity
- Intellectual immaturity, and/or
- Expression of the child's guilt feeling, and/or
- Sexual abuse (especially omission of arms).

Figure 28: Cox (1992:80).

It has been claimed that the omission of arms,
from this figure, by a boy aged 6 years 10 months,
is an indication of his timidity.

2.4.7 **Drawings in Perspective**

Figures in young children's drawings have common characteristics, for example, they face the viewer with legs apart and arms held away from the torso. This arrangement is called canonical orientation of the figure (Cox 1993:56). This feature is the one which in most cases clearly displays all the salient and defining features (e.g. facial features) of a person. It is also important to note that even though we can claim that a figure is canonically oriented, not all the parts are drawn from one particular viewpoint (Cox 1993:57). For example, it is common to find the feet turned to the sides pointing to the opposite direction.
Apart from the frontal (canonical) view, a figure may be drawn to show its back view or side view. Both back and side views are less common compared to a canonical view, with the former (back view) being the least common of all. When a figure is drawn to show the side view, that figure is said to be in profile. Even though both profile and canonical views are possible for children, a child may prefer either one of the two for various reasons which may imply personal choice rather than any other implications. Gillespie (1994:100-113) and Cox (1993:56-58) give the following possible implications of drawings in perspective:

(i) Canonical figures (see figure 29(a) below) may indicate
   • Extroversion or
   • A social person
(ii) An absolute profile indicates
   • Introversion
   • Inhibitions, or
   • The drawer does not want to show himself or herself to other people (see figures 29(a) and (b) below).

![Figure 29(a) & (b): Golomb (1992:67 ).](image)

Figures that combine frontal and side views with head in profile and a frontal body.
2.4.8 Drawings that Reflect Conflicts

In recent research conducted by Lazarus (1999:18-21), children were asked to produce pictures which showed their world. The results produced a chilling collection of disturbing drawings of rape, murder, guns, dead bodies and blood (see figure 30 on page 69). Based on these results, which are also supported by other research findings such as those of Vanderank and Mostardi (1997:1354), Kaufman and Wohl (1992:21), Gillespie (1994:12), Bertoia (1993:73-78) DiLeo (1983:7-26) and Albertyn (1996:5052), drawings may be used as part of a diagnosis to assess the underlying causes of conflict in a child's personality. The following are the indicators of conflict:

(i) Excessive shading can be an indication of:
   • anxiety or agitation or
   • fixation or preoccupation with the shaded part.
   In this regard, Albertyn (1996:50) warns that "one should not confuse abnormal shading with shading used for artistic intent".

(ii) Continuous rubbing and ruler-drawn lines may indicate
   • obsessive-compulsive approach, or
   • perfectionism, or
   • anxiety.
   Underlined human-figure-drawings may indicate that the drawer has an unstable relationship with the underlined figure (Albertyn 1996:51).

(iii) Extensive colouring may indicate
   • anxiety
   • Hiding of problems the drawer has experienced or is experiencing.

(iv) Faint lines (or sketching lines) may indicate
   • shyness or extreme self-awareness, or
   • uncertainty, or
• insecurity, or
• depression.

(v) Broken lines may indicate
• insecurity, or (see figure 30 below)
• ego disintegration.

Figure 30: Lazarus (1999:19)
2.4.9 Drawings that are Related to Sexual Problems

With the current high rate of reported child abuse (including sexual abuse), an understanding of the use of children's drawings as part of an assessment of causes of their problems is extremely important. This is because statistics have shown that children are abused sexually at all levels, and where they have no vocabulary to tell other people about their abuse, drawings are an indispensable means for children to reveal the hidden stories. Current literature also substantiates the use and viability of drawings with sexually abused youngsters. As Karp (1997:267) puts it; "drawings often convey a subtlety of feelings that exceeds client's verbal ability and occasionally facilitate the discussion of taboo subjects".

In addition to Karp's research findings, Kaufman & Wohl (1992:32) adds that drawings are an excellent tool through which children are able to communicate their feelings and problems because:

- Children do not possess an adult vocabulary to report their hidden stories.
- Even older children may keep the abuse as a secret, fearing possible financial or social or familial disintegration as a result of exposing the secret.
- Even if they tell the story, there is often a need of objective evidence since the children's statements are generally viewed with suspicion.

This section therefore identifies certain unique aspects of drawings of human figure which are created by many molested youngsters. These sexual symbols are based on Kaufman and Wohl (1992:32), Karp (1997:270-271), Gillespie (1994:108) and Albertyn (1996:52).

One or more of the following sexual symbols can indicate sexual abuse of the drawer.
- A figure sketched with a broken line.
- Shaded genitals and chest (see figure 31 on page 71).
• Clown figures.
• Omission of arms.
• Mouth emphasis (big mouth).
• Colouring of sexual parts.
• Large genitals, and
• Nakedness or transparency (see figure 31 below and figure 32 on page 72).

In addition to the abovementioned possible symbols, Kaufman and Wohl (1992:32) identified the following indices of sexual molestation, that are indications of possible sexual abuse, if one of them is present in a child’s drawing:

• A red house
• Only one window in a house.
• A phallic tree (penis-like-tree).
• A phallic chimney.
• A colour in a face.
• An enclosed person.
• Violent content, and
• The absence of colour when a variety of colours are offered.

Figure 31: Mortensen (1991:126). Drawing with genitals (By a boy, 11 years old).
Albertyn (1996:52) gives the following advice concerning the use of drawing symbols:

- Symbols should not be taken as indicators that need to be followed up by the analyst.
- They are merely hints and their presence need not necessarily be seen as absolute correctness.
- A symbol needs to be seen in the context of its position in the drawing, its colour and whether it is out of place or not.

It is advisable to view symbols against the actual situation of the person who made the drawing, as well as the condition of his or her body and mind at the time of drawing. This means that one should compare the image with the actual situation. More than one indicator or symbol is needed before a valid conclusion can be reached. It is important to ensure that when drawing conclusions, the translation of a symbol makes sense when compared to the life and health situation of the child.
2.4.10 Conclusion

The aim of this section was to expose the reader to as many hidden implications of children’s human figure drawings as possible. It is also important to note that there are so many types of drawings, each with its own implications. This chapter may not necessarily cover all kinds of drawings with all their implications. It can, however, help to raise the awareness of the reader about the hidden meaning of children’s drawings of the human figure.

It is also hoped that it has helped the reader to understand that drawings cannot be used in isolation to arrive at certain conclusions about the nature of the behaviour of an individual, but can be an important component of the assessment battery.

2.5 INTERPRETATION OF THE KINETIC FAMILY DRAWINGS (K.F.D.)

2.5.1 Introduction

In addition to the individual human figure drawings as one of the assessment tools, drawings can also be used to assess the child’s feelings not only for an individual member of the family, but also for the family as a whole. Current literature substantiates the use of family drawings in assessment. For example, Fury, Carlson and Srute (1997:1162) in their research results found supportive evidence for the use of family drawings in assessing the family relationship and attachment bonds among the family members (see figure 33 on page 75). They add that family drawings in particular may be more effective in assessing the more subjective, personal and possible unconscious aspects of representational models of the self. This view is supported by Homes (1995:26) who remarks that one of the advantages of artwork is that of providing a medium through which a child can convey her or his knowledge or feelings about a topic that might be difficult for her or him to articulate. This section therefore focuses on the interpretation of K.F.D.
Before we turn to the guidelines and interpretation of kinetic family drawings, it is of utmost importance to remind the reader that like any other drawings, children's kinetic family drawings can pose a technical problem to a child and even to an adult. According to Golomb (1992:275-276) this can be due to the following factors:

- Most adults as well as children lack the expertise necessary to portray action. And this problem needs to be considered and addressed before coming to valid conclusions about kinetic family drawing.
- A figure drawn by a child is not a "constant", therefore it can vary considerably depending on the nature of the task and the situation in which the child finds herself or himself at the time of drawing the figure.

2.5.2 Guidelines for Drawing the K.F.D.

Golomb (1992:274) and Gillespie (1994:61) provide the following instructions as a procedure for drawing K.F.D. drawings:

(i) A sheet of A4 paper is placed on the table directly in front of the child and then say:
(ii) Draw a picture of everyone in your family doing something (including yourself).
(iii) You are expected to draw all your family members and try to make drawings that look like people, not cartoons or stick people.
(iv) Remember to make everyone doing something, that is, some kind of action.
(v) The teacher/instructor then leaves the room and checks periodically.
(vi) No time limit, the situation is terminated when the child indicates verbally or by gestures that she or he has finished.
(vii) If the child says "I cannot", she or he is encouraged periodically and left in the room until the completion of the K.F.D.
2.5.3 General Interpretation of K.F.D.

Kaufman and Wohl (1992:108-126), Brakarsh (1992:87-88) and Davido (1994:86) provide the following aspects that should be considered before interpreting kinetic family drawings (see figure 35 on page 77):

(a) Family cohesiveness (family bonds).

This entails the following questions:
- Who is there or not there?
- Who is drawn first or last?
- Who is next to whom?
- Who is isolated? and
- Who is doing what with whom?

(b) Sibling rivalry
- Exclusions of one or more siblings and/or
- facelessness of one or more sibling.
(c) Visual vitality
This entails the following:
• Father visually prominent or little detailed.
• Mother visually prominent or little detailed.
• Drawer visually prominent or little detailed.

(d) Mood of the family members
This entails whether the following appear or not in the family figures.
• Look violent or calm.
• Powerless or energetic.
• Look unstable or stable.

Figure 34: Spigelman, Spigelman and Englesson (1992:45).
Maria age 12, has been separated from her father for 4 years and has never met him during this period. Note that this drawing represents the wishful thinking of the girl who does not even know where her father is living.
2.5.4 Some Characteristics of the K.F.D

DiLeo (1983:94-103), Kaufman and Wohl (in Golomb 1992:274-275) and Fury et al (1997:1157) provide some of the characteristics of the K.F.D. and their possible meanings. These are divided into categories A and B. Category A consists of the styles while category B is composed of actions.

2.5.4.1 Category A: Styles

(i) Compartmentalisation
• This is a kind of social isolation whereby a child attempts to isolate him or herself and his or her feelings from the family grouping.

(ii) Underlining
• Drawing a line across the bottom of the page is the characteristic of a child who comes from an unstable or insecure family. The child has unstable relations with the underlined person. The absence of this line implies a stable family.
• A line at the top of the family drawing indicates an acute anxiety.

(iii) Edging (forming boundaries).
• This depicts a defensive child who stays on the periphery of the issue.

Figure 35: Brakarsh (1992:94). A drawing by child from stressful family. Figures appear faceless.
2.5.4.2 Category B: Actions

(i) Mothers

• **Cooking:** This is the most frequent action of the mother in a K.F.D. and it reflects a mother figure who meets the child's needs.

• **Cleaning:** This action is found in compulsive mothers who are more preoccupied with the house than with people in the house. Cleaning is equated to acceptable or good behaviour.

• **Ironing:** Usually found in overly involved mother trying too hard to be her child's "warmth".

(ii) Fathers

• **Household Activities:** Reading the paper, paying the bills or playing with the kids are the frequent activities of normal dads.

• **Driving to or at work:** Usually found in fathers who are thought of in terms of abandonment or being outside the family rather than an integral part of it.

• **Cutting:** Activities such as mowing a lawn, chopping, cutting etc. are seen where the father is tough or castrating, i.e. when the child has a fear of being castrated by the father, i.e. a castration anxiety.

(iii) Rivalry

• Is usually depicted as a force or an action between members of the family. This can be depicted by throwing a ball, a knife, an aeroplane, etc. This is often seen in highly competitive or jealous children.

• Is also depicted when a child fails to draw an arm and legs when picturing his brother or sister.
Per, age 11, has been separated from his biological father for six years and meets him once or twice a year. Note the closeness between the mother, Per and the stepfather. His young stepbrother is drawn on a plane beneath this group and the biological father is drawn even further away from the family.

(iv) **Dominance in the Family**

- Is revealed by the way the child draws figures, e.g. making a parent taller, larger or more impressive looking than anybody else who is present.
- Also how the child thinks about the present stepfather and the absent biological father (see figures 34 on page 76 and figure 36 above).
Sven, age 11, has been separated from his biological father for 7 years and meets him once or twice a year. Note the larger-than-life father figure. All figures have a negative expression. The self figure is disproportionately smaller than the brother and was drawn last.
2.5.5 Conclusion

This section on kinetic family drawing was intended to help and encourage teachers to take note of drawings drawn by their children at home and at school when playing. The guidelines in this section were made in such a way that it should be easy for teachers to follow them. The writer is also aware of the fact that teachers may not necessarily have been exposed to basic training on the interpretation of children’s drawings of human figure, therefore the paragraphs were clearly numbered and demarcated. The awareness of teachers with regard to the usefulness of children’s drawings can play a very important role in the formation of a working partnership between them (teachers) and professional helpers such as psychologists, nurses, social workers, etc. It is therefore believed that the work compiled in this section and other previous sections can help to open up this vital link and togetherness between teachers and professional helpers.

2.6 SUMMARY

In this chapter, developmental stages in children’s drawings were discussed and it was revealed that they follow a specific order for a normally developing child. It was also shown that drawings of a certain stage are more or less similar in terms of quantity and quality and are as follows:

- The scribbling stage (1 ½–4 years)
- The preschematic stage (4–7 years),
- The preschematic stage (4–7 years)
- The schematic stage (7–9 years) and
- The dawning realism stage (9–12 years).

It is important to note that there can be more than four stages of development (e.g. pseudo-naturalistic 12–14 and artistic decision stages 14–17), but in this work only the first four were studied. The distribution of periods in years is not cut and fixed as it is demarcated, but demarcation is made for an easier understanding of this work.
This means that stages may overlap or start a bit earlier or little later than mentioned. Focus was also placed on children's drawings that deviate from normal development and these deviations mostly indicate one problem or another to a child. Some of these deviations include:

- Placement of a drawing on a page.
- Exaggeration of certain parts in a drawing.
- Omission of certain parts in a drawing etc.

Kinetic family drawings and some implications that may be reflected on it were discussed. It was also emphasised that human figure drawings in generally do not always give all the answers about child's problems. They need to be interpreted with care and mostly be used as a supplement to other scientifically gathered information. Whereas this chapter focused on the interpretation of children's drawings with regard to their normal development, deviations from normal development and the implications thereof, the following chapter focuses on the reliability of children's drawings as a projective tool.
CHAPTER 3

THE RELIABILITY OF CHILDREN’S DRAWINGS AS A PROJECTIVE TOOL

3.1 INTRODUCTION

While chapter two focused on the formal interpretation of children’s drawings, this chapter intends to discuss the reliability of children’s drawings as a projective tool and reference is made to the past and recent research with regard to theoretical approaches and uses. According to Furth (1988:1), human figure drawings have been used to evaluate the emotional and the intellectual status of children and adolescents since the late 1800s, and many current theories of art have evolved largely from the work of Carl Jung, who emphasised the importance of symbols which are capable of revealing the unconsciousness. Through drawings we come closer to the use of symbols as a healing agent. Wesson and Salmon (2001:301) state that it is often critical to obtain young children’s accounts of emotionally laden events that they have experienced either recently or in the past. Drawings can be helpful in this regard. Therefore recognition of the value of obtaining children’s accounts of their experiences has shifted from earlier conceptions of childhood problems in which the child’s perception was subjugated to behavioural observation and parental reports.

Wesson and Salmon (2001:301) add that there is evidence that parents are not necessarily reliable reporters of their children’s experience. For instance, parents may have difficulty in accurately identifying the kinds of events that elicit emotions in their children especially when parents were the cause of that anger and emotions, such as cases where children have witnessed spousal violence or are the victims of other maltreatment. Wesson and Salmon (2001:301-302) conducted a research in this regard in which they wanted to examine the effectiveness of drawings as means of facilitating children’s verbal reports about emotionally laden events. They used sixty children aged 5 to 8 years. These children were first interviewed about times they had felt happy, sad and scared and then were asked to draw. In their results, drawings elicited a greater number of items of descriptive information than did the verbal interview.
3.2 HISTORICAL BACKGROUND TO THE USES OF CHILDREN’S DRAWINGS

3.2.1 Developmental Approaches

According to Mitchell and Webber (1996:304) drawings have been used for decades as markers and mirrors of personal identity and picture-drawing is still considered as the key to understanding a client’s thoughts and feelings. The first important work on children’s drawings appeared in 1887, with the publication of a tiny volume “L’Arte Dei Bambini” by C Ricci, in Bologna (Albertyn 1996:29). Since then interest in this subject developed throughout the Western World. According to Thomas and Silk (1990:27-33), several distinct periods in the history of research into children’s drawings could be distinguished and each period is associated with a particular theoretical approach such as developmental approach, clinical-projective approach, artistic approach and the process approach. In this section the developmental approach is discussed.

Thomas and Silk (1990:27-28) provide the following historical background. From about 1885 to 1920s there was widespread interest in establishing a classification of children’s art in assessment. A large number of drawings were collected, inspected and classified, often in relation to the gender or cultural background of the drawer. The most important achievement of these early studies, however, was that they provided a basis for the classification of children’s drawings into developmental sequences. The principle underlying this approach was that a child’s drawing is directly expressive of his or her concept of the topic concerned. That is, drawings were based on an internal mental model. The investigators such as Kerschensteiner (1905), Rouma (1930) and Luquet (1927), in particular, made important contributions towards the identification of such sequences in children’s drawings by studying thousands of school children’s drawings.

Briccetti (1994:501) also made an extensive review of DAP and came to conclusion that:
• D-A-P technique can be used both as measure of cognitive development and as an indicator of emotional adjustment.

• Global or overall ratings of human figure drawings relate significantly to the levels of adjustment and maladjustment, and

• The number of emotional indicators present in a drawing differentiates more effectively from normal and abnormal subjects.

3.2.2 Clinical-Projective Approaches

According to Thomas and Silk (1990:29), the clinical projective approach emerged in 1940 and was based on the assumption that children project their emotions and motives into their drawings. Therefore the personality of a person could be examined by the use of drawings. Then children's drawings were used to assess personality and psychological adjustment in clinical psychology and psychotherapy.

3.2.3 Artistic Approaches

Thomas and Silk (1990:30) state that from the end of the nineteenth century some teachers began to believe that artistic expression could play a critical role in children's development and education. Researchers such as Lowenfeld (1938), Arnheim (1956), Kellogg (1970) and Goodnow (1977) were the strong users of this approach. They believed that individual self-expression in art is essential for healthy emotional and personal development. These artistic expressive traditions were seen and used as educational applications of the clinical notion that children would project their emotional, perceptual and intellectual expressions into their drawings. Arnheim's theory of art is notable because it provides one of the most comprehensive theoretical accounts of children's drawings incorporating perceptual, emotional-expressive and cognitive-development considerations within a unifying framework (Thomas & Silk 1990:30).
3.2.4 The Process Approach

The process approach was developed by Freeman in 1980 (Thomas & Silk 1990:31). This approach is critical of the other approaches because they neglect the possible role of the process of constructing a drawing in determining the final structure of the picture. In other words, this approach shifts from viewing a drawing as a "print-out" of mental contents. The process approach takes into account the crucial role which is played by procedures that are used to produce a drawing (Thomas & Silk 1990:32). This means that when interpreting a drawing the process approach analyses both the construction process and the final structure of a drawing.

3.3 GENERAL USES OF CHILDREN'S DRAWINGS

- According to Karp (1997:267), drawings are used as means of communication because our environment has little or no effect on them and
- They are used in therapy because they are less threatening. This means that a child can express his or her feelings through a drawing without feeling the presence of the therapist as the case may be when she or he expresses herself or himself verbally.
- According to Cox (1992:84) drawings are also used in diagnosis because they seem to be a direct reflection of the child's state of mind. A diagnostic comparison between the left and right-hemisphere-impaired children in recalling words and drawings which was conducted by Carlsson (1997:265) also confirms that drawings are useful in diagnosis.
- Recent studies made by Abell, Van Briesen and Watz (1996:69) have suggested that human figure drawings can serve as a more effective measure of cognitive ability for individuals with lower levels of intelligence.
- According to Pianta, Langmaid and Ferguson (1999:244), human figure drawings are a means of gathering self-reported data from children and their results are not subjected to the limitations of the questionnaire and interviews.
- Rudemberg, Jansen and Frijol (1998:107) say that drawings are particularly useful for assessing children, who have been found to express their ideas about
the world around them through art work.

- Children’s drawings are also used to assess the relationship among family members. For instance, by drawing family members, a child can reflect his or her feelings about the relationship with a single member or some members of the family. This has been confirmed by Fury, Carlson and Sroufe (1997:1162) when saying that family drawings can be specifically effective in assessing the more subjective and possible unconscious aspects of representational models of self in relationship with the family.

Dykens (1996:1) sums up the uses of children’s human figure drawings, particularly Draw-A-Person, by saying that drawings are used in routine educational and psychological assessment of children and adults with various learning, behavioural and developmental problems. Drawings can also be used to investigate giftedness of a child. In this regard Porath (1997:216-217) after conducting experiments on a number of aspects such as picture, structure and working memory, graphic competence (on drawings of human figure) and novel use of central spatial structures provides useful information in saying that the results showed that gifted children produced more detailed human figure drawings than those produced by average children.

3.4 RECENT RESEARCH ON DRAWINGS AS AN IDENTIFICATION TOOL FOR CHILDREN’S PROBLEMS BY TEACHERS

3.4.1 Introduction

Research has shown that learning institutions such as day care centres, pre-schools as well as primary schools include art work in their curricula in order to meet various needs of their learners in the classroom situation. For instance art work, particularly drawings, are useful in the identification of gifted children as has been discussed in section 3.3. Koplewicz and Goodman (1999:12) provide the following information about children’s art (particularly drawings), namely that children leave their mark on the world in any number of ways and by these marks they realise that feelings and
thoughts can be communicated to the outside world. According to Koplewicz and Goodman (1999:12) art created by children provides a window into their world an each child’s life is entwined with and encompassed by a particular problem. Thus art (e.g. drawings) has boldly and candidly given us access to what is usually kept private. Edwards (1997:vii) also adds that art work is our universal language of imagination and particularly for a first grader who uses her or his imagination to go places she or he has never been to and to those far away places that bring adventures beyond her or his daily routine. The aim of this section therefore is to investigate the possibilities of using children’s drawings by teachers in the classroom. That is, to investigate whether there had been any research that has been conducted with the aim of enabling teachers to use children’s drawings in identifying the root causes of their problems.

3.4.2 The Role of the Teacher in Using Drawings in the Identification of Children’s Problems

Are the teachers capable of identifying children’s problems by means of drawings? There can be little doubt that many children are the victims of maltreatment almost everyday either in their homes or school setting. This maltreatment often results in emotional, behavioural or learning problems. With all these problems, teachers are the people who spend a considerable amount of time with these children as learners. They have to use all possible means at their disposal to identify any causes of the problems to these children because they affect their progress in learning. Riordan and Verdel (1991:116) share the same feeling when saying that the incidences of child abuse can no longer be considered rare or isolated phenomena and the reporting task can no longer be left up to the welfare professionals alone.

Riordan and Verdel (1991:116) further state that there is a need within the school environment for expanding knowledge regarding child abuse (e.g. sexual abuse), its identification and its handling and the school can play a major role in this regard. Teachers are in an ideal position to be educated in order to assess children where
there is a suspicion of abuse and in this regard nonverbal tools such as art as a projective tool should be used and drawings have been clinically successful in assessing the presence of abuse (Riordan & Verdel 1991:116). This view is echoed by Veltman and Browne (2000:328) when they say that teachers have an important role to play in the identification of a child who has been maltreated and further suggest that teachers together with health professionals have to take part in conferences about children where child abuse and neglect are alleged or suspected. This view is also supported by Black and Halliwell (2000:103) say that teachers should be provided with alternative forms of methods in order to generate new insight which can give them a holistic view about efficient teaching. These alternative representations include drawings, metaphors and story writing. This can help teachers to manage the complexities of many everyday teaching situations (Black & Halliwell 2000:103).

With regard to the contribution of drawings in learning aspects, Van Staden (1997:37) says that research on children’s drawings shows that a universal pattern of development can be identified and in addition to the general development of preschoolers, the teacher also needs to be familiar with the clearly observable stages in the child’s art. This knowledge is beneficial in a number of ways such in that:

- It can serve as a guideline when choosing suitable equipment, materials and activities for which children are ready and with which they can work.
- It can help in deciding how to motivate and accompany the children.
- It can be of help in defining goals and objectives.

Even though computerised literature search reveals little information on teachers using drawings as an identification tool, Veltman and Browne (2000:328-336) conducted the following research which demonstrated the capability of teachers to interpret children’s drawings:

(a) **Aim of the research and Hypothesis**

The aim of their research was to investigate whether teachers and mental health professionals are able to identify drawings produced by maltreated
children, at a level greater than chance, when these drawings were presented to them at the same time as drawings created by non-maltreated matched children. It was hypothesised that both teachers and mental health practitioners would be successful in identifying maltreated children's drawings Kinetic Family Drawings (KFD) than the Favourite Kind of Day Drawings (FKD)

(b) Methods
All teachers and health professionals who were to take part in the study first attended the same seminar on the characteristics of maltreated children’s drawings.

Study 1
• A group of 33 mental health practitioners (MHPs) and a group of 10 teachers were shown 12 sets of drawings.
• The participants were blind to the status of drawings.
• Each set comprised one drawing by a maltreated child and
• Two by matched non-maltreated children.
• The children were matched on age, sex, socio-economic and educational background.
• The children’s ages ranged from 5 and 8 years old.

The 12 sets of drawings comprised of
* Six sets of three drawings (one by a maltreated child and two by non-maltreated children) of the FKD.
* Six sets of three drawings (one by a maltreated child and two by non-maltreated children) of KFD.
• The teachers and MHPs were then asked to identify from each set of three drawings which had been created by maltreated children and with two by non-maltreated children.
• They therefore had a 1:3 chance of selecting the correct drawing by chance.
Study 2

A group of 33 mental health practitioners and a group of 10 teachers were shown two series of 28 drawings produced by a class of 28 children aged 10 years old. The composition of drawings differed from the one in the first study in that:

- Out of 28 children 5 were on the Child Protection Register, and
- Out of the same 5, four were male, and
- Out of the 4 males one was registered as physically maltreated, another one had a sibling who had been physically maltreated, another one was suspected to have been physically maltreated and one was alleged to have been physically maltreated.
- The 5th registered child was a girl who suffered sexual maltreatment.
- All 28 children were first asked to draw one FKD drawing and then another one KFD drawing each child.

* The aim of study 2 was to see whether a group of 33 MHPs and 10 teachers could identify which FKD and KFD drawings had been produced by five maltreated out of the class of 28 children.

(c) Results

After analysing the data, the researchers found that:

- The 10 teachers were able to identify the maltreated children’s drawings (better than chance) from the KFD better than they did from FKD in study 1.
- MHPs were able to identify maltreated children’s drawings significantly better than chance when given a 1:3 choice for both FKD and KFD in study 1.
- It was found that there was no significant difference between mental health professionals and teachers in identifying child maltreatment in study 2. They both made similar identification and similar mistakes.

(d) Conclusion

Veltman and Browne (2000:335) came to the conclusion that:

- Both teachers and mental health professionals can use drawings in order to elicit information from children about distressful events provided they were trained.
• The use of projective drawing techniques in identification of child maltreatment should be carried out with great caution to avoid misinterpretation.

• The sole use of drawing techniques by teachers or mental health practitioners could easily cause them to infer that a child has suffered maltreatment when, in fact, she or he has not. This was based on their previous mistakes in study 2.

Further research was conducted by McIntosh (1981:1) whose aim was to prove that both trained and untrained judges could do better than chance in placing human figure drawings in categories of adjusted and maladjusted. They were given 160 drawings in total for the two groups of children. One group consisted of 8-12 years old and another of 13-17 years old. It was proved that art teachers who were not trained judges were less competent to categorise children as compared to trained judges until the teachers underwent an in-service training course.

3.4.3 Research on the Use of Children’s Drawings in Identification of Emotional, Behavioural and Learning Problems.

3.4.3.1 Emotional Problems

As stated in section 3.1, human figure drawings have been used to evaluate the emotional and intellectual status of children and adolescents since the late 1980s and have been among the most frequently used tests by school professionals and psychologists in clinical practice. McNeish and Naglieri (1993:115) conducted their research using 81 regular education students and a matched sample of 81 students in special educational placement for students with emotional disturbance. The samples were matched on age (mean age was 10.6 years), gender, race and intelligence. All subjects completed drawings of a man, a woman and self.

The drawings were scored using the Draw A Person: Screening Procedure for Emotional Disturbance as scoring indicator. The results indicated that special education group produced more signs associated with emotional disturbance than did the non-disturbed group. Further research on the use of children’s drawings to investigate emotional problems was conducted by Rudenberg, Jansen and Fridjfon.
These researchers hypothesised that children who are exposed to violent stressors, such as political violence in South Africa, are at risk of developing stress-related effects and emotional difficulties. In their investigation Rudenberg et al (1998:107-108) compared drawings of children living in suburban areas with drawings of children living in high violence areas. The results showed that Black South African children from particular high violence areas showed more distress in their drawings than white suburban areas, and with the girls' distress appearing higher than the boys'.

This study is supported by the study of Magwaza, Killian, Pertersen and Pillay (1993:795) in which they conducted an investigation on a random sample of 148 children from a pre-school in one of the violence-stricken areas of South Africa. The children were first helped by their teachers (also trained as field workers) to complete a Traumatic Stress Disorder Questionnaire for Children and then were asked to draw pictures of the things they had experienced in their lives. The results showed severe emotional indicators. Research on children's drawings to identify emotional problems was conducted by DiCarlo, Gibbons, Kaminsky, Wright and Stiles (2000:107-109) and is as follows:

(a) **The purpose of investigation**

The purpose of the investigation was to examine the content of the drawings of street children, to introduce a new system of a scoring system that addresses the content of drawings and to compare this procedure to more standard scoring procedures.

(b) **Participants**

- The researchers used 82 children (34 males, 45 females & 3 participants who did not list their gender).
- The ages of 44 children were between 5 and 11 years, 35 of them were between 12 and 17 years and three participants did not list their ages.
- Almost all children were working in the open air as vendors earning money for their families. Some were also attending school and others were still too young to attend school.
• No child had received more than three years of formal education.

(c) Procedure
Participants were asked to draw a picture of the man or woman engaged in an activity and to write and tell something explaining the person’s activity.

(d) Results
• The drawings of many children showed the presence of emotional indicators.
• Many drawings showed signs of anxiety, insecurity and shyness.

Di Carlo et al. (2000:107) concludes as follows: “One way to access the strengths and the challenges of street children may be through drawings. Drawings have been proposed as useful in working with children because drawing is an almost universal activity of children”. Research conducted by Naglieri and Pfeiffer (1993:156) in which 54 normal 7-17 year-old children and fifty four 7-17 year-old conduct-and-defiant-disorders children were tested by means of the D.A.P Test. The participants were also matched by sex and race and results showed that the drawings produced by conduct-and-defiant-disorder children produced more signs of emotional disturbance than did the normal group.

3.4.3.2 Behavioural Problems

Many researchers, clinicians and school counsellors support the use of children's human figure drawings for assessment of psychological problems in children and in many schools human figure drawings are standard assessment instruments used to assist in placement and treatment decisions (Norford & Barakat 1990:318). In this regard, Norford and Barakat (1990:318-325) conducted research to investigate the adequacy of human figure drawings as a diagnostic instrument to differentiate between aggressive and non-aggressive behaviour. They divided their research into two categories with the first category comprising a group of 4 to 5 year-old aggressive children (n=16) and another group of 4 to 5-year-olds non-aggressive children (n=16). The second category comprised a group of 6 to 12-year-old children also divided into
aggressive and non-aggressive groups. The children were all asked to make human drawings of their choice and were scored using both Koppitz and Clinical Ratters. In the case of 4 to 5 year-olds it was found that the human figure drawings could not differentiate between aggressive and non-aggressive behaviour. In the case of 6 to 12 year-old children, the indicators could differentiate between the aggressive and non-aggressive groups (Norford & Barakat 1990:319). It must also be borne in mind that the drawings alone will not always give straightforward results in favour of the hypothesis. This is evident in the research conducted by Feyh and Holmes (1994:1353-1354) in which 40 children (20 boys and 20 girls) between 10 and 16-year-olds were used. Some of these children had been diagnosed with conduct disorder and others with non-conduct disorder. The children were asked to draw a person (D.A.P.) and two trained judges were asked to rate the drawings into two groups according to the presence and absence of aggressive behaviour. The results showed no significant difference between children with conduct disorder and non-conduct disorder children. Research conducted by Miller (1986:55) proved that drawings can help to reveal behavioural characteristics of learners such as short attention span, hyperactivity, information retention, etc.

3.4.3.3 Children’s Drawings and Learning

Human figure drawings such as the House-Tree-Person, Kinetic Family Drawings and Draw-A-Person have been used by various professionals in their practice and the Draw-A-Person has been especially useful because it can be used to evaluate both emotional and intellectual status of children and adolescents (Nagrlieri & Pfeiffer 1992:156). Artistic expressions inspired by children are more than just decoration for classroom or library walls and shelves since it can help readers recall, interpret and share what they have read (Glazer 1997:109). According to Miller (1986:55), drawings can be used as an activity to express moods of the emotionally handicapped child depicting how she or he feels inside.

Faber and Van Staden (1997:40) conclude about the contribution of children’s drawings in learning, that even though children are creative in many ways, it is in
their original drawings that they show what they understand about the world and since
they develop through stages, they provide a teacher with clues about the child’s
intellectual as well as physical development. Harlen (1997:20-24) lists some of the
ideas that children can represent in their drawings and these include ideas about
growth in plants by drawing a pot-plant, about growth inside something for example
an egg, and ideas about liquid by drawing river. The adequacy of drawings in helping
in learning situation is also illustrated by Oken-Wright (1998:76) when saying that
drawings hold the potential for rich expression and complex learning. At the time of
doing her research and writing of her article with the “Transition to Writing: Drawing
as a Scaffold for Emergent Writers”, Pam Oken-Wright was a teacher of five-year-olds at St Catherine’s School in Richmond, Virginia. She was a teacher-researcher, a
consultant and author interested in the cycle of theory-to-practice. One of her research
interests was how children learn through practice. Oken-Wright (1998:76-78) suggested the following:

- Drawings can pave the way for writing and the teacher may identify a learner
  with learning problems.
- Some children may be representing problems, but not in the way the teacher can
  recognise immediately. Therefore close observation of the child is of paramount
  importance.
- Only by carefully watching the child’s process, hearing her or his words as she or
  he draws and watching her or him over a time, will we know what she or he tries
  to convey from the drawing.

Another research was conducted by Dowling (1994:251) in which she compared
primary age children’s drawings of moderately disabled children with those of
children from main stream schools by observing them while drawing. She found that
moderate disabled children showed far less interest in drawings than children from
main stream schools. According to Coates (1984:192), drawing as a prime method of
recording observation is one of the most important tools in the classroom and teachers
should be helped to recognise the importance of encouraging children to explain what
they have noticed in them.
3.5 SUMMARY AND CONCLUSION

The aim of this chapter was to give a literature review with regard to the historic background of the use of children’s drawings as a reliable projective media. Various theoretical approaches which were followed in using drawings were discussed. Recent research on children’s drawings as it could be applied by teachers in the classroom was also highlighted. The various findings with regard to the success of children’s drawings as part of assessment media was discussed with reference to emotional, behavioural and learning problems. It is therefore concluded that children’s drawings can be used by teachers to identify certain children’s problems but they should not be used in isolation. Great caution should be taken when using children’s drawings to avoid false interpretation because some of the children who draw have never used a pencil before due to their socio-economical conditions. The following chapter focuses on the research methodology of the study.
CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

This chapter focuses mainly on the research design. Because of the new developments in our national education system which encourage empowerment of teachers, the researcher felt it necessary to investigate whether teachers have had basic training with regard to the interpretation of children’s drawings and to write guidelines if necessary in order to empower them. Dowling (1994:251) has emphasised that there is a great need to expose educators to the developmental changes of educational practice.

As stated above this design in particular was built on the question of whether teachers in remote areas have basic knowledge with regard to interpreting children’s drawings of the human figure or not. Teachers from rural schools of Bizana in the Eastern Cape Province were used as participants in the research process. A group of teachers was given a questionnaire and a test. Another smaller group of teachers selected randomly from the previous group was given basic training and was re-tested. McMillan and Schumacher (1993:303&305) classify this kind of design as One-Group Pretest-Posttest Pre- Experimental Design.

In an endeavour to explain this programme of research, the researcher dealt respectively with the following aspects of the design:

* The Hypothesis
* Sample Selection
* Measuring Instrument
* Procedures Followed During Data Collection
* The Training Programme
* Processing of the Results
* Summary.
4.2 THE HYPOTHESIS

The majority of teachers in remote areas possess limited basic knowledge with regard to the interpretation of children’s drawings of human figure, therefore there will be a significant improvement in their knowledge with regard to the interpretation of children’s drawings after undergoing a basic training programme.

* THE RATIONALE ABOUT THE HYPOTHESIS

Some learners cannot voice their problems and they need the help of a teacher. Drawings can be used as one of the means to identify children’s hidden problems. It is hypothesised that the majority of teachers do not have the required basic knowledge with regard to the interpretation of children’s drawings and that a training programme will improve their basic knowledge significantly.

4.3 SAMPLE SELECTION

There were two phases of sample selection, namely:

- The first phase which consisted of 143 teachers, selected from 1492 teachers in the Bizana district in the North Eastern Region of the Eastern Cape Province. The teachers came from 15 schools that took part in the research and these schools were selected randomly from 178 schools. They were selected in such a way that there was a significant representation from each of the first three phases of the education system in South Africa, as follows:
  - 53 teachers from the foundation phase
  - 48 from the intermediate phase, and
  - 42 from the senior phase.

These teachers were given both the pre-compiled questionnaire and a test in drawings to interpret. The second phase consisted of 20 teachers randomly selected from the abovementioned first group. This group was given basic training on the interpretation of children’s drawings and then tested again.
4.4 THE MEASURING INSTRUMENT

4.4.1 Introduction

The measuring instrument refers to the means or tools which were used to collect information during the research period. In this investigation the information was collected by two methods, the questionnaire and tests about drawings interpretation (Pre-test-Post-test method). The main focus of the questionnaire was related to the basic knowledge of teachers with regard to the interpretation of children’s drawings. This section focused on the structure of the questionnaire and that of tests on drawings interpretation.

4.4.2 The Structure of the Measuring Instrument

4.4.2.1 The structure of the questionnaire

The questionnaire was divided into two sections, A and B. Section A focused on some biographical information about the participants, namely the name, school, the phase, gender, age, home language and teaching experience in years.

Section B focused specifically on questions with regard to basic knowledge of teachers about the interpretation of children’s drawings. The questionnaire consisted of 20 items of which every item was structured in such a way that each participant could answer the following aspects with regard to her or his basic knowledge in the interpretation of children’s drawings. That is, whether the participant has had:

(i) The initial training to interpret children’s drawings.
(ii) Any further in-service training in interpretation of children’s drawings.
(iii) Any exposure to any projection technique.
(iv) Any knowledge about normal and abnormal children’s drawings
(v) Any informal use or analysis of children’s drawings.
(vi) Training in developmental aspects of children’s drawings.
RATIONALE OF THE QUESTIONNAIRE

Preference was given to the use of a questionnaire instead of an individual interview, which could be time consuming and might also be difficult to interview teachers one by one. When this questionnaire was drawn up, the following considerations were taken into account:

* The questionnaire should not be too long and time consuming.
* The administration of the questionnaire should be relatively simple
* The instrument was made flexible so that it could be used in an individual or group test situation.

4.4.2.2 The structure of the Pre-test.

The Pre-test consisted of six main questions making a total of 40 marks all together, contained the following questions:

**Question 1**
Tested the prior knowledge of teachers with regard to the developmental stages of children's drawings.

**Question 2**
This question consisted of drawings placed in various positions on a page, and the participant was required to identify the problem or personality that the position might imply in the child (i.e. the drawer).

**Question 3**
This question consisted of classical abnormal children's drawings in which the participant was required to identify only the omitted part in each drawing.

**Question 4**
This question consisted of classical abnormal children's drawings in which the participant was to identify only the exaggerated part in each drawing.
Question 5
This question consisted of some drawings of individual human figures and family drawings which reflect obvious and subtle problems.

Question 6.
This question looked at whether teachers had a knowledge of the meaning of the following abbreviations which are commonly used in the field of drawings, namely K.F.D. and D.A.P.

* THE RATIONALE OF THE PRE-TEST

The test was given as a Pre-test in order to discover the teachers' basic knowledge with regard to the interpretation of children's drawings. The results of the test were to be compared to the results of another test which was given to the participants of the research after they had been through a training programme.

4.4.2.3 The Post-test structure

This test was similar to the Pre-test test in terms of structure, content and marks awarded, but drawings were different from the ones that were set in the Pre-test. See appendix C for the post-test.

4.5 PROCEDURES FOLLOWED DURING DATA COLLECTION

4.5.1 Instructions Accompanying the Questionnaire

The participating teachers received the questionnaire with the items. They were asked to follow instructions. Each sentence consisted of a statement and next to it there were numbers 1 and 2. The teacher was to circle the number that corresponded with her or his view of the item. If the teacher chose 2 that would mean a positive response to what was being asked in that particular item and a choice of 1 implied a negative response to that particular item, as follows:
* A choice of 2 would mean that the respondent fully agreed with or fully knew what was being said in the item.
* A choice of 1 would mean that the respondent totally disagreed with or had no idea of what was being said in the item.

4.5.2 Administering the Questionnaire

Before the questionnaire was administered it was pre-tested on ten respondents with similar characteristics to those to be used in the actual research. This was done in order to determine whether the instructions were clear and to measure the approximate time for completion. As mentioned in section 4.4.2.1, the questionnaire consisted of sections A and B, and the participants were asked to start with section A and then proceed to section B. The questionnaire was administered by the researcher with the assistance of some teachers from the respective schools.

4.5.3 Administering the Pre-test

After the participants completed the questionnaire, they were given a set of drawings to interpret. The Pre-test had instructions which were first read to the participants before they could start answering the questions. The test was administered by the researcher with the assistance of some teachers from the respective schools.

4.5.4 Administering the Post-test

After the participants had undergone a basic training programme on interpretation of children’s drawings, they were given a Post-test of some drawings to interpret. Of the 143 participants in the Pre-test, 20 were randomly selected to participate in the writing of the Post-test. The test was administered by the researcher with the assistance of some teachers from the respective schools.
4.6 THE TRAINING PROGRAMME

4.6.1 The Objectives

The objectives of the training programme were to assemble 20 participants in order to:

- Guide them on the basic knowledge with regard to the interpretation of children's drawings.
- To let them write a post-test on the interpretation of children's drawings in order to investigate whether they could interpret these drawings after they have received basic training course.

4.6.2 Contents of the Programme

A basic training course on interpretation of children's drawings which included all the aspects that were in the pre-test was conducted immediately after analysing the pre-test results. It consisted of the following aspects:

(a) The importance of children's drawings such as that:

- They help the child to develop motor control over a pencil or a crayon and this facilitates the formation of letters and figures at a later stage.
- They also develop children's imagination and creativity.
- The act of drawing prior to writing appeared to be useful and beneficial to writing performance among third grade children in their experimental group.
- Drawing is important in that it is an effective planning strategy for students who appear to rely on their drawing as reference point to prompt them towards what should come next in their writing. Integration of drawing and writing may be used to motivate students to write and enjoy it.

(b) Guidelines for drawing D.A.P and K.F.D are given in sections 2.1 and 2.5.2 respectively.
(c) Some drawings (D.A.P) which reflects some possible problems such as:

- The position on the page
- Omission of certain parts e.g. hands
- Exaggeration of certain parts e.g. feet.
- Tiny figures and their implications.

(d) Questions to be asked after the drawing has been drawn as provided by Power (1997:86):

- Can you tell me what is happening in your picture?
- What is going to happen?
- Who is that person?
- Let’s give her or him the name.
- Would you like to be like her or him?
- What is she or he thinking about?
- How does she or he feel at the moment?
- What makes her or him not happy?
- What makes her or him most angry?

(e) Kinetic Family Drawings that reflect family problems (2.5.3) such as:

(i) Family cohesiveness (family bonds) which entails the following questions as:

- Who is there or not there?
- Who is drawn first or last?
- Who is next to whom?
- Who is isolated?
- Who is doing what with whom?

(ii) Sibling rivalry
* Exclusions of one or more siblings, and/or
* Facelessness of one or more siblings.
4.6.3 Time Frame

- The period between the pre-test and post-test was one week.
- This period was kept short enough in order to prevent the participants from self-improvement by reading some material about drawings before the post-test is written.
- Participants were also not informed that they were going to write another test (i.e. post-test) after the pre-test.
- Another factor that could prevent them from reading was that there were absolutely no libraries in the area where the research took place. Even if one could order some relevant books from the nearest library it could take him or her two weeks or more to receive that book.

4.6.4 Procedures

The course took 2 days of 4 hours each excluding breaks. Each day was divided into:

* Day 1: First session-Break-Second session
  * Expectations of the teachers from the course.
  * Importance and uses of children’s drawings
  * Guidelines for D.A.P as given in section 2.1
  * Questions that may be asked after the child has completed a drawing.

* Day 2: First session-Break-Second session
  * Kinetic Figure Drawings
  * Aspects that are looked in a kinetic figure drawing.
  * Questions that may be asked after the drawing is finished as stated in (section 2.5.3).
  * The post-test as indicated in Appendix C.
  * Evaluation of the training course.
4.6.5 The Process

- The researcher acted as facilitator.
- All present teachers took part in the discussion of different kinds of drawings.
- Specimen of drawings were provided by the researcher and by some of the teachers involved. This was another way of giving them an opportunity to ask questions based on their specimen.
- A post-test was written as shown in Appendix C.

4.6.6 Limitations

- The researcher could not secure time outside school days because teachers were not prepared to use their spare time for the research.
- The programme had to be conducted on a school day after negotiations with the respective principals of the participated schools.
- Teachers had to start at school in the morning before attending workshop.
- Some schools were far from the venue hence the researcher had to negotiate earlier time for the release of teachers by their school authorities.
- Some schools were from areas where there was no regular transport even if they were to be released earlier and could compel them to choose between attending school or the workshop on that day and this put a lot of pressure to them. Some preferred not to attend the workshop at all.
- The fact that it was for the first time to conduct a research of this nature posed some problems and the researcher had to give some explanation about the value of the research to education and to the teachers in particular.

4.6.7 Achievements

- An attendance by the minimum number of the required teachers was an achievement in itself.
- Before the whole research process, some teachers were reluctant to take part in
the research because of different negative beliefs like being assessed for retrenchment. During evaluation of the training programme, the majority of participants openly accepted and expressed their appreciation of the programme.

- The active participation and 
  **enthusiasm** of teachers during the intervention process gave encouragement and hope for future undertakings of this nature in that they can be successful even in rural areas. This was another achievement of the programme.
- The coming together by teachers to discuss something they did not pay much attention to before (i.e. children’s drawings) was another achievement.
- After the workshop a post-test was written and all the participants managed to interpret most simple drawings that reflected some problems. Hence the programme was a success.

4.7 PROCESSING OF THE RESULTS.

Percentages were used as a measure of the respondents’ level of knowledge with regard to the interpretation of children’s drawings. The results of the Pre-test and Post-test were compared using t-test in order to determine whether there was a significant difference between the two tests.

4.8 SUMMARY

In this chapter the execution of the empirical research was discussed. The procedure that was to be used and steps that were to be followed in chapter 6 were also given in different sections of this chapter. The results of the investigation will be interpreted and dealt with in the following chapter.
CHAPTER 5

RESEARCH RESULTS

5.1 INTRODUCTION

In this chapter an analysis and interpretation of the research results is carried out. This analysis is carried out by means of an in-depth discussion of the reliability of the research results and the implications of the components of the research results.

5.2 RELIABILITY OF THE RESEARCH

Reliability is the degree of consistency and/or accuracy with which a measuring instrument measures (Bester 1992:31). Mulder (1996:209) defines reliability as the repeatability of a testee's score on the same test on different occasions, or in different tests with equivalent items, under different examination conditions. With regard to this research, the measuring instruments that were used were the questionnaire, the pre-test and the post-test. Like other research instruments which are used in research, these instruments also needed to have a certain degree of accuracy in order to lift the research as a whole to a reliable level. Based on the following reasons, we can therefore accept the reliability of this research with certainty:

- The research was conducted in a free and relaxed atmosphere which helped the participants to be reliable and honest in their participation. This was facilitated by a clear explanation of the purpose of the research by the researcher and the commitment to the confidentiality of the participants' responses.
- The participants answered both the questionnaire and the pre-test on the same day at the same venue and this helped to prevent participants from having an opportunity to go and read some information about drawings in order to improve their performance in the following test.
- There was also enough time to administer all the instruments without rushing the participants.
• The instruments were first confidentially tested with a smaller and similar group in order to determine whether the instructions were clear and to measure the time for completion.
• There were enough facilities (e.g. stationery) and conditions in the venue were favourable.

The time between pre-test and post-test was made very short in order to prevent any form of self-improvement in drawings. In addition the twenty participants who took part in the post-test were not previously made aware that they would write another test after the basic training programme. This was done in order to ascertain that any significant improvement that might be reflected after the post-test could be attributed to the basic training programme.

5.3 RESULTS OF THE QUESTIONNAIRE

5.3.1 Introduction

The questionnaire consisted of section A and B. Section A was meant to collect biographical information about each participant, whose summary will appear in appendix G. Section B consisted of twenty items which specifically focused on questions with regard to the basic knowledge of teachers in the interpretation of children's drawings.

The questions were designed in such a way that each participant would answer by circling the number 1 which represented a "No" response or 2 which represented a "Yes" response. By choosing a "No" response a participant would mean that she or he had no basic knowledge with regard to the interpretation of children's drawings. A choice of "Yes" would indicate that the participant did have a basic knowledge with regard to the interpretation of children's drawings. A summary of the results of the questionnaire is presented in table 5.1, while additional information appears in appendix D.
5.3.2 Summary Table of the Results of the Questionnaire

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Number of Participants</td>
</tr>
<tr>
<td>2.</td>
<td>Number of items per Questionnaire</td>
</tr>
<tr>
<td>3.</td>
<td>Total Number of items (143 x 20)</td>
</tr>
<tr>
<td>4.</td>
<td>Total Number of items with a “No” response</td>
</tr>
<tr>
<td>5.</td>
<td>Mean Percentage of “No” responses</td>
</tr>
<tr>
<td>6.</td>
<td>Number of items with a “Yes” response</td>
</tr>
<tr>
<td>7.</td>
<td>Mean Percentage of “Yes” responses</td>
</tr>
</tbody>
</table>

The results indicated that the majority of teachers have never had:
(a) Initial training to interpret children’s drawings.
(b) Any further in-service training on the interpretation of children’s drawings.
(c) Any exposure to any projection technique.
(d) Any knowledge about normal and abnormal children’s drawings.
(e) Any informal use or analysis of children’s drawings and
(f) Training in the developmental aspects of children’s drawings of human figure.

5.4 THE PRE-TEST RESULTS

5.4.1 Introduction

After completing the questionnaire, the participants were given a pre-test which consisted of simple questions on classical drawings. The purpose of this test was to measure the performance of the participants on interpretation of children’s drawings before they were given basic training in this field of study. The results of this test which were based on individual raw scores of all 143 participants are presented in tables 5.2 and in appendix E.
5.4.2 Summary Table of the Results for the Pre-test

TABLE 5.2

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Number of Participants = 143</td>
</tr>
<tr>
<td>2.</td>
<td>Total Marks in the Test = 40</td>
</tr>
<tr>
<td>3.</td>
<td>Highest Mark Obtained = 15</td>
</tr>
<tr>
<td>4.</td>
<td>Highest Percentage Obtained = 37.5%</td>
</tr>
<tr>
<td>5.</td>
<td>Lowest Mark Obtained = 1</td>
</tr>
<tr>
<td>6.</td>
<td>Lowest Percentage Obtained = 2.5%</td>
</tr>
<tr>
<td>7.</td>
<td>The Mean Mark Obtained = 6.2</td>
</tr>
<tr>
<td>8.</td>
<td>The Mean Percentage Obtained = 15.5%</td>
</tr>
<tr>
<td>9.</td>
<td>The Median Mark = 6</td>
</tr>
<tr>
<td>10.</td>
<td>The Range Mark = 14</td>
</tr>
</tbody>
</table>

5.5 THE POST-TEST RESULTS

5.5.1 Introduction

After marking both the questionnaire and the pre-test, a random selection of twenty participants from the original group of participants was done. These participants were given a basic training course on the interpretation of children's drawings. After undergoing the training, the twenty participants were given another test (post-test) on drawings in order to compare their individual second performance with the performance in the pre-test. The results which were based on individual raw scores of the 20 pre-test and post-test participants are presented in the table 5.3 in the following page. A t-test was also calculated and its results are presented in table 5.4 and the implications of the results are discussed in section 5.7.
5.5.2 Summary Table of the Results for the Post-test Only

<table>
<thead>
<tr>
<th>TABLE 5.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of Participants = 20</td>
</tr>
<tr>
<td>2. Total Marks on the Post-test = 40</td>
</tr>
<tr>
<td>3. Highest Mark Obtained = 38</td>
</tr>
<tr>
<td>4. Highest Percentage Obtained = 95%</td>
</tr>
<tr>
<td>5. Lowest Mark Obtained = 20</td>
</tr>
<tr>
<td>6. Percentage Lowest Mark = 50%</td>
</tr>
<tr>
<td>7. The Mean Mark = 25</td>
</tr>
<tr>
<td>8. The Mean Percentage = 62.5%</td>
</tr>
<tr>
<td>9. The Median Mark = 24</td>
</tr>
<tr>
<td>10. The Range Mark = 18</td>
</tr>
</tbody>
</table>

5.6 THE t-TEST RESULTS FOR THE PRE-TEST/POST-TEST SCORES

<table>
<thead>
<tr>
<th>TABLE 5.4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THE TESTS</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Pre-test</td>
</tr>
<tr>
<td>Post-test</td>
</tr>
<tr>
<td>The t-value</td>
</tr>
<tr>
<td>df</td>
</tr>
<tr>
<td>At 2-tail significance:</td>
</tr>
</tbody>
</table>
5.7 IMPLICATIONS OF THE PRE-TEST/POST-TEST t-TEST RESULTS

In the previous section, the t-test has been calculated in order to verify whether the difference between the mean of the pre-test and the post-test is significant enough to accept the postulated hypothesis of the research. The results revealed that the calculated t-value is greater than both critical values. Hence the postulated hypothesis can be accepted and this implies that the majority of teachers have limited basic knowledge with regard to the interpretation of children’s drawings and that their knowledge can improve if they undergo in-service training course.

The fact that participants’ performance improved significantly in a post-test after undergoing basic training, indicates that their low marks in the pre-test were due to their lack of basic training with regard to the interpretation of children’s drawings of human figure. Hence there was a need to expose teachers to the interpretation of children’s drawings and other projective media in order to help children in their learning, emotional and behavioural problems. A comparison between the pre-test and post-test results is also presented in table 5.5 and in appendix F. These results imply that the majority of teachers in remote areas have never had:

(a) Initial training to interpret children’s drawings.
(b) Any further in-service training on the interpretation of children’s drawings.
(c) Any exposure to any projection technique.
(d) Any knowledge about normal and abnormal children’s drawings.
(e) Any informal use or analysis of children’s drawings.
(f) Training in the developmental aspects of children’s human figure drawings.
### 5.8 COMPARING PRE-TEST AND POST-TEST RESULTS

**TABLE 5.5**

<table>
<thead>
<tr>
<th></th>
<th>PRE-TEST</th>
<th>MARK OBTAINED</th>
<th>POST-TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>Number of Participants</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>Total Mark</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>Highest Mark Obtained</td>
<td>38</td>
</tr>
<tr>
<td>4</td>
<td>37,5%</td>
<td>Highest Percentage Obtained</td>
<td>95%</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Lowest Mark Obtained</td>
<td>20</td>
</tr>
<tr>
<td>6</td>
<td>2,5%</td>
<td>Lowest Percentage Obtained</td>
<td>50%</td>
</tr>
<tr>
<td>7</td>
<td>7,8</td>
<td>The Mean Mark Obtained</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>19,5%</td>
<td>Mean Percentage</td>
<td>62,5%</td>
</tr>
<tr>
<td>9</td>
<td>7,5</td>
<td>Median Mark</td>
<td>24</td>
</tr>
<tr>
<td>10</td>
<td>14</td>
<td>Range Mark</td>
<td>18</td>
</tr>
</tbody>
</table>
This chapter was devoted to the execution and the description of the results of all the components of this empirical research, namely, the questionnaire, the pre-test and post-test. The investigation that was conducted was based on the hypothesis which stated that “The majority of teachers in rural areas have a limited prior knowledge with regard to the interpretation of children’s human drawings, hence there will be a significant improvement in their knowledge with regard to the interpretation of children’s drawings after undergoing a basic training programme”.

The results of the questionnaire and those of the pre-test and post-test revealed that teachers really have a limited basic knowledge with regard to the interpretation of children’s drawings. This was also revealed by the fact that the percentage of “No” responses was far higher than the percentage of “Yes” responses to the questionnaire, and there was a big difference between the performance in the pre-test and post-test. Those teachers who underwent some basic training improved their results when they were given another test (post-test) on children’s drawings.

Since the 15 schools that took part in answering the questionnaire, the pre-test and the post-test were randomly selected from 178 schools at Bizana, the schools could be said to be representative of the Eastern Cape Province rural community and the South African rural communities in general. Hence the results represent the South African rural community at large.
CHAPTER 6

SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND EDUCATIONAL IMPLICATIONS

6.1 INTRODUCTION

In chapter one it was stated that the aim of this research was to investigate whether teachers in their initial training or in-service training acquired basic training in the interpretation of children’s drawings of human figure and whether they are capable of doing so if they undergo in-service training.

To fulfill the aims of this study, research which consisted of two components, namely, a literature study and empirical investigation was conducted. Chapters two and three of this research gave an in-depth outline of the literature study whereas empirical research was conducted in chapters four and five. The aim of this chapter therefore is to give an overview of the work done in the previous chapters and will focus on the following areas respectively:

- A summary of the literature study.
- A summary of the empirical research.
- Educational implications of the research.
- Some contributions of the research.
- Limitations of the research.
- Recommendations for further research and
- Concluding remarks.
6.2 SUMMARY OF LITERATURE STUDY

6.2.1 Formal Interpretation of Children's Drawings of Humans

As stated in section 6.1, the literature study was part of the research which appeared in chapters two and three. The literature study in chapter two focused on the normal development of children's human figure drawings and those drawings that manifest deviations from normal development. Various recent sources and developments with regard to identification of children's human figure drawings that can be regarded as normal and abnormal were studied. The aim was to help the reader to be able to identify, to a certain extent, children's drawings which indicate normal and abnormal development. The literature in this chapter therefore serves as guidelines for teachers to interpret children's drawings of the human figure.

Different stages of development with regard to children's drawings of human figure were discussed and the connections between drawing and other developmental milestones such as writing were discussed. Botha (1999:46) expresses this connection between writing and drawing by saying that children start their drawing practice with scribbles and as they grow their forms of drawings change and move to a second level which is the pre-schematic stage. Then follow the schematic stage and dawning realism stage, which are the third and fourth stages respectively. Some important aspects that should be looked at when interpreting children's human figure drawings were highlighted. These included the following manifestations:

- Omission of certain human parts.
- Exaggeration of certain body parts
- Emphasis on certain body parts etc.

Chapter two also discussed factors that could retard the normal development of the child with regard to human figure drawings. These factors could include illness, accidents, abuse, etc (section 2.3.1-2.3.5). Obtaining knowledge about normal development of children's drawings could help teachers to be able to identify some
children's problems that are manifested by deviations of drawings from normal development. Gericke and Mills (1997:5) also confirm that children have different developmental problems which may be manifested by the quality of the child's drawings and that this is revealed when a child's development does not entirely corresponds to that of other children of the same age. That is, when the child is late in reaching developmental milestones, e.g. sitting. Repeated cautions were given not to take children's drawings of human figure as having all the answers to their problems that are manifested by these drawings. Drawings should be used as part of the collection of other data so that together with this information they can supplement each other. Some guidelines with regard to the use of children's family drawings in assessing the relationship between family members in general and between the child and family members in particular were also provided (section 2.5.1-2.5.4). This component of the literature study revealed some important aspects which can be examined in order to identify some children's problems.

6.2.2 The Reliability of Children's Drawings as a Projective Tool

The literature study in chapter three focused on the early and recent studies of children's drawings as one of the reliable tools to identify the root causes of children's learning, emotional and behavioural problems. A reference was also made to the theoretical approaches with regard to the application of children's drawings of human figure in assessment and general uses. Research regarding the capability of teachers in the use of children's drawings was also studied. The following section gives a summary of the empirical research.

6.3 SUMMARY OF THE EMPIRICAL RESEARCH

The research tested the hypothesis that "The majority of teachers in rural areas possess limited basic knowledge with regard to the interpretation of children's drawings of human figure, hence there will be a significant improvement in their knowledge with regard to the interpretation of children's drawings after undergoing a basic training programme".
6.3.1 Research Methodology

The research methodology was designed in chapter four in which three components, namely, the questionnaire, the pre-test and the post-test were developed. The aim of the questionnaire and pre-test was to investigate whether teachers in remote areas had received (from their initial or in-service training) any basic knowledge with regard to the interpretation of children's drawings of human figure. These two components of the research were meant to complement each other concerning the prior knowledge of teachers with regard to the interpretation of children's drawings of human figure. The investigation was conducted as follows:

- A sample of 143 teachers selected from Bizana in the North Eastern part of The Eastern Cape Province was given a questionnaire which consisted of sections A and B.
- Section A consisted of biographical questions for each respondent.
- Section B consisted of twenty items in which each respondent had to respond to each item by choosing either yes or no.
- Having completed the questionnaire, all 143 participants were given a pre-test to write on human figure drawings.
- After the questionnaire and pre-test were marked, a training programme was developed and conducted with the 20 teachers randomly selected from the previous group which wrote the questionnaire and the pre-test. Then the teachers were given another test (post-test) in drawings similar to but different in content from the pre-test.

6.3.2 The Research Results

As stated in section 6.3.1, the execution of the empirical research and the interpretation of the results formed part of the empirical research. Both the results of the questionnaire and pre-test favoured the hypothesis. That is, the results reflected that:
• The majority of teachers did not receive basic training in their colleges/universities or from in-service training with regard to the interpretation of children's drawings.
• The performance of all participants was very low in the pre-test, hence training was conducted and the teachers were re-tested.
• Their results in the post-test increased significantly after they underwent an in-service training.
• After a comparison between the pre-test and post-test was made, it was concluded that the improvement in the post-test results was attributable to the in-service training that the teachers received before writing the post-test. Hence the hypothesis was accepted as was postulated.

6.4 EDUCATIONAL IMPLICATIONS OF THE RESEARCH

6.4.1 Initial Training of Educators

The results of the research revealed that a majority of teachers did not receive basic training with regard to the interpretation of children's drawings at their training colleges or universities. This implies that the present curriculum of teacher training should be improved by including basic knowledge about the interpretation of children's drawings. This is necessitated by the fact that the new education system of South Africa requires each teacher to be able to help every child in the classroom, irrespective of her or his shortcomings. This study might also raise the awareness of teachers with regard to the interpretation of children's drawings. It may motivate teachers to study more about the hidden meanings of children's drawings of humans.

6.4.2 In-Service Training of Teachers

This research was conducted at a time when there were fundamental changes in the South African education system. As the South African Schools Act Number 84 of 1996 states that the government was conducting a vigorous campaign to change public schools into ordinary schools or schools for learners with special education needs (Consultative Paper No 1, 1999:19). Some changes were still envisaged, as the
statement quoted in (The Citizen, 31 January 2001), by the Minister of National Education, reads: “Asmal wants C2005 to be free of fog”. He was referring to the changes that were to be introduced in OBE and Curriculum 2005. Since the teachers are the implementers of education, they therefore need programmes of in-service training in all aspects of education including the interpretation of children’s drawings. This could be of much help to them in order to understand some of the hidden causes of children’s problems.

6.5 SOME CONTRIBUTIONS OF THE RESEARCH

6.5.1 Its Relevance to Teachers

The current South African education system requires that every teacher should be able to help each and every learner at her or his disposal, irrespective of the kind of problems the learner experiences. This requires that teachers should be equipped to be able to face the challenges they come across both in and outside the classroom since children’s problems are different and are manifested in different ways.

Basic understanding of the interpretation of children’s drawings therefore is one of the ways of equipping teachers to be able to understand some of the causes of children’s problems. This study can, as a result, be of vital help to teachers in one or more of the following ways:

- The literature study on this research focussed on the early development of children’s drawings and manifestation of problems in order to help teachers to be able to identify children’s problems at an early age.
- They may have confidence in communicating with a child’s parent with problems, having assessed the child almost in all aspects, including her or his drawings.
- Since the research of this kind was the first to be conducted at Bizana in the north-eastern part of the Eastern Cape Province, it might have raised an awareness and interest about the importance of children’s drawing in assessment programmes.
• This dissertation may also serve to trigger the interest of teachers in studying further about the interpretation of children's drawings and the projection media in general.

• Since teachers might be able to handle some work on children's drawings, parents will be saved (to a certain extent) from financial expenses that could be incurred due to visiting a psychologist for help even for less complicated problems.

• Therefore there might be an improvement in teachers' abilities with regard to the interpretation of children’s drawings.

6.5.2 Its Relevance to Curriculum Planners

The following are some of the areas in which this study may play a vital role with regard to the entire education system, no matter how little it may be:

• It may be one of the instruments of change in the education system by including some of the findings and guidelines in the planning of the curriculum.

• This research was conducted in the rural area of Bizana in which a limited amount of research had been conducted specifically in this area. Hence this piece of work may serve as a framework for future research undertakings in this remote area.

• It may be used by education policy makers and planners as part of in-service training for teachers, since inclusive education calls for teachers who are better equipped to deal with as many different problems as possible in the classroom.

• It may form part of the teacher's classroom daily preparations and be a source of reference in cases of children with unclear causes of problems.

6.5.3 Its Relevance to Other Professionals

The knowledge of children's drawings is not only important to the educational sector. Other professionals such as social workers, occupational therapists, police and nurses may also have an interest in the use of children’s human figure drawings as
part of diagnostic measures. As Hobes (1996:48) puts it: “South Africa’s Child Protection Unit is fighting a losing battle to stem the rising tide of child abuse in our country, and its members are bearing the brunt of the public’s frustration”. Since many children cannot always express incidents of abuse (e.g. rape), drawings can play an important role in such situations.

Cox and Maynard (1998:133) in their research on “The human figure drawings of children with Down Syndrome” encourage health professionals, psychologists and the community at large to understand treatment and intervention in young people with problems. Harris (1997:352-353) adds to the abovementioned health professionals another category of professionals (namely judges) who have an interest in children’s drawings, saying that children’s drawings are also sometimes used in training of the judges. This confirms that this study may not necessarily be limited only to health professionals, but other fields of work also need a knowledge of children’s drawings. Health professionals and other researchers may use the results of this investigation to launch an in-depth investigation into the related topics.

6.6 LIMITATIONS OF THE RESEARCH

- The fact that the questionnaire, the pre-test and post-test were all conducted in English, which was not the mother tongue of the participants, could affect the reliability of research.
- It may also be difficult to ascertain whether all participants answered questions honestly.
- It could also be difficult to ascertain whether all the participants interpreted all items correctly.
- Another problematic aspect of the research was the fact that some teachers were reluctant to take part in it, fearing that the research was a way of exposing their capabilities in general and could end up being a tool to eliminate them from their jobs.
6.7 RECOMMENDATIONS FOR FURTHER RESEARCH

The scope of this research has not necessarily have covered everything regarding its purpose. Further research can still be conducted in some related topics:

• In a research formulated in such a way that it includes parents as participants and the focus group.

• This research was conducted using only teachers from Bizana, a rural village in the Eastern Cape Province. A similar investigation could be done using teachers from urban areas and the results could be compared with those from rural areas.

• This investigation could be translated into the language of the particular group, since this one was conducted in English only.

• A similar investigation could be done using pre-school teachers or only secondary school teachers.

• Developmental stages of children's drawings from rural and low socio-economic status families and those from urban and medium and high socio-economic status could also be compared.

6.8 CONCLUDING REMARKS

The major aim of this study was to investigate whether teachers in their initial training or in-service training or in their own further studies have acquired basic training in the interpretation of children's drawings of human figure and whether they are capable of doing so if they undergo in-service training course. Keeping this aim in mind, an investigation was conducted in the form of a literature study and empirical research and the results revealed that the majority of teachers in remote areas have never had basic training with regard to the interpretation of children's drawings and they are capable of doing so if they undergo an in-service training. Therefore this study may be regarded as a valuable initiative and a source of information to educators, educational institutions and other relevant groups in helping professions.

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REFERENCES


Cox, M. V. & Ralph, M. L. 1996. *Young children’s ability to adapt their drawing of human figure.* Educational Psychology, 16(3):245-255.


APPENDIX A

THE QUESTIONNAIRE

INSTRUCTIONS

Read the following instructions carefully before answering the following questions.

1. Please make sure that you understand the questions.
2. Please answer all questions honestly.
3. Carefully read each item and do not leave any item unanswered.
4. The information required in section A refers to you. Complete this section then proceed to section B.
5. For each item in section B the following scale has been used:

   Disagree               Agree
   1                      2

You will have to choose the number closest to your views and circle it.

* A choice of 2 (a Yes answer) will indicate that you have full knowledge or you fully (or strongly) agree with what is in the item.
* A choice of 1 (a No answer) will indicate that you totally (or strongly) disagree or you totally have no knowledge of what is in that item.

6. Work as fast as possible.
7. Do not discuss the question with another person.
8. Follow all the instructions carefully and if you are unsure quietly ask the supervisor.
9. The information will be kept as confidential as possible.
10. Thank you very much for your co-operation. You may start.
SECTION A

Biographical Details:


2. Please circle the option that applies to you:

   2.1 Name of school: Critchlow JSS = 1 Emdeni JSS = 2
      Intsingizi JSS = 3 Kwa-Mbenya JSS = 4
      Kwa-Ndela JSS = 5 Lindokuhle JSS = 6
      Lukholo JSS = 7 Mabutho JSS = 8
      Madadana JSS = 9 Mhlabi JSS = 10
      Ntlakwe JSS = 11 Ntlozelo JSS = 12
      Stanford LPS = 13 Tandabantu HPS = 14
      Vayi JSS = 15

   2.2 School Phase: Foundation phase = 1 Intermediate phase = 2
                    Senior phase = 3

   2.3 Gender: Male = 1 : Female = 2

3. Fill in the information in the space provided:

   3.1 Age in years: ......................

   3.2 Home Language: ....................

   4. Teaching Experience in years: ...............

For office use only.
You may revise the instructions before you start this section.

**The Items:** Circle 1 for No OR Circle 2 for Yes.

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
<th>FOR OFFICE USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The interpretation of children's drawings was part of my training course at college or university.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. I studied (on my own) the interpretation of children's drawings while I was in training.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. I have studied developmental aspects of children's drawings.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. I understand the first four developmental stages of the child regarding normal drawings.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. I have read a book which specifically concentrated on normal developmental aspects of children's drawings.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. I studied children's drawings as a non-examination subject.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. I have seen strange children's drawings, but did not understand them.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. I once attended an in-service course which aim was to teach the interpretation of children's drawings.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. As teachers we have had in-service training on children's drawings before.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

NO YES

142
| 10. | I am fully aware that children can really express their feelings through drawings. | 1 | 2 | _ | 23 |
| 11. | I understand the concept of projection techniques. | 1 | 2 | _ | 2 |
| 12. | I know that children's drawings are part of the projection techniques. | 1 | 2 | _ | 25 |
| 13. | Apart from drawings, I have been exposed to other projection techniques. | 1 | 2 | _ | 26 |
| 14. | I know the difference between expressive and projective use of children's drawings. | 1 | 2 | _ | 27 |
| 15. | I once observed with interest children's drawings in order to understand their hidden meaning. | 1 | 2 | _ | 28 |
| 16. | I can clearly differentiate normally developing child's drawings and abnormal ones. | 1 | 2 | _ | 29 |
| 17. | I fully know the basic steps that you have to follow when analysing children's drawings. | 1 | 2 | _ | 30 |
| 18. | I am aware of the formal method of analysing children's drawings. | 1 | 2 | _ | 31 |
| 19. | My prior knowledge of analysing drawings has helped me to solve children's problems. | 1 | 2 | _ | 32 |
| 20. | It has been a great surprise for me to learn that children's drawings can be used as part of assessing a child's problems. | 1 | 2 | _ | 33 |
INSTRUCTIONS.

1. Please answer all questions.
2. In each question there are spaces provided. Please write in these spaces when answering questions.
3. All answers will be kept as confidential as possible.
4. Do not discuss a question with another person.
5. If you are unsure you may quietly ask the supervisor.
6. Thank you for your co-operation. You may start.

QUESTION 1

The child's normal drawing ability develops and improves according to stages as the child grows usually between 2 years and 12 years of age. Name the first four of these developmental stages according to their sequence.

1. ......................................................................................................................
2. ........................................................................................................................
3. ........................................................................................................................
4. ························································································································
QUESTION 2.

Suppose you find a child’s drawing placed in one of the following spaces on an A4 page. Briefly explain what would be the child’s likely personality problem if:

1. The drawing is at the **middle** of the page (as figure 38).

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

2. The drawing is at the **top half** of the page (as figure 39).

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

3. The drawing is at the **bottom half** of the page (as figure 40).

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

4. The drawing is at the **top left** hand side of the paper (as in figure 41).

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................
QUESTION 3

Identify the omitted part(s) in the following children's drawings and write it/them in the spaces provided.

(i) Figure 42 ...................................... was/were omitted

(ii) Figure 43 ...................................... was/were omitted

(iii) Figure 44 ...................................... was/were omitted

(iv) Figure 45 ...................................... was/were omitted

(v) Figure 46 ...................................... was/were omitted
QUESTION 4

Identify the exaggerated part(s) in the following children's drawings and write it/them in the spaces provided. In ...

Wilson (1997:162)

Figure 47...........................................was/were exaggerated

Kaufman and Wohl (1992:144)

Figure 48...........................................was/were exaggerated

Barnett & Henderson (1992:347)

Figure 49...........................................was/were exaggerated

Bertoia (1993:84-85)

Figure 50...........................................was/were exaggerated

Coates & Moore (1997:300)

Figure 51...........................................was/were exaggerated
QUESTION 5

Look at the following human figure drawings drawn by four different children in your class (figures 52, 53, 54 and 55). In each of the drawings indicate the unusual part/or situation of the drawing and give the likely problem (psychic, learning or behavioural problem) of the child who drew such a drawing.

1. Figure 52 (Drawn by 7-year-old girl)
   * Unusual part: .................................................................................................
   * Likely problem: .............................................................................................

2. Figure 53 (Drawn by 9-year-old boy)
   * Unusual part: .................................................................................................
   * Likely problem: .............................................................................................

3. Figure 54 (Drawn by 6-year-old girl)
   * Unusual part: .................................................................................................
   * Likely problem: .............................................................................................

4. Figure 55 (Drawn by 6-year-old girl)
   * Unusual part: .................................................................................................
   * Likely problem: .............................................................................................

QUESTION 6.

(a) When a family drawing drawn by a child is interpreted, certain aspects are considered in order to investigate the problem of the child. Write down any two of these aspects in the spaces provided.

1. ..........................................................................................................................

2. ..........................................................................................................................

(b) Write down the following abbreviated drawing terms in full:

D.A.P. = ..............................................................................................................

K.F.D. = .............................................................................................................
Figure 52: Riordan & Verdel (1991:118)  
Figure 53: Gillespie (1994:112)  
Figure 54: Lev-Wiesel (1998:258)  
Figure 55: Mayekiso (1999:27)
THE POST TEST

Question 1

Match the following statements by writing the corresponding letters next to the numbers provided.

1. = ...........
2. = ...........
3. = ...........
4. = ...........
5. = ...........
6. = ...........

1. Draw A Person 2. Kinetic Family Drawing 3. Dawning Realism

A : Is the first stage in child’s drawing development.
B : Is the second stage in child’s drawing development.
C : D.A.P.
D : Is the fourth stage of drawing development.
E : K.F.D.
F : Is the third stage of drawing development.

Question 2

Identify and write the part(s) that was/were omitted by children who drew the following drawings (see drawings in the next page). In...

1. Figure 56, the child has a family of five (two sisters, a brother and parents) but in the figure the.................was/were omitted.
2. Figure 57.............................................was/were omitted.
3. Figure 58..............................................was/were omitted.
4. Figure 59.............................................was/were omitted.
5. Figure 60 ...........................................was/were omitted.
Figure 56. Spigelman, Spigelman & Englesson (1992:43)

Figure 57. Golomb (1992:71)

Figure 58. Spigelman, Spigelman & Englesson (1992:42)

Figure 59. Glenn, Bradshaw & Sharp (1995:14)

Figure 60. Tanay (1994:237)
Question 3

Identify the exaggerated part(s) in the following drawings (see figures in the next page). In ...

1. Figure 61................................................. is/are exaggerated.
2. Figure 62.................................................. is/are exaggerated.
3. Figure 63................................................... is/are exaggerated.
4. Figure 64.................................................. is /are exaggerated.
5. Figure 65................................................... is/are exaggerated.

Question 4

Read the following statements and answer them by writing True or False in the spaces provided:

- Children’s drawings can be used as one of the assessment tools to investigate learning, behavioural or emotional problems ............ /
- Omission of hands can indicate that the child who drew the figure is sexually abused ............... /
- The position of a drawing in a page can determine the nature of the child’s problem .......... /
- A very tiny drawing of a child can be an indication of a child’s (drawer’s) low self-concept ............ /
### APPENDIX D

**THE RAW SCORES OF THE QUESTIONNAIRE FOR 143 PARTICIPANTS**

<table>
<thead>
<tr>
<th></th>
<th>Total Items Per School</th>
<th>Number of Teachers</th>
<th>Number of &quot;No&quot; Items</th>
<th>%NO</th>
<th>Number of &quot;Yes&quot; Items</th>
<th>%Yes</th>
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<td>76</td>
<td>63,3</td>
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**TOTAL=2860**  
**= 143**  
**= 1934**  
**%M=67,6**  
**=926**  
**%M=32,4**

155
## APPENDIX E

### INDIVIDUAL RAW SCORES FOR PRE-TEST PARTICIPANTS: N=143

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<th>PARTICIPANTS PER SCHOOL</th>
<th>INDIVIDUAL RAW SCORES</th>
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<td>4. N= 7</td>
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<td>15. N= 6</td>
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# APPENDIX F

## INDIVIDUAL RAW SCORES FOR PRE-TEST AND POST-TEST

**PARTICIPANTS: N=20**

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<th>PRE-TEST MARKS</th>
<th>POST-TEST MARKS</th>
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<tr>
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<td>24</td>
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<td>22</td>
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## APPENDIX G

### A SUMMARY OF BIOGRAPHICAL INFORMATION OF THE PARTICIPANTS
### IN THE RESEARCH: AGES AND WORK EXPERIENCE IN YEARS

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<th>Value</th>
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<td>2</td>
<td>Number of Participants (teachers)</td>
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</tr>
<tr>
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<td>Teachers from foundation Phase</td>
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</tr>
<tr>
<td>4</td>
<td>Teachers from Intermediate Phase</td>
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</tr>
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<td>Teachers from Senior Phase</td>
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<td>% Males</td>
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<td>% Females</td>
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<td>Mean Age of all Participants</td>
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<td>Mean Experience of all Participants</td>
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