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**The role of music in the auditory perceptual  
development of children from birth to ten years of age -  
a psychopedagogical investigation**

by

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Dissertation submitted in accordance with the requirements for the degree

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declare herewith that the dissertation for the M.Ed.degree titled: *The role of music in the auditory perceptual development of children from birth to ten years of age - a psychological investigation* is my own original work; that all the sources consulted or quoted by means of complete references are indicated and acknowledged and that this dissertation has never been submitted to any other university for approval for the degree Magister Educationis.

**SONJA BLOM**

November 1993

Dedicated to

Dawie and Charel David

# TABLE OF CONTENTS

---

<b>CHAPTER 1</b>	<b>Introductory chapter</b>	<b>1</b>
------------------	-----------------------------	----------

---

1.1	Introduction	1
1.2	Study motivation	2
1.3	Statement of the problem	3
1.4	Objectives of the study	5
1.5	Research hypothesis	6
1.6	Definitions	6
1.6.1	Music	6
1.6.2	Auditory perception	6
1.6.3	Birth to 10 years of age	7
1.6.4	Listening	7
1.7	The course of the study	7
1.8	Conclusion	8

---

<b>CHAPTER 2</b>	<b>Hearing musical sound</b>	<b>9</b>
------------------	------------------------------	----------

---

2.1	Introduction	9
2.2	The structure of the human ear	9
2.2.1	The outer ear	10
2.2.2	The middle ear	10
2.2.3	Inner ear	12
2.3	Sound	13
2.4	Conclusion	15

---

<b>CHAPTER 3</b>	<b>Auditory perception</b>	<b>17</b>
------------------	----------------------------	-----------

---

3.1	Introduction	17
3.2	Auditory acuity	18
3.2.1	Types and causes of hearing loss	18
3.2.1.1	Conductive hearing loss	19

3.2.1.2	Sensorineural hearing loss	20
3.2.1.3	Mixed hearing loss	20
3.2.1.4	Central hearing loss	21
3.2.2	Symptoms of poor auditory acuity	21
3.2.3	The continuum of degree of hearing impairment	23
<b>3.3</b>	<b>Auditory perception</b>	<b>26</b>
<b>3.4</b>	<b>Auditory processing</b>	<b>27</b>
3.4.1	Auditory memory	27
3.4.2	Auditory discrimination	30
3.4.3	Auditory attention	31
3.4.4	Auditory figure ground	32
3.4.5	Sound localization	32
3.4.6	Auditory closure	33
3.4.7	Auditory blending	34
3.4.8	Auditory analysis	34
3.4.9	Auditory association	35
<b>3.5</b>	<b>Auditory awareness</b>	<b>36</b>
<b>3.6</b>	<b>Auditory perceptual problems</b>	<b>37</b>
3.6.1	Reasons for poor auditory perception	38
3.6.2	The implication on music	38
3.6.2.1	Auditory discrimination	39
3.6.2.2	Auditory memory and recall	40
3.6.2.3	Auditory association	41
3.6.2.4	Auditory figure-ground perception	42
3.6.2.5	Auditory analysis and synthesis	42
3.6.2.6	Auditory closure	43
<b>3.7</b>	<b>Conclusion</b>	<b>43</b>

---

<b>CHAPTER 4</b>	<b>The development of auditory perception and musical experience</b>	<b>46</b>
------------------	--	-----------

---

<b>4.1</b>	<b>Introduction</b>	<b>46</b>
<b>4.2</b>	<b>Prenatal stage</b>	<b>47</b>
<b>4.3</b>	<b>Age 0 months to 1 year</b>	<b>48</b>
<b>4.4</b>	<b>Age 1-2 years</b>	<b>53</b>
<b>4.5</b>	<b>Age 2-3 years</b>	<b>57</b>
<b>4.6</b>	<b>Age 3-4 years</b>	<b>61</b>
<b>4.7</b>	<b>Age 4-5 years</b>	<b>67</b>
<b>4.8</b>	<b>Age 5-6 years</b>	<b>73</b>
<b>4.9</b>	<b>Age 6-10 years</b>	<b>79</b>
<b>4.10</b>	<b>Conclusion</b>	<b>82</b>

---

<b>CHAPTER 5</b>	<b>Listening activities to develop auditory perception through music</b>	<b>85</b>
------------------	--	-----------

---

<b>5.1</b>	<b>Introduction</b>	<b>85</b>
<b>5.2</b>	<b>Sound recognition and discrimination</b>	<b>87</b>
5.2.1	Body sounds	87
5.2.2	Sounds from everyday material	90
5.2.3	Sounds from instruments	92
5.2.4	Environmental sounds	97
5.2.5	Music corner activities	100
5.2.5.1	Sound experiments and games in the music corner	102
5.2.6	Using tape recordings	106
5.2.6.1	Music listening	109
5.2.6.2	What music shall we choose?	111
5.2.6.3	Suitable music	113
5.2.7	Selecting sound effects	115
5.2.7.1	Sound poems	116
5.2.7.2	Sound stories	120
<b>5.3</b>	<b>Listening games and activities</b>	<b>124</b>
<b>5.4</b>	<b>Auditory awareness</b>	<b>127</b>
<b>5.5</b>	<b>Developing an aural memory and auditory sequence</b>	<b>128</b>
5.5.1	Activities	128
<b>5.6</b>	<b>Conclusion</b>	<b>131</b>

---

<b>CHAPTER 6</b>	<b>Music, listening and movement</b>	<b>133</b>
------------------	--------------------------------------	------------

---

<b>6.1</b>	<b>Introduction</b>	<b>133</b>
<b>6.2</b>	<b>What is movement?</b>	<b>134</b>
<b>6.3</b>	<b>Basic movement</b>	<b>137</b>
6.3.1	Activities: Listening and basic movement	138
6.3.1.1	Locomotor movements	138
6.3.1.2	Non-locomotor movements	139
<b>6.4</b>	<b>Rhythmical movement</b>	<b>140</b>

6.4.1	Activities: Listening and rhythmic movement	144
<b>6.5</b>	<b>Experiencing the beat</b>	<b>148</b>
6.5.1	Activities: Listening and moving to the beat	150
6.5.2	The accent	153
6.5.2.1	Activities: Listening and experiencing accents	154
<b>6.6</b>	<b>Listening and moving to musical elements</b>	<b>157</b>
6.6.1	The phrase	157
6.6.1.1	Activities: Listening and discovering phrases	159
6.6.2	Tempo	161
6.6.2.1	Activities: Listening and responses to tempo	162
6.6.3	Dynamics	164
6.6.3.1	Activities: Listening and responding to dynamics	166
6.6.4	Pitch	170
6.6.4.1	Activities: Listening and experiencing pitch	171
<b>6.7</b>	<b>Free (creative) movement</b>	<b>172</b>
<b>6.8</b>	<b>Action songs and folk dances</b>	<b>177</b>
6.8.1	Folk dances	177
6.8.2	Action songs	178
<b>6.9</b>	<b>Conclusion</b>	<b>179</b>

---

## **CHAPTER 7 Practical implementation and recommendations**

---

**181**

<b>7.1</b>	<b>Introduction</b>	<b>181</b>
<b>7.2</b>	<b>The place of music at home and in the school</b>	<b>182</b>
<b>7.3</b>	<b>The teaching process</b>	<b>186</b>
<b>7.4</b>	<b>Child-initiated music</b>	<b>187</b>
<b>7.5</b>	<b>Teacher-initiated music</b>	<b>189</b>
<b>7.6</b>	<b>Planning the musical experience</b>	<b>190</b>
<b>7.7</b>	<b>The setting for musical activities</b>	<b>192</b>
<b>7.8</b>	<b>Music materials</b>	<b>193</b>

<b>7.9 Suggested techniques in diagnostic teaching</b>	<b>194</b>
7.9.1 Awareness	195
7.9.2 Recognition	195
7.9.3 Identification	195
7.9.4 Discrimination	195
7.9.5 Recall	196
7.9.6 Generalization	196
7.9.7 Imitation	196
7.9.8 Recall and reproduction	196
<b>7.10 Conclusion and recommendations</b>	<b>197</b>
<b>Bibliography</b>	<b>199</b>
<b>Opsomming/Summary</b>	<b>206</b>

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## Introductory chapter

### 1.1 INTRODUCTION

Where did music begin? Nature's capacity to create, nourish and simulate is the starting-point for all music; rhythm informs the beat of the heart, the thrumming downpour of rain and the thud of horses' hooves; melody is evoked in the mind by a bird-caller or the howl of a jackal; form can be produced quite casually through repetition or memory. The first music was born independently of man, yet it was man who created genuine music from natural sounds. Man was strongly influenced by the natural sounds he experienced directly, through his own physical senses, or which he could produce himself. Above all, he had his own voice which, though it was incapable of refined articulation, served to communicate his emotions - a sound which was partly howling and whining, and partly already singing and speech. In fact the two elements of music, pitch and rhythm, were both carried in the human body as natural, cosmic phenomena (Szabolschi 1965:1).

The true resources of music are within each one of us and they are part of the business of living. Essentially it is a language - a means of expression. Through music we can express the things we feel and perceive. According to Sloboda (1985:1), the reason that most of us take part in musical activity, be it composing, performing, or listening, is that music is capable of arousing in us deep and significant emotions.

Music has a place in every culture. It stimulates the feelings and intuitions, letting people express and understand what cannot be communicated in other ways. In interacting with the environment, young children naturally rely on their senses and intuitions. As they begin to develop cognitive abilities, children should continue to refine their intuitive, creative abilities by active involvement with music and other arts that touch emotions and intuition (Swanson 1981:1).

Swanson (1981:2) stresses that through music we can perceive and respond to meaning, feeling, and beauty, subjectively and nonverbally. Music provides another way, called the aesthetic domain, of knowing about ourselves and the world.

The world of children is filled with music not of their own making. They hear it on television and radio, from stereo sets and other sound sources. They may have their own cassette or record player to play favourite recordings. Obviously, young children live in a musical world that may be a confusing one; thus it is important that music becomes an understandable and useful medium of expression for children (Nye 1979:5). But, to be able to understand music and language, accurate listening is essential. The child is expected to acquire the ability to listen without special instruction, but many children do not acquire functional skills in listening by themselves. Lerner (1981:268) writes that listening is a basic skill that can be improved through teaching and practice. According to him many children are suspectedly deaf, but do not have any defect in hearing acuity or any organic pathology causing their seeming deafness.

According to Nye (1979:9), it is important that the environment should be so organized as to provide opportunities for the child to listen to music and, through his enjoyment of it acquire basic music-related concepts, understandings, skills and attitudes which set the stage for a life-long enjoyment and pursuit of music. Even though the young child will seldom be able to discriminate between each type of music, he will develop an awareness of changes in rhythm and sound. Linberg and Swedlow (1985:147) confirm this by writing: "As a child listens, he becomes familiar with the rhythm, intonation and inflection of the language." Thus, it is clear that music can be used in the auditory perceptual development of young children.

## 1.2 STUDY MOTIVATION

Through personal experience of teaching, the researcher came to the conclusion that children do not listen accurately, and this can influence the child's total development, because listening is the basis and a requirement of language development. Lindberg and Swedlow (1985:147) write: "The skill of listening is necessary for learning to speak." The researcher felt it necessary to study the important role that music can play in the development of auditory perception.

Why music? Because music consists of sounds and music requires the ability of listening. Listening and music are very closely related. In fact, "music came about as a result of a desire for beauty and meaning in sound" (Crain 1974:33). Therefore, music can be a useful "instrument" to develop auditory perception in children. Child (1972:63) provides the example that music can be picked out and understood against a background of other moderate sounds.

Very little is written about auditory perception and possible activities to improve it. "Listening has been the neglected part of the language arts. When one compares the large volume of research and writing and the practical help available on instruction in reading to the limited amounts of material on listening or auding, one reason for the classroom neglect of auding is apparent" (Russell & Russell 1971:4). The researcher attempts to provide information about auditory perception and activities to develop children's listening abilities by means of music. Grant (1960:14) writes: "Music is without rival as a subject by which to develop the ear and to promote auditory concentration."

### 1.3 STATEMENT OF THE PROBLEM

Sound is intrinsically interesting to human beings, and it captures a child's attention at a very early age. Children create sound with their own voices and with objects that they strike and manipulate to produce soft and loud sounds of different qualities. For the child to discover tone is to perceive the sound of voices and the sound of struck or scraped objects (Swanson 1981:23). By means of the auditory perception of sound, the young child learns to discriminate, to compare and to classify, and thus the transition from concrete to symbolic thought is aided (Grobler 1990:17).

A problem that exists today, is that children and adults no longer are able to listen to sounds from their environment, because of all the sounds that exist. In a discussion Schafer (1976:117) had with his students, it became clear that our hearing is not as acute as it used to be. Schafer played on the clavichord and the students were shocked that the instrument had such tiny dulcet sounds that one could scarcely hear them. The composer Bach preferred the clavichord to the organ, and the people of that time did seem to be more satisfied with soft and moderately loud sounds. According to Schafer (1976:117) the people had more acute hearing in

Bach's days. One of the interesting things discovered from history is that music keeps getting louder. The piano replaced the harpsichord and the clavichord, largely because it produced stronger sounds. Today, as the electric guitar and the contact microphone demonstrate, we are no longer content with natural sound at all, but want to boost it up to "bigger than life" size. Amplifiers of sufficient strength are now available to push sounds right past the threshold of pain (Schafer 1976:118). That is when the sound pressure becomes so strong on the ear drums that it gives one physical pain or even makes one's ears bleed. Ultimately one grows deaf. The pain threshold of bearable sound is around 120 decibels (Schafer 1976:188).

Perhaps certain conclusions can be drawn. Schafer (1976:102) found that at first when people were few in number and lived a pastoral existence, the sounds of nature seemed to predominate: Winds, water, birds, animals, thunder. People used their ears to read the sound-omens of nature. Later on, in the townscape peoples' voices, their laughter and the sound of their handicraft industries seemed to take over the foreground. Later still, after the industrial revolution, mechanical sounds drowned out both human and natural sounds with their ubiquitous noise, and today?

It is important that children develop once again the ability to listen. It is the task of the parents and teachers to develop children's hearing sense. Another problem that exists is that music is so pervasive in our culture that no one can pay careful attention to it. The sounds emanating steadily from business establishments, radio, television sets, and record players provide so many aural stimuli that people find it hard to listen selectively. They simply fall into the habit of "tuning out" many of the sounds that they hear every day (Hoffer & Hoffer 1982:147).

Music instruction should include experiences that help children listen to music in a more mentally active and analytical way. The idea of listening analytically is foreign to most children and adults. It is not possible to change society and significantly reduce the amount of music that people hear every day. What is practical is to teach children to listen to different types of music in different ways. Listening is a skill that is developed (Hoffer & Hoffer 1982:148). In learning the language of music, just as in learning any language, the young child must listen to the language and its sound patterns before he/she is able to use it. Therefore, "it is essential that the young child hear a great deal of music to provide a foundation for growth ... as in language learning, the young child at first will perceive the sounds in a vague way,

then, through listening, he will gain increasing control of his new language" (Greenberg 1979:128).

According to Greenberg (1979:79) the auditory sense is of primary importance since the child must be able to hear music to be able to sing, to play instruments, to move to music, and to create music. Listening is an integral part of all music activities and is the basis of all experience in music. Grant (1960:14) writes: "We are born able to hear, but we must learn to listen - to discriminate sounds."

#### 1.4 OBJECTIVES OF THE STUDY

By means of a literature study the purpose of this study is:

- To determine the importance of music in the development of auditory perception of young children.
- To analyse the structure and functions of the human ear.
- To investigate the different stages of auditory development and musical experience from the prenatal stage to 10 years of age.
- To determine the important role of the home in the development of auditory perception in young children through music.
- To provide listening activities through which auditory perception can be developed by using musical stimulation.
- To define auditory acuity, auditory perception and the auditory process.
- To stress the importance of listening, music and movement in the auditory perceptual development of a child.
- To provide activities to develop listening through music and movement.

## 1.5 RESEARCH HYPOTHESIS

By means of a literature study, the researcher will attempt to prove that music can play an important role in the auditory perceptual development of young children from birth to ten years of age.

## 1.6 DEFINITIONS

The definition of the following terms is important to the researcher:

### 1.6.1 Music

Hornby (1981:557) describes music as the "art of making pleasing combinations of sounds in rhythm, harmony and counterpoint; the sounds and composition so made". According to Odendal, Schoonnes, Swanepoel, Du Toit and Booyen (1983:717), music is the art " ... om aangename verbindings van klanke te maak waardeur in skone vorm aan gevoelens uiting gegee word".

### 1.6.2 Auditory perception

According to Lerner (1981:206) perception is the term applied to "the recognition of sensory information, the intellect's ability to extract meaning from the data, received by the senses". Perception is a learned skill, so the teaching process can have a direct impact on a child's perceptual facility. Fromberg (1977:52) writes: "Perception is a construct that lies on a continuum between sensory data and mature abstractions ... perception contains both sensory experience and meaning."

The term "auditory perception" will be fully discussed in chapter 3, therefore a short, significant definition will now be given. Auditory perception is the interpretation of information "... wat deur die ore na die brein gestuur word" (Ferreira 1990:8). According to him, the ability to hear does not necessarily mean the same as listening. "Die vermoë om te kan luister moet aangeleer word. Die ore hoor, maar die verstand luister" (Ferreira 1990:8). Lerner (1981:231) writes: "Auditory perception takes place in the brain - not the ear."

### 1.6.3 Birth to 10 years of age

Yussen and Santrock (1978:24) see this period as three different periods of childhood: According to them, infancy is usually recognized as extending from birth to 18 or 24 months. Infancy is a time of extreme dependency upon adults, with many psychological activities, such as language, just beginning. "The end of this period is usually set at the time when the child talks in short phrases and finds it easy to walk great distances from the caretaker (Yussen & Santrock 1978:24).

Early childhood extends from infancy to about 5 or 6 years of age. It roughly corresponds to the period in which the child prepares for formal schooling. First grade usually marks the end of this period.

Middle childhood extends from about 6 to 11 years of age. It roughly corresponds to the primary school years. For the benefit of this study children that will be discussed during the research, include children of these three stages, but to the maximum age of 10 years.

### 1.6.4 Listening

Listening is the ability to concentrate on sounds in general and on speech in particular. It is a central factor in children's acquisition of language and their educational and social development. Children who are poor listeners have an immediate disadvantage in school since at primary level approximately 60 % of classroom time is spent on listening, with an increase to approximately 90 % at secondary level (Williams 1988:124). Conditions associated with listening problems include hyperactivity, hearing impairment and when listening has not been stimulated at home through stories, conversation, etc. Early identification of poor listeners is important so that they can be helped to develop their listening skills.

## 1.7 THE COURSE OF THE STUDY

Chapter 1 deals with the motivation for the research, the statement of the problem, objectives of the study, the research hypothesis and the definition of several essential terms.

Chapter 2 describes the hearing process that takes place through the inner, middle and outer ear.

In chapter 3 the difference between auditory acuity and auditory perception will be discussed. Special attention will be given to auditory processing, and includes terminology such as auditory memory, auditory discrimination, auditory attention, auditory figure ground, auditory localization, auditory closure, auditory blending, auditory analysis, auditory association and auditory awareness.

In chapter 4 the different stages of child development will be discussed from the prenatal stage to children of 10 years of age. Auditory perceptual development and the development of musical experience enjoy special attention.

Chapter 5 provides listening activities to develop and improve auditory perception in children.

In chapter 6 the importance of the combination of music, listening and movement is stressed. Activities with music, listening and movement are then provided and discussed.

Chapter 7 is the concluding chapter and the role of the home as an important institute where the child can be introduced to music listening is discussed. It also deals with practical implementations and recommendations.

## **1.8 CONCLUSION**

The objectives for the study, as well as the method and course have already been discussed. The problem was stated and several definitions were given.

In chapter 2 the hearing process and sound will be discussed.

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## Hearing musical sound

### 2.1 INTRODUCTION

The growing child adapts to his environment on the basis of the experiences he perceives through his sense modalities. This he does from the beginning of life. Each of the five sensory receptors responsible for the functions of hearing, sight, touch, taste and smell, plays an important role in the manner in which the developing child perceives a given experience. Hearing and vision are the two most crucial for acquiring information about the world.

Hearing is a condition which most of us can never fully understand nor appreciate. We cannot close our ears and gain some notion of what it might be like not to hear, because our ears are always open and always at work. It is through hearing that we constantly monitor our environment. It is hearing that provides us with a continual source of information about happenings within our immediate physical environment. Language develops and musical experience takes place through the ability to hear sound. Thus, the importance of the perception of hearing cannot be overstressed.

What happens when the soundwave reaches the ear of a listener, is the subject of the present chapter. The structure of the human ear and the meaning of "sound" will be discussed, because to understand hearing requires an understanding of sound.

### 2.2 THE STRUCTURE OF THE HUMAN EAR

The peripheral hearing mechanism consists of three clearly defined structures known as the outer, the middle and the inner ear. Each section will be examined in turn.

### 2.2.1 The outer ear

The outer ear is also known as the conductive mechanism of the auditory system. Its purpose is to conduct vibrational sound energy from the outside environment to the sensorineural mechanism, located in the inner structure of the ear. The outer ear consists of the *pinna* or the *auricle*. This is the part of the ear that is visible. The *pinna* leads to the external ear canal or the *external auditory meatus* - an almost *cylindrical* channel, roughly 25 mm long and 7 mm in diameter. This canal terminates at the *tympanic membrane* or *eardrum* - a thin semitransparent membrane with the shape of a flattened cone (Campbell & Created 1987:40-41; Kramer & Armbruster 1982:126-127).

When a sound wave arrives at the outer ear, part of the wave is transmitted down the ear canal. The resulting pressure fluctuations force the eardrum into vibration. The ear canal resonates at about 3800 Hz (herz), behaving like a cylindrical tube closed at one end. The pinna collects the sound energy arriving over a fairly large area and channels it into the smaller area of the ear canal. The pinna also enables the listener to identify the direction from which a sound has come. According to Campbell and Created (1987:41), experiments have shown that a listener's ability to judge the height of a sound source straight ahead is destroyed when the pinnae are flattened against the head.

### 2.2.2 The middle ear

The sensorineural mechanism or middle ear consists of the primary organ of hearing, the *cochlea* and the *auditory nerve*. Between the outer and the inner ear is a small air-filled cavity in the bone of the skull, which is called the middle ear. Its outer boundary is formed almost entirely by the eardrum. On the outer side of the cavity there are two small apertures in the bony wall dividing middle and inner ears. These are known as the *oval window* or *fenestra ovalis* and the *round window* or *fenestra rotunda* (Kramer & Armbruster 1982:126-127; Moore 1980:1037-1040). The resulting vibrations of the eardrum are transmitted directly to the cavity of the middle ear, which houses the three tiny bones called ossicles (*malleus*, *incus* and *stapes*). The first of these bones, the malleus, is attached to the tympanum, and its movements are transmitted to the incus and then to the stapes. The stapes is connected to the oval window at the base of the fluid-filled cochlea. This window lies at

the boundary of the middle and inner ears. According to Warren (1982:8-9), the middle ear permits the air-borne sound to be converted to liquid-borne sound without the great loss which would otherwise occur. When sound in air impinges directly upon a liquid, a loss of about 99,9 % of the power takes place, with most of the sound energy being reflected back into the air.

Campbell & Created (1987:43-44) explain the only way in which air can enter or leave the middle ear is through the eustachian tube, which connects it to the back of the throat. This passage serves to prevent a steady pressure difference building up between the middle ear and outside atmosphere. Discomfort or pain is often experienced when descending in an aircraft, because of a pressure difference across the eardrum.

There are two muscles within the middle ear which can lessen the intensity of very strong stimuli and minimize the possibility of damage to the inner ear. One of these, the tensor timpani muscle, is attached to the malleus, and the other, the stapedium muscle, is attached to the stapes. Middle ear muscle contraction can reduce distortions which would otherwise occur from overloading the ossicular chain. Very few people can contract their middle ear muscles voluntarily. The reflex activity of these muscles in response to external sound is very quick (perhaps 10 msec for every intense sound), but this still cannot protect against sudden harmful sounds such as gunshots (Warren 1982:8-9).

When a sound wave arrives at the eardrum, the pressure fluctuations set the membrane vibrating. The principal function of the middle ear mechanism is to transfer these vibrations to the oval window at the entrance to the inner ear. The hammer bone is firmly attached at one end to the inner surface of the eardrum, while its other end is fixed to the thick end of the anvil bone. The stirrup bone is connected to the far end of the anvil by a flexible joint. In response to eardrum vibrations, the hammer and anvil pivot about their junction, causing the stirrup to move into and out of the oval window like a piston (Campbell & Created 1987:44). According to the authors, we need to transfer as much as possible of the sound energy in an incoming wave into the inner ear, in order to be able to hear very faint sounds. The middle ear plays a vital role in improving the efficiency of this process. If the sound wave fell directly on the entrance to the inner ear, less than 1 % of its energy would pass through; the rest would be reflected back, out of the ear. Because

of the intervention of the middle ear, about 50 % of the sound energy is transmitted to the inner ear in the frequency range of great musical importance.

### 2.3 Inner ear

The inner ear, also known as the labyrinth, is concerned with the reception of sound and the maintenance of balance. It is buried in the petrous part of the temporal bone and consists of sacs and ducts, the membranous labyrinth, and the end organs for hearing and balancing. The latter are in a series of channels and spaces in the temporal bone (Moore 1980:1049). Thus, the labyrinth is a complicated series of interconnecting passages and chambers, which are filled with watery fluid. The semi-circular canals give us our sense of balance, and the cochlea is responsible for our sense of hearing. The cochlea is a coiled tube and consists of about 2,5 turns and has a length of about 35 mm. The tube is about 2 mm in diameter at the base and gradually tapers down towards the apex (Campbell & Created 1987:48). According to Warren (1982:9) the cochlea is partitioned into three canals or ducts, called *scalae*. Two of the *scalae* are joined: The *scala vestibule* or vestibular canal (which has at its basal end the flexible oval window to which the stapes is attached), communicates with the *scala timpani* or tympanic canal (which has the flexible round window at its basal end). These two *scalae* contain a fluid called perilymph, and when the oval window is flexed inward by the stapes, the almost incompressible perilymph causes the round window to flex outward, as described by Warren (1982:9-10).

According to Warren (1982:10), auditory receptors are found within a complex neuroepithelium, called the organ of Corti, lying on the basilar membrane. "The receptors are of two types: The outer hair cells - close to the cochlear wall - found in three rows, and a single row of inner cells. Each hair is topped by a plate containing stereocilia. The stereocilia are bathed in endolymph, while most of the receptor cell is surrounded by cortilymph. The tips of some stereocilia may be embedded in the tectorial membrane, the tips of others may move with the tectorial membrane because of attachment by thin fibrils, or because of viscous forces. It seems that a shearing deflection of these stereocilia causes electrochemical changes in the receptor cells leading to stimulation of the associated auditory nerve fibres" (Warren 1982:10). Thus, when the basilar membrane flexes, the tectorial membrane slides across it; this bends the hairs, causing the cells to send out electrical impulses. These impulses

are picked up by the nerve fibres in the vicinity and communicated through them to the brain.

Near the oval window the bulge appears and travels along the basilar membrane towards the helicotrema. As it passes, the hair cells in the displaced section fire, and the nerve fibres from that section convey a corresponding signal to the brain (Campbell & Created 1987:51). When we hear a continuous pure tone, the eardrum vibrates with simple harmonic motion. The stirrup footplate is driven alternately into and out of the oval window. As they travel away from the oval window, these bulges grow in height until they reach a certain position on the basilar membrane, after which they diminish rapidly and disappear.

It is important for a musician to be able to distinguish between sounds of different frequency. A high frequency pure tone generates a wave which travels only a short distance along the basilar membrane before reaching its peak amplitude. The hair cells at the position of the peak are fired, and the brain receives signals from the corresponding nerve fibres. These fibres evoke a high frequency sensation. A low frequency tone generates a wave which travels most of the way to the helicotrema before rising to its peak amplitude and dying away; signals from the nerve fibres connected to the region of the basilar membrane evoke a low-frequency sensation in the brain (Campbell & Created 1987:54).

As a result of experiments, named by Campbell & Created (1987:49-50), we know that the inner ear is indeed responsible for many of the musically important features of our hearing ability.

### 2.3 SOUND

Sound consists of "... fluctuations in pressure which are propagated through an elastic medium, and are associated with displacement of particles composing the medium" (Warren 1982:1). When the substance conducting sound is air at a temperature and pressure within the normal environmental ranges, compressions and rarefactions are transmitted at a velocity of about 335 meters per second, regardless of their amplitude or waveform. The former is the extent of pressure change, and the latter the pattern of pressure changes over time. When we hear music, we are making subjective judgements concerning pitch, timbre, rhythm, and loudness. "In

reality we are hearing the acoustic phenomena of frequency, duration, and amplitude, and the various interactions of these elements" (Walker 1984:53).

Frequency is the term used to describe the number of times a cycle of vibration occurs in a given period (Walker 1984:53). Frequency is measured in Hertz (Hz) or numbers of repetitions of a waveform per second. "Hz refers to the frequency or vibration rate of a sound" (Berg 1976:12-13). Berg (1976:13) states that a child with normal hearing can detect sound frequencies from an extremely low-pitched tone of 20 Hz to a very high-pitched tone of 15 000 Hz. The time required for one complete statement of an iterated waveform is its period. Periodic sounds from 20 through 16 000 Hz can produce a sensation of pitch, and are called tones. The simplest type of periodic sound is a sine wave or pure tone, which has a sinusoidal change in pressure over time. A limitless number of periodic waveforms exist, including square waves and pulse trains. Periodic sounds need not have simple, symmetrical waveforms. A periodic sound can be produced by iteration of a randomly generated waveform. According to Warren (1982:2-3), a sinusoidal tone consists of a single spectra component. Each of these sounds, as named above, has a period of 1 millisecond, a fundamental frequency of 1 000 Hz, and harmonic components corresponding to integral multiples of the 1 000 Hz fundamental as indicated (Warren 1982:1-5).

Most sounds comprise a combination of frequencies rather than a single pure tone. "A descant recorder, for example, or a clarinet, is capable of producing a single frequency with little distortion caused by additional frequencies (or partials)" (Walker 1984:53). On an oscilloscope this event would look like a series of half circles, one above an imaginary middle line followed by one below, and repeated. As frequencies are added, the relative purity of the circle shape becomes distorted, producing a more complex wave form. "Complexity of wave form is one element in judgements concerning timbre, but it is also an element in pitch judgements since complex forms can tend to emphasise the fundamental tone for the listener" (Walker 1984:54).

"The distance between the highest point of the wave and the following lowest point is called the amplitude" (Walker 1984:54). A range of audible amplitude changes is very large. We hear these differences as variants of loudness. The greater the distance (the larger the wave shape) the greater is the disturbance, or pressure, caused by the wave. A sound producing discomfort may be as much as 1 000 000

times the amplitude level at threshold. Very low sounds always tend to sound quieter than higher ones, "... often irrespective of amplitude because of the nature of our auditory apparatus" (Walker 1984:54).

Decibels (named after Alexander Graham Bell) are used to express sound levels (Warren 1982:5). "The decibel expresses a ratio between the intensity of loudness of a sound and that of a theoretical standard tone that is extremely faint ... an incoming speech signal of 60 dB, for example, is 1 000 times more intense than the standard faint tone. This relationship is figured on the basis of 10 times being equal to 20 dB" (Berg 1976:13). To give some feeling for intensity levels in dB, Warren (1982:5) named the following examples: The threshold of normal listeners for a 1 000 Hz sinusoidal tone is about 6 dB, the ambient level (background noise) in radio and TV studios is about 30 dB, conversational speech about 55 dB, and the level inside a bus about 90 dB.

Duration of a sound relates to the length of time that a sound is perceived to have lasted before it is either repeated or is replaced by another sound. "From this we perceive elements of rhythm ... rhythm is not solely a function of duration of sounds. Elements of loudness, perceived as accents, can have rhythmic meaning for us" (Walker 1984:54).

Pitch perception is also affected by the type of wave formation. In 1979 Radocy and Boyle (in Walker 1984:55-56) explained that "a complex tone with component frequencies of 100, 200, 300, 400 and 500 Hz will make a wave with a repetition frequency of 100 Hz." According to Walker this will be the perceived pitch because of the process of fundamental tracking, which yields a sensation of periodicity pitch. "Periodicity, or the repeat of wave form, is the factor that enables us to assign pitch" (Walker 1984:56).

## 2.4 CONCLUSION

The sensory process of hearing depends first of all on an intact peripheral mechanism, which implies normal functioning of the three parts of the ear - outer, middle and inner - as well as the nerve fibres extending from the inner ear to the central nervous system. According to Dunn (1973:359), hearing loss, either partial or complete, may result from damage to or maldevelopment of any part of this system.

The perceptual process of hearing is a function of the central auditory pathways passing through the brain stem and terminating at the receptor area of the brain, the auditory cortex.

While sensation of hearing is a function of an intact periphery of hearing made up of the three parts of the ear just described, the recognition, perception, and integration of a heard stimulus is dependent upon that portion of the auditory system situated in the central nervous system. Thus, sensation of hearing occurs as the auditory stimulus travels through the outer and middle ear and is electro-mechanically transduced into a nerve impulse at the level of the cochlea in the inner ear. From there the impulse travels through the 8th nerve to the juncture of the nerve with the brain stem, and it is beyond that point that the central processes of hearing are handled.

"The newborn child, if he has a normal hearing mechanism, is quite able to hear sound in the sense that excitation of nerve impulses in the cochlea occurs. If his central nervous system is intact, the nerve impulse will travel, uninterrupted and undistorted, to be received at the auditory cortex. Yet it cannot be said that he has learned either to attend, listen to, or to perceive those sounds which surround him on the first day of life, insofar as he is able to associate meaning with them" (Dunn 1973:358).

Chapter 3 will deal with the auditory perceptual process. Special attention will be given to terminology, such as auditory acuity, auditory perception and auditory processing. This includes terms such as auditory discrimination, auditory awareness, etc.

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## Auditory perception

### 3.1 INTRODUCTION

Dorland (1981:986) describes perception as "the conscious mental registration of a sensory stimulus". Barnard (1975:163) defines perception as: "Waarneming, die interpretasie van sensoriese informasie. Dit is die kontak wat die brein met die buitewêreld maak deur middel van die sintuie." Therefore, auditory perception is the "mental process that takes place in the brain after the ear and the ear nerves have performed their functions correctly" (Cosford 1990:21).

Many children with specific language or learning deficits have been described as having auditory perceptual disfunction (Reynolds & Mann 1987:158). According to Reynolds and Mann (1987:158) clinically, the term "auditory perceptual impairment" is often applied by exclusion. In 1964, Benton (in Reynolds & Mann 1987:158) has determined that if a child's language or learning problem cannot be attributed to "mental retardation, hearing loss, frank neurological signs, severe emotional disturbance, paralysis of the speech musculature, or infantile autism, it is hypothesized that the child might have difficulty processing speech and language through the auditory mode and thus might have auditory perceptual deficits."

Sometimes teachers forget that children have to be able to hear differences in sounds and words before they can produce them accurately. In addition to building fluency, conversation, vocabulary and concepts, the teacher must plan daily opportunities for the children to develop their ability to listen carefully and discriminate between sounds. School work demands a very subtle ability to hear similarities and differences between sounds in order to read and to spell.

It is thus very important for the teacher to notice the child with auditory perception problems, in order to help him, because "generalized deficits in auditory learning are grossly disturbing to the child ..." (Johnson & Myklebust 1967:67).

This chapter deals with the explanation of terms such as auditory acuity, auditory perception and auditory processing. The identification of auditory problems in the classroom will also be discussed, as well as the implication of auditory perceptual problems for music. Examples are given of the different types of auditory problems that children may experience. Once the teacher has established what kind of auditory perception problem the child has, remedial techniques and listening activities may be used. These musical listening activities will be discussed in chapters 5 and 6.

### **3.2 AUDITORY ACUITY**

"Auditory acuity involves the detection by the individual of the presence or absence of sound" (Williams 1983:136). Williams (1988:19) describes it as "sharpness of hearing". According to Cosford (1990:17), the term "auditory acuity" is used by professionals and means the same as "hearing". The term does not mean the same as "auditory perception".

A child with poor auditory acuity may be just slightly hard of hearing or he may be profoundly deaf. In either case there is a physical disability in hearing which is related to the ears. A child may be seriously handicapped by poor hearing without knowing what is wrong with him.

Cosford (1990:17) describes good auditory acuity as being very important for young children "because they need to hear language correctly". The child with poor auditory acuity will have "a poor grasp of language and will not be able to use language adequately, with the result that all his school work will be affected" (Cosford 1990:17).

#### **3.2.1 Types and causes of hearing loss**

According to Wyne and O'Connor (1979:437), impairments of hearing basically fall into four types of categories:

- conductive hearing loss;
- sensorineural hearing loss;

- mixed hearing loss;
- central hearing loss.

Cosford (1990:18) names another type, namely perceptive deafness, but it correlates with the information on sensorineural hearing loss, explained and defined by Wyne and O'Connor (1979:438).

### 3.2.1.1 CONDUCTIVE HEARING LOSS

This involves "impairment of the mechanisms of the outer or middle ear that serve to conduct sound waves and the resultant vibrations" (Wyne & O'Connor 1979:437). According to Williams (1988:43) it is usually characterized by poor hearing at all levels of pitch, i.e. "flat" hearing loss, rarely exceeding a maximum of 60dB". In this type of hearing loss there is some reason why sound waves are prevented from being transmitted to the nerves of the ear.

With the exception of a few congenital anomalies, obstructions in the ear canal and ear infections are the major causes of conductive hearing impairment. There may be a defect of the eardrum which prevents it from vibrating to sound waves. The outer ear passage can also be blocked by wax or a foreign object. Impacted ear wax and ear infections are the major causes (Cosford 1990:17; Williams 1988:43; Wyne & O'Connor 1979:438). In children, upper respiratory infections often localize in the eustachian tube causing blocking and swelling, and the middle ear may become infected. The result is a "temporary and ordinary reduction in the mechanical transmission of sound. Chronic or repeated ear infections may cause scar tissue to form on the eardrum, thereby more permanently reducing the efficiency of sound transmission" (Wyne & O'Connor 1979:438). According to Cosford (1990:18), boils or growths in the outer ear passage will also block sound coming into the ear. Thus both chronic colds or adenoids can cause damage to the middle ear area.

The condition can often be improved by surgery and/or a hearing aid, depending on the cause (Williams 1988:43).

### 3.2.1.2 *SENSORINEURAL HEARING LOSS*

This is the result of damage to the inner ear and its associated sensory cells and nerve pathways (Wyne & O'Connor 1979:438). "Here the sound waves are properly transformed into impulses through the outer and middle ear, but because there is something wrong with the nerves in the inner ear, the impulses never reach the brain" (Cosford 1990:18). Williams (1988:177-178) defines sensorineural hearing loss as "hearing loss caused by disease or damage to the inner ear and/or auditory nerve often affecting high frequency sound in particular". Cosford (1990:18), Morgan (1961:383) and Kapp (1972:9) refer to sensorineural hearing loss as perceptive deafness.

Sensorineural hearing losses are usually permanent and involve a reduction in hearing acuity as well as sound clarity. This means that the affected person cannot hear as well and often cannot discriminate among sounds that are heard. Kapp (1972:8) writes: "n Kenmerk van persepsiedoofheid is dat sommige klankfrekwensies goed gehoor word, ander beswaarlik gehoor word, terwyl party glad nie gehoor word nie." According to him, lower pitches are still audible, but higher pitches can't be heard.

Sensorineural impairments may be congenital or acquired, and are caused by "maternal infections, anoxia, genetic defects and prolonged exposure to high-intensity noise" (Wyne & O'Connor 1979:438). Cosford (1990:18) confirms loud noises and loud music as causes, but this kind of nerve deafness may also be due to diseases such as measles, mumps or scarlet fever which may damage the nerves; and drugs or poisons, including poisons from decaying teeth.

### 3.2.1.3 *MIXED HEARING LOSS*

Mixed hearing loss involves impairments in the inner ear and the middle or outer ear. When children with sensorineural hearing losses develop an ear infection or a blockage of the ear canal, the result is a temporary mixed hearing loss. "It is temporary because the conductive hearing loss is usually treatable medically or surgically" (Wyne & O'Connor 1979:438).

### 3.2.1.4 CENTRAL HEARING LOSS

Wyne and O'Connor (1979:438) describes this type as less common than the other types. A child may have a normally functioning outer, middle and inner ear, but not be able to perceive and process the auditory signal in the brain stem, midbrain, or cerebral cortex. According to Wyne and O'Connor (1979:438) any condition that affects brain function can affect the perception and processing of auditory information.

Medical or surgical intervention is not practical, except for removable tumors and manageable cranial anomalies that may affect central processing (Wyne & O'Connor 1979:438).

### 3.2.2 Symptoms of poor auditory acuity

Hearing impairment "does not show", and this makes it one of the hardest physical disabilities to detect (Cosford 1990:18). The teacher is in a position to pick up symptoms in a deaf child even when the parents don't know what is wrong.

Cosford (1990:18-19), Barnard (1975:15), Bowley and Gardner (1972:96-101) and Du Preez and Steenkamp (1986:40-41) all list the following physical conditions which indicate possible hearing trouble:

- Draining ears (fluid running out of the ears);
- an inflamed external ear or areas immediately next to the ear or the skin behind the ear;
- mouth-breathing accompanied by a very blocked nose;
- dirty ears with heavy encrustations of dried earwax or drainage of the ear, indicating possible stoppage of the ear canal or other difficulties;
- poor balance in activities, such as running and walking;
- frequent colds with a heavy flow of mucus;
- complaints of ringing, buzzing or roaring in the ears, continuing for about 3 days without stopping;

- complaints of a blocked-up ear;
- complaints of earache or pains in the area immediately next to the ear;
- unnatural or monotone pitch of the voice;
- sinus infection;
- poor breathing.

Behaviour indicating possible hearing trouble may be (Barnard 1975:15; Cosford 1990:19; Schmidt 1992:47):

- Faulty pronunciation and bad speech articulation;
- poor speech, delayed speech or no speech at all;
- poor spelling;
- reading problems;
- inattention, i.e. a child is constantly inattentive;
- a child who frequently asks the teacher to repeat things just said;
- a constant turning or cocking of the head to one side in an effort to hear better;
- a constant leaning forward to hear;
- a constant interruption of conversations, being unaware that others are talking;
- withdrawal from group activities where hearing is essential to participation;
- difficulty in following oral directions;
- sharp visual perception and has the tendency to watch mouths as people talk;
- avoid games where oral instructions are given or where tasks are carried out;

- difficulty in understanding a new teacher;
- the child is often shy, self-contained, over-sensitive and gives the impression that he is confused and a day-dreamer;
- noisy without realising it;
- apparently disobedient, but in fact he can't react correctly upon the questions.

Some children may have only a slight hearing loss which will affect their reading and spelling. This kind of hearing loss often manifests itself in an inability to hear high frequency sounds, i.e. the child can't hear "th", "v", "s" or "f" sounds clearly. "He will therefore not be able to hear these sounds clearly in words when he has to spell them" (Cosford 1990:19).

Another problem related to poor auditory acuity is that if a child can't hear certain sounds clearly, he won't use them in his speech.

An irreparable loss occurs to deaf children in the years in which they fail to use language actively and adequately. The problem goes well beyond the mere salvage of the talents of the hearing impaired; it is a matter of their mental health and life chances. "Deficient or unintelligible speech or poorly developed language in the critical period of a child's growth and development can result in social isolation, experiential deprivation and confused frustration (Wyne & O'Connor 1979:439). Steenkamp and Steenkamp (s.a.:43) describe hearing impairment as "een van die gestremdhede wat uitkring en 'n ernstige uitwerking op die verstandelike, emosionele en sosiale ontwikkeling van die kind het en hom die meeste strem op sy pad na volwaardige volwassenheid en selfverwesenliking as mens". According to them, the inability to hear sound is not the major aspect of the problem. As people grow older, they may still suffer this disability and it is clear how this effect their lonesome social life.

### 3.2.3 The continuum of degree of hearing impairment

MILD	MODERATE	MARKED	SEVERE	PROFOUND
21-40 dB	41-55dB	56-70dB	71-90dB	91dB or more
	(partially hearing)		(deaf)	

(Wyne & O'Connor 1979:439)

This exhibit shows the continuum of degree of hearing impairment from mild to severe or profound. The first three points along the continuum include the partially hearing; the last two points on the continuum comprise the deaf.

Children on the mild to moderate end of the continuum of degree of auditory impairment can usually understand conversational speech, though some will require the benefits of a hearing aid. In 1971 Silverman (in Wyne & O'Connor 1979:440) named three levels of hearing loss usually included in the partially hearing classification: Mild hearing loss, moderate hearing loss and marked hearing loss. Steenkamp and Steenkamp (s.a.:44) also name these three levels. Many children with mild hearing losses do not require hearing-aids and find conditions in ordinary schools too noisy to use and benefit from them (Clark 1989:2).

The children with normal hearing test 0-14 dB on the audiometer (Steenkamp & Steenkamp s.a.:44). "The normal-hearing child is a youngster who often can hear the entirety of speech, if it is not too faint or too far away" (Berg 1976:3). Because this child often hears the entirety of what others say and what he himself says, he develops a refined skill in producing speech as well as basic mastery of the language at an early age.

Mild hearing loss refers to a sound-frequency loss ranging between 21 and 40 dB (Berg 1976:54; Wyne & O'Connor 1979:440), but according to Steenkamp and Steenkamp (:44), even from 15 dB the child can be classified among the children with mild hearing loss. With best hearing in this range, a child is likely to experience difficulty hearing faint or distant speech. "Speech at 6-12 feet, particularly with competing room noise and reverberation, is often difficult to hear" (Berg 1976:54). The child's own speech may be normal or may reflect only minor articulation problems. Bowly and Gardner (1972:100) write: "A loss of 40 dB would in many cases be enough to cause the child to miss a considerable proportion of ordinary conversation and might warrant the use of a hearing aid, but rarely specialized schooling."

Moderate hearing loss falls in the range between 41 dB and 55 dB (30-65 dB according to Steenkamp and Steenkamp s.a.:44). This child can process normal conversational speech at a distance of up to "6 feet" (Wyne & O'Connor 1979:440). Depending on the age of onset, language development and speech may be affected. "Problems with articulation, reading, vocabulary and attention are likely to occur" (Wyne & O'Connor 1979:440). Berg (1976:3) and Bowley and Gardner (1972:93)

refer to these children as the hard-of-hearing children. These children hear varying amounts of the distinguishing features of speech. What they hear and perceive at a given moment depends upon a combination of one or more of the following factors: Hearing insensitivity, faintness of sound, distance between speaker and listener, noise background, language deficiency, past experience, environmental unawareness and corresponding lack of compensatory adjustments. "Because the hard-of-hearing child often hears imperfectly or inconsistently, he characteristically speaks defectively, misunderstands others, and learns vocabulary and sentence structure more slowly or to a lesser extent than does the normal-hearing child" (Berg 1976:3-5).

According to Wyne and O'Connor (1979:441) and Berg (1976:54) marked hearing loss is in the range of 56-70 dB (65-95 dB as reported in Steenkamp and Steenkamp s.a.:44). A child who hears only this well cannot follow conversational speech unless it is louder and closer than normal. Marked hearing loss is associated with many cognitive and effective problems (Wyne & O'Connor 1979:441). These children don't need the teaching methods used for deaf children, but many children with marked hearing loss do not attend regular schools (Steenkamp & Steenkamp s.a.:45; Wyne & O'Connor 1979:441), but "... with relatively minor adaptations and the availability of specially trained teachers, a majority of these children could attend a school with their normally hearing peers" (Wyne & O'Connor 1979:441).

Children with severe and profound losses (91-110 dB) are unable to use the sense of hearing for purposes of communication. Unlike the partially hearing (hard-of-hearing) individual, the deaf child does not have sufficient hearing, even with a hearing aid, to depend on the auditory channel to receive and interpret sound. The deaf child has profound or total loss of auditory sensitivity and very little or no auditory perception. Under the most ideal listening and hearing aid conditions the deaf child "... either does not hear the speech signal or perceives so little of it that audition may not serve as the primary sensory modality for the acquisition of spoken language or for the monitoring of speech" (Berg 1976:5).

Whatever the physical reasons may be for hearing loss, they basically operate in the same way; poor acuity results when the ear does not correctly transmit sound waves to the brain. Sound waves are normally conveyed through the ear system in the inner ear. The eight cranial nerves then convey these impulses to the brain. "In poor auditory acuity the hearing apparatus of the ear is at fault, and not the brain" (Cosford 1990:18).

### 3.3 AUDITORY PERCEPTION

Grove and Hauptfleisch (1977:97) describe auditory perception as follows: "Ouditiëwe persepsie is die interpretasie van informasie wat deur die ore na die brein gestuur word. Dit is die kontak wat die brein met die buitewêreld maak deur middel van die ore." According to Perry (1974:66) perception is the process through which the meaning of stimuli (observed by the senses) are understood. Williams (1988:19) defines auditory perception as the "ability to register what is heard and give meaning to it". Gearheart (1980:478) confirms this by saying it is the "ability to interpret or organize what is heard". Auditory perception is the meaning given to the stimulus which has been registered by the ears. It is not enough for the stimulus to be heard, but it must be understood as well, otherwise it will have no meaning. This perceptual process is very important in the learning-to-read-process. Schutte (1979:133) writes: "... die disfunksie van hierdie vermoë kan die korrekte aanleer van die lees-handeling nadelig beïnvloed."

The issue of auditory acuity is a medical one and ought to be dealt with by experts at a hospital, or at a school for hard-of-hearing or deaf children. If there is a language or speech problem as a result of poor acuity, this will be handled by a speech teacher or a speech therapist. "The problems of the child with a learning disability do not arise from hearing difficulties. They have other causes, and one of these may be auditory perception" (Cosford 1990:21).

Problems of auditory acuity are due to a physical hearing apparatus, the ear, that is at fault, but problems of auditory perception arise from the functioning of the brain. "Auditory perception is the mental process that takes place in the brain after the ear and the ear nerves have performed their functions correctly ... one might say that poor auditory acuity is a mechanical problem while poor auditory perception is a problem concerning the correct meaning of sounds" (Cosford 1990:21).

Auditory perception comprises a hierarchical series of steps between the detection or hearing of sound at the periphery (the ear) to "discriminating, sequencing, storing and recalling the rapidly changing spectra that characterize the speech stream centrally (at the cortical level)" (Reynolds & Mann 1987:158). Children with language or learning problems may have specific deficits at any stage in this complex process. According to Reynolds and Mann (1987:158) it is important to evaluate basic auditory perception separately from speech or language perception to pinpoint

deficits. Williams (1988:19) agrees to this by saying that tests of auditory perception measures characteristics such as attention span for words, auditory discrimination, auditory sequential memory, etc.

### 3.4 AUDITORY PROCESSING

Children in the school environment are required to acquire information auditorally. They must be able to sit and listen for long periods of time, cope with noisy environments, and comprehend information presented orally by the teacher. The ability to do this has been labelled auditory processing (Reynolds & Mann 1987:159).

Auditory processing is the physical act of receiving sound from the environment and transmitting it from the outer ear, through the eighth nerve and into the auditory pathways of the brain itself. Auditory processing is also the "ability to collect, transmit, decode and integrate acoustic signals that arrive at the ear and continue on through the central auditory pathways to the temporal lobe in the auditory cortex of the nervous system" (Bess, Bess & McConnell 1981:210).

Auditory perception skills are included under auditory processing. Auditory perception is not just one skill. A group of different skills helps us to make sense of what we hear. They are: Auditory memory, localization, auditory attention, auditory figure ground, sound/symbol association, auditory association, auditory discrimination, auditory closure, auditory blending, auditory analysis and auditory sequencing, and will be discussed next.

#### 3.4.1 Auditory memory

Auditory memory is the ability to remember what the ear has heard. "Auditory sequential memory is short-term, nonmeaningful memory, enabling the individual to remember a sequence of auditory stimuli long enough to report them or otherwise make use of them" (Kirk & Kirk 1976:115). Reynolds and Mann (1987:158) define auditory sequential memory as the ability to store and recall auditory stimuli in exact order. Myers and Hammill (1976:237) write: "Auditory sequential memory is the ability to recall correctly a series of spoken words, digits, sentences, or rhythms."

Williams (1988:19) confirms all the above definitions by saying that it is the "ability to recall heard information in its correct order".

In the learning process of reading and spelling, the visual and auditory memories are both of extreme importance. "Indien daar 'n gebrek ten opsigte van die ouditiewe of visuele geheue bestaan, kan dit lei tot gebrekkige gestalting van die geskrewe en die gesproke woord" (Schutte 1979:141). A child may be able to discriminate one sound from another but still have difficulty remembering and/or reproducing long sequences or patterns of auditory stimuli. Such abilities are referred to as auditory memory (Williams 1983:138). Although auditory memory may involve the retention or remembering of either speech or nonspeech sound sequences, common tasks of auditory memory are largely concerned with the recalling of speech stimuli (Williams 1983:138).

According to Bannatyne (in Schutte 1979:142), a defect in the auditory memory can be the cause of genetic or environmental influences. Schutte (1979:142) writes the following about an inherited auditory memory defect: "... 'n aangebore ouditiewe geheuedefek lei tot 'n nie-vasgestelde gehoorskerpte-afwyking, 'n onvermoë om instruksies te begryp, onsekerheid in verband met die taal of die dialek van die spreker (of onderwyser), onoplettendheid, angst of swak motivering en gebrekkige konsentrasie." According to Ferreira (1990:24) children with auditory memory and recalling problems tend to get frustrated easily, because they have trouble communicating. "Hulle probeer om van hulle ondervindings te vertel, maar gee dit later gewonne omdat hulle nie kan sê wat in hulle gedagtes is nie. In die klaskamer steek hulle hul hande op om te antwoord, maar as hulle beurt kom, het hulle weer vergeet wat hulle wou sê" (Ferreira 1990:24).

Auditory memory is an important skill, because the child needs to remember what the first part of a sentence was in order to make sense of the next part of the sentence. Cosford (1990:22) reports that some children have poor comprehension, "because they can't 'hold' words long enough in memory to be able to 'hear' the full sentence, phrase or clause - they will read one word at a time and lose the meaning along the way." The same happens when a child with poor auditory memory is sounding out a word phonetically - by the time he gets to the end of a word, he has forgotten the sound at the beginning of the word. According to Williams (1988:19) children with limited auditory memory will have learning problems. The inability to remember the right sequence of auditory events "... kan tot gevolg hê dat 'n kind se

ouditiewe leervermoë ontoereikend plaasvind. Kinders wat sukkel om bepaalde klanke in 'n bepaalde volgorde te sê, sal woorde verkeerd uitspreek" (Ferreira 1990:30).

Auditory memory is also important for syllables. In reading or spelling a child may say all the syllables of a word, but then leave one syllable out so that he misreads or misspells (Cosford 1990:23). Auditory memory is critical for language development. Retaining a sequence of sounds within words and a sequence of words within sentences is essential for comprehension and for expressive use of the spoken word. Those with severe auditory receptive disabilities frequently are deficient in auditory memory and require specialized training accordingly (Johnson & Myklebust 1967:72).

An apparent difficulty in auditory memory may be the result of "an unrecognized defect in auditory acuity, an auditory perception problem, a failure to comprehend instruction, unfamiliarity with the language or with the dialect of the speaker, inattention, or strong anxiety, as well as occasionally a constitutional memory defect" (Harris & Sipay 1976:255).

A simple method for determining auditory memory for directions is to give the child a series of instructions. Start with a simple, one step direction, next give two directions, then three. According to Widlake (1977:284) classroom teachers usually expect the primary school child to be capable of following a series of at least three directions such as "take out your maths book; turn to page 31, and do problems one through five". The child who gets his book and then does nothing, or resorts to acting up, may not be wilfully disobedient. He may be incapable of remembering the series of things he was asked to do, or feel pleased that he recalled even one command. "The mother, like the teacher, must be helped to understand that the child is not trying to disobey. He cannot, at this stage, retain that amount of auditory information" (Widlake 1977:285). Myers and Hammill (1976:146) suggest imitation of rhythms and nonsense syllables to give practice in memory. In teaching auditory memory, cards can be prepared with short and vertical lines to represent high-low or loud-soft patterns produced by the teacher. The child selects the proper card to match the sounds (Myers & Hammill 1976:146). According to the authors, auditory sequential memory is supposedly trained by giving the child practice in repeating verbatim, that is, each word in the proper order, a series of sentences, or related

words, e.g. "hand, eyes, nose, ears", or of unrelated words, e.g. "cowboy, blue, booth, animal".

### 3.4.2 Auditory discrimination

Auditory discrimination is the ability to discriminate between different sound combinations, "indien die kind nie met onderskeiding kan hoor nie, kan hy nie die gedrukte woord of simbool met die korrekte ooreenstemmende klank assosieer nie" (Schutte 1979:138). Auditory discrimination tasks require the child to differentiate between two acoustic stimuli that vary primarily on one dimension. Such tasks may include discrimination of pitch and loudness as well as various speech sounds. Cosford (1990:23) writes that auditory discrimination "refers to the ability to hear similarities and differences between sounds. This skill is very important for learning phonetic groupings of words." According to Berg (1976:41) the auditory discrimination of the child indicates "... his competence in acquiring spoken language, intelligible speech and homeostasis with his sound environment". Williams (1988:19) claims that children who are unable to discriminate satisfactorily, may have problems in speaking clearly.

In addition to normal acuity of hearing children must be able to distinguish among and between sounds. Cohen and Rudolph (in Althouse 1981:195) state, "children's capacity to deal with segments of speech is a basic requirement for the successful applications of phonics learning." In 1955 Robinson (in Althouse 1981:195) suggests that the influence of auditory and visual discrimination together is greater than that of intelligence in learning to read. Schutte (1979:139) writes: "... kom dit voor asof stadige en onakkurate diskriminasie tussen ouditiewe klanke en hulle visuele simbole 'n psigiese en nie 'n organiese defek is nie." According to Althouse (1981:195) other studies have found that auditory discrimination correlates positively with reading achievement (Chall 1967; De Hirsch, Jansky & Langford 1955; Durell 1958; Dykstra in Althouse 1981).

The child with auditory discrimination problems cannot hear the similarity between "round" and "outside". He/she will have difficulty reading or spelling all the words with an "ou" sound in them. He will not be able to hear that words rhyme, e.g. "told", "cold", "rolled", "sold". The child with poor auditory discrimination will also have difficulty in hearing the differences between sounds, e.g. "pen" and "pin" (Cos-

ford 1990:23; Schutte 1979:139). Children with auditory perceptive disability often need special training in discrimination. They can distinguish gross but not fine differences. Johnson and Myklebust (1967:72) provide the following example: The children might be able to differentiate between a knock on the door and the ring of the telephone, but not between a telephone and a doorbell.

In 1960 Wepman (in Schutte 1979:139) found that auditory perception problems can cause certain disorders in children. He also found a correlation between poor auditory discrimination and serious articulation problems. "... Daar is 'n sterk positiewe korrelasie tussen die stadige ontwikkeling van ouditiewe diskriminasie en verkeerde uitspraak; daar is 'n positiewe korrelasie tussen swak ouditiewe diskriminasie en leesvermoë; daar is geen of 'n baie klein verband tussen die ontwikkeling van ouditiewe diskriminasie en intelligensie en dit beïnvloed dikwels die leeshandeling of spraak" (Schutte 1979:140).

Hendrick (1984:378) stresses the importance of auditory training and discrimination when saying: "Auditory discrimination skills are important, and practise on them should be consistently incorporated into the curriculum at the preschool level." Children need work on learning to tell sounds apart and telling when they are the same. It is an important activity because it is a prereading skill and also because it helps children learn to discriminate between sounds and to speak more clearly.

In teaching discrimination among sounds, the child is taught to select from a group of instruments the one that was sounded behind him. Discrimination among speech sounds may be taught by requiring the child to associate the syllables "moo" and "baa" with the pictures of a cow and a sheep (Myers & Hammill 1976:146). According to the authors, this task is increased in difficulty as the child proceeds to one-syllable words, to two-syllable words, etc.

### 3.4.3 Auditory attention

Reynolds and Mann (1987:159) define auditory attention as "the ability to attend to sound, particularly speech, over long periods of time".

### 3.4.4 Auditory figure ground

"Figure-ground perception is the ability to discern objects in the foreground/background and to make meaningful distinction between them" (De Kock 1989:124-125). Auditory figure-ground perception therefore is the ability to listen to sounds, without being distracted by the background or environment. Reynolds and Mann (1987:159) write that it is "the ability to discriminate a speaker's voice from background noise". Child (1972:63) reports that figure-ground discrimination applies in all the sense modalities. He provides the example that music can be picked out and understood against a background of other moderate sounds.

A child who has problems in this respect will find it difficult to concentrate on what his teacher has to say, as he will be distracted easily by background noise. The inability to concentrate will lead to inability to concentrate on what he is reading (De Kock 1989:125).

Many children have difficulty in selecting relevant auditory stimuli from irrelevant auditory input. Although this particular auditory ability is believed to be an important one in the overall development of adequate language and verbal communication, according to Williams (1983:139) little is known about age changes in children's performances on such tasks.

Having auditory figure-ground disturbance, the child attends to all sounds equally and therefore must be trained to listen and to control the sound background. "Auditory figure-ground disturbances may be improved by using the suggestions for training awareness and discrimination against a background of soft music (Myers & Hammill 1976:146).

### 3.4.5 Sound localization

In auditory localization tasks, sounds emanating from different spatial origins are presented to the child. The child is asked to indicate the direction from which the sound is coming. In 1975 Jones and Kabanoff (in Williams 1983:136) wrote: "Sound localization is believed to be important in the overall development of the young child because it helps him to visually link sounds with their sources and thus aids in establishing specific associations between sounds and various environmental objects and events." In addition to understanding sounds, the child must be able to localize

them; only when the general source of a sound is known can one react appropriately. When a car approaches from the left, we must determine whether to move, and if so, in what direction (Johnson & Myklebust 1967:71).

### 3.4.6 Auditory closure

De Kock (1989:125) writes that this is the ability to blend sounds (given with time intervals) and to identify the whole word. Schutte (1979:135) agrees with this when saying: "Dit is die vermoë om dele wat ouditief waargeneem word, as 'n geheel te integreer." Du Preez and Steenkamp (1986:39) define auditory closure as a form of synthesizing and it "... behels die aanvulling van die ontbrekende dele van 'n ouditiewe gestalt om 'n volledige eenheid (woord) te skep". Williams (1988:19) sees auditory closure as "completing a word, phrase or sound after hearing only a part of it".

Auditory closure is the ability to reconstruct a word that has been heard in a distorted way; and this is an important skill for reading. Cosford (1990:23) also talks about auditory synthesis as a synonym for auditory closure. He writes: "If you hear 'bee-you-tea-full' you should be able to construct the word 'beautiful'." When a child sounds out a word using phonic clues, e.g. th-un-d-er, he is listening to himself in order to synthesize the sounds into a word that he recognises. Before he can use auditory closure effectively, he should be able to discriminate between sounds.

Some children know their phonics, but they can't use this knowledge in reading because of poor auditory closure. They see the word in their reading book, but can't put the sounds together to form the word correctly. For example, they see the word "plank" and can say the sounds "pl-a-nk", but then they read the word as "plate" or "plan" (Cosford 1990:30). According to Schutte (1979:136-138) children with poor auditory closure may have the following problems:

- They find it difficult to use idioms, verbs and plurals in the correct way;
- they pronounce words often heard incorrectly;
- they find it difficult to learn rhymes, to learn how to multiply, to learn how to read time, and to learn the teachers' and pupils' names;

- auditory closure is regularly associated with speech problems;
- they have trouble following a conversation when there is too much background noise;
- they can't reactivate what they have just heard.

When the function of auditory closure has been weakened, "... kan die leerling nie onduidelike klanke of woorde wat hy net gedeeltelik hoor in sy gedagtes voltooi nie. Gevolglik gaan 'n groot deel van die betekenis daarvan vir hom verlore" (Du Preez & Steenkamp 1986:39).

Auditory closure can be the result of emotional problems and exists as "... the handicapping factor in children who are slow and inaccurate in associating audible sounds with the visual sounds. It is a mental and not an organic deficiency" (Schonell 1965:174).

#### 3.4.7 Auditory blending

It is the ability "to synthesize phonemes into words" (Reynolds & Mann 1987:159). Some children cannot blend a series of sounds together in the proper sequence. The word "blot" for example, might be spoken as "btol". Other children will sound out "blot" by saying "bu-lu-o-tu" and then asking what "buluotu" means (Widlake 1977:290).

#### 3.4.8 Auditory analysis

Auditory analysis is "the ability to hear parts within the whole" (De Kock 1989:125). Reynolds and Mann (1987:159) define the term as the ability to identify phonemes or morphemes within words.

The child should have the ability to hear parts of the word inside a word. These parts may be phonemes (single sounds such as "d" in "donkey") or morphemes (larger sound units such as "tion" in "motion"). This skill is closely related to spelling. If a child can break up or analyse a word into syllables, such as "dif-fi-cult" or "mo-tion", then it is easier for him to spell it. According to Cosford (1990:24) even a simple word like "hand" is easier to spell if the child also listens to the sound of the

word rather than just trying to remember what it looks like. "Obviously the child must also remember which letters go with which sounds (sound/symbol association) before he can write the word down" (Cosford 1990:24).

With a disfunction of auditory analysis, the child finds it difficult "... om klanke en foneme te identifiseer, om 'n klankeenheid in sy afsonderlike komponente op te breek ... in ernstige gevalle lei dit daartoe dat klanke nie altyd aan hulle ooreenstemmende klankbron gekoppel word nie, en dus ook nie maklik herken word nie ... gevolglik is die leerling ten spyte van normale gehoor nie in staat om 'n klank-eenheid, gedagte- of spraakstroom in ouditiewe komponente op te breek, die nodige grafeenkoppeling te maak en dit in 'n nuwe betekenisvolle gestalt (taalbegrip) saam te voeg nie" (*analysis and synthesis*) (Du Preez & Steenkamp 1986:39).

### 3.4.9 Auditory association

Auditory association is "the ability to identify a sound with its source" (Reynolds & Mann 1987:159). Maxim in 1980 wrote (in De Kock 1989:124) that auditory association is "the ability to interpret, integrate and use what is heard in a meaningful way. To be able to read, the child must be able to understand the recognised words; and associate sounds with letters". According to Kirk and Kirk (1976:23) it is "... represented at the intersection of the organizing process, the auditory-vocal channel, and the representation level."

Schutte (1979:133) describes auditory association as the ability "... om verbande tussen klanke wat gehoor word te herken en die vermoë om linguistiese simbole innerlik te manipuleer". According to him, the ability to make associations between the printed letter and the spoken word, or between a printed word and the spoken equivalent, is very important and a necessity in the process of learning how to read. Cosford (1990:23) writes that the skill sound/symbol association is important in reading and spelling. The main way in which the child's reading is affected is that he cannot remember "the sound that belongs to the letter or to the letter groups. He cannot associate the sound with the letter symbol" (Cosford 1990:23). The child sees the word "boil", but he cannot remember what the "oi" part of the word should sound like. So when he reads "boil" he fills in the gap (b-l) as best he can, and he may say "bill" or "ball". According to Cosford there is nothing wrong with the way he sees words and letters.

Children with auditory association difficulties may show the following deflections (Kirk & Kirk 1976:106-107, 135; Schutte 1979:134):

- They find it difficult to arrange verbal topics;
- they seldom use metaphors and comparisons;
- they find change difficult and react slowly on tasks that require generalisations;
- they can't always catch the lesson or theme of a story;
- they find it difficult to answer riddles or to understand proverbs, pun or parables;
- they can't always understand a joke or can't see the humour or the wrong in absurdities;
- they sometimes do strange things, because they can't bring the present situation in connection with experiences of the past.

To this end Schutte (1979:135) writes: "Leerlinge met swak ouditiewe assosiasie kan probleme ondervind om lees en luister te gebruik in die leerhandeling en sal nie met begrip kan lees nie." Auditory association, which is defined as the ability to relate to spoken words in a meaningful way, is assessed by the use of verbal analogies, such as "soup is hot; ice cream is ..l.". The instructional activities include any task that involves verbal abstraction, classification or problem solving abilities, e.g. "How are these things alike? Milk, tea and coffee', 'Which of these has legs but cannot walk? Table, chair, dog'" (Myers & Hammill 1976:236).

### 3.5 AUDITORY AWARENESS

"Auditory awareness is the ability to recognise the presence of sound" (Grobler 1990:45). Haines and Gerber (1980:269) describe auditory awareness as: "The ability to distinguish between the presence and absence of sound."

In many homes there is such a high noise level that children have learned not to listen and for them it is essential that they not only learn how to listen, but also learn the value of silence (Curtis 1989:66). According to the author, one of the ways to try

to achieve this, is for teachers to select a time during each day when they and the children stand quietly to listen to the various everyday sounds around them. Curtis (1989:66) writes: "The importance of the 'quiet time' was brought home to me many years ago when I took a class of town children into the countryside for the day and a small boy came up to me and said, 'Miss, you can hear the quiet!'"

Myers and Hammill (1976:146) suggest that in teaching awareness of sounds, the child is encouraged to raise his hand or jump when he hears a musical instrument, the jingling of coins, or spoken nonsense syllables.

### 3.6 AUDITORY PERCEPTUAL PROBLEMS

Myklebust in 1964 (in Myers & Hammill 1976:19) has defined perceptual disturbance as "inability to identify, discriminate and interpret sensation". Sensations occur when environmental stimuli activate sensory receptor cells which are dispersed throughout the body. The impulses are interpreted in the brain as auditory, visual, olfactory (smell), gustatory (taste) and cutaneous (touch). Kinesthetic and vestibular senses depend upon the origin of the sensations (Myers & Hammill 1976:19). Marais (1976:3) writes: "Onder 'n sensoriese tekort word verstaan die ontoereikende werking van die sintuie."

Perceptual disorders must be distinguished from sensory defects such as deafness. Deaf children do not hear, and therefore, adequate perception does not take place; but such children cannot be said to suffer from a perceptual disorder. According to Myers and Hammill (1976:20) the terms decoding problem and receptive difficulty are used more or less synonymously to describe any disorder of perception. Thus perceptual disorders in a child may be described behaviourally as poor auditory decoding. "Apparent inability to recognize tunes or to differentiate between sounds may result from auditory misperception" (Myers & Hammill 1976:20).

Perceptual adequacy is viewed as the base upon which concept formation, abstraction ability, and/or cognitive symbolic behaviour are built. Perceptual disorders in children, if not minimized or corrected, may result in later academic failure or language deficit (Frostig in Myers & Hammill 1976:20). Hasbrouck (1987:14) agrees to this by saying: "Disorders of auditory perception frequently have been associated with learning disabilities."

According to Gaddes (1985:156) the teacher may find it more practical and expedient to concentrate attention only on those aspects of auditory perception and imperception that are strongly related to classroom learning. These are:

- Language and speech perception, the deficit being known as receptive aphasia;
- the perception of nonverbal environmental sounds, such as whistle, handclapping, the deficit being known as auditory agnosia; and
- the perception and enjoyment of music, the deficit being known as amusia.

### 3.6.1 Reasons for poor auditory perception

Grove and Hauptfleisch (in Ferreira 1990:16) provide the following reasons for poor auditory perception:

- Parents repeat themselves too many times. Children should learn to listen once. Too often the pitch or threatening of the parent's voice determines whether the child is going to listen.
- Parents talk too loud. The volume of the parents' voices influences the volume of the children's voices.
- Tiredness. When children are fatigued and weary, their listening ability is influenced negatively.
- Day-dreamers. When children don't feel secure and safe, they often become day-dreamers. They can't concentrate on what is being said to them by their teachers or parents.

### 3.6.2 The implication on music

Auditory perceptual problems also have implications for musical experience. The implications that will be discussed now were experienced by the research worker

during teaching of music to children in schools. This will be discussed without the verification of other authors, because very little research has been done in this field.

### 3.6.2.1 AUDITORY DISCRIMINATION

Children with auditory discrimination problems will find it difficult to discriminate between high and low pitches in a song. They must be made aware of pitches and the differences in them. They will also have difficulty in hearing the difference in pitch made on instruments or sound makers (water-filled bottles, chimes, chime bars, xylophone, etc.). Schmidt (1992:48) confirms this by saying: "Daar is ook 'n onvermoë om te onderskei tussen klankpatrone soos byvoorbeeld toonhoogte, intensiteit, interval, duur of om te onderskei tussen voorgrond- en agtergrond-geluide."

Thus, another difficulty is discriminating between different note values (taa; ta-te; etc.) and different rhythm patterns. This is because these children can't hear the difference between different note values or rhythm patterns.

They will have problems discriminating between the sounds of the different instruments, as well as classifying the sounds of the different instruments (strings, woodwind, etc.) because it is difficult for them to hear the differences in the sounds of the different instruments.

Hearing the differences between melodies and rhythmic patterns will also be a problem. When the teacher plays two melodies, the children will find it difficult to tell whether the melodies are the same or different.

Difficulty in hearing the different and identical sounds in sound makers will occur, because the children with auditory discrimination problems can't hear when the same or a different sound maker plays. These children can't discriminate between the different sounds of the sound makers.

The children will find it difficult to hear the different sounds which the nature specimens make, e.g. they have difficulty discriminating between different animal sounds.

In order to develop their auditory discrimination skill, they must develop the ability to hear similarities in and differences between sounds. This can be developed

by involving the child in activities in which he/she must discriminate between sounds (*cf.* chapter 5,2).

### 3.6.2.2 AUDITORY MEMORY AND RECALL

Children with this problem will find it difficult to remember and reproduce the correct pitch. Echo singing and clapping will also be a problem, because the child can't remember the pattern or the right sequence.

When the teacher sings a phrase (question) on a specific pitch, the child will not be able to answer to the question by matching the tone, because he has difficulty remembering the tone.

Remembering rhythm patterns during echo clapping and remembering ostinato patterns (speech and melodic) will be a problem, e.g. when the teacher claps a rhythm pattern the child finds it difficult to answer by clapping the same pattern. An ostinato is a rhythmic or melodic pattern that is repeated throughout a song or a piece of music. The child can't remember the pattern and therefore can't repeat it.

They will find it difficult to remember the sounds of the different instruments and cannot hear which one stopped after they all have played simultaneously.

The children have problems remembering the melodies of songs. Because they can't remember the words, they can't recall them when singing a song.

They find it difficult to remember the first sound when they must compare it with the second sound, e.g. the teacher plays two sounds and the children must compare the two sounds. Which one is high/low; long/short; loud/soft?

When different sound makers are given and the children are asked to match them to other sound makers to find the same sounds, they can't, because they have trouble remembering the sounds.

In a pitch matching game the children have problems remembering the pitch of a chime bar and finding its "partner". Thus they find it difficult remembering what the first sound sounded like when trying to find its "partner".

Children with auditory memory problems can't remember the rhythm played or clapped in order to identify it on a card (*cf.* 3.4.1).

To develop the child's auditory memory and recall, games must be played with the child in which he must remember certain things in order to conclude the activity (cf. chapter 5,5).

### 3.6.2.3 AUDITORY ASSOCIATION

The child with auditory association problems will experience difficulty in using Kodaly hand signs while singing the pitches. They will also have trouble indicating pitch generally through different hand heights. The reason is because they can't associate the hand signs with the pitch they hear.

The children will find it difficult to transfer body sounds onto percussion instruments (De Kock 1989:133), e.g. clapping "taa ta-te taa taa" and then playing the same rhythm pattern on a triangle.

Associating the correct contour card with the relevant musical phrase is difficult for these children. Thus, the children find it difficult to draw a contour going up and down when the music goes higher and lower.

They find it difficult to associate an instrument with its sound; and associating a particular sound with a particular instrument. The children also have problems associating an instrument with its picture on a card.

To associate a certain melody or rhythmic pattern with a certain song provide problems, e.g. when the teacher taps the rhythmic pattern of a specific song without singing the words or melody, the child can't recognize the song, because he can't associate the rhythmic pattern with the song.

They find it difficult to associate an instrument with an animal (e.g. using glockenspiels for the imitation of birds); and associating sounds with pictures (car, telephone, cat, etc.).

Hearing the rhythm pattern clapped and identifying the pattern visually are also difficult for these children (De Kock 1989:170). Another exercise in which the children must associate a word with a rhythm pattern also poses problems, e.g. associating "an-nie gal-lo-way" with "taa taa ta-te taa".

In sound stories these children find it difficult to add sound effects for events or characters, e.g. choosing an instrument to imitate the wind or the bad wolf. They can't associate the sound of an instrument with an event or character in a story (*cf.* chapter 5.2.7). They also have problems associating pictures with a story.

Auditory association requires the ability "to interpret, integrate and use what is heard in a meaningful way" (Maxim in De Kock 1989:124). This problem calls for exercises in which the children must associate sound with different things in different ways.

#### 3.6.2.4 AUDITORY FIGURE-GROUND PERCEPTION

Children with an auditory figure-ground perception problem find it difficult to identify a song against the background accompaniment (*cf.* 3.4.4). When background accompaniment is too loud, they can't recognize the song, because all the different melodies confuse them.

They have problems being able to hear which instrument stopped after a few instruments have played simultaneously.

Using the sound box, the children have difficulty hearing the sounds in the box against the background noises in the classroom. The sound box will be fully discussed in chapter 5 (*cf.* 5.2.5).

The children also have difficulty in hearing the sounds of the sound makers and specimens (e.g. the rustling of leaves, or the shaking or pouring of sand) against background noise of the classroom.

Listening to someone talking is difficult to these children when background noise exists, and they find it difficult to discriminate between different voices in a noisy atmosphere (*cf.* 3.4.4).

#### 3.6.2.5 AUDITORY ANALYSIS AND SYNTHESIS

Children with an auditory analysis problem find it difficult learning the different pulse elements separately, i.e. crotchet (taa), quavers (ta-te), minim (taa-aa). Children with the synthesis problem find it difficult to perform the pulse elements

simultaneously in groups, e.g. one group claps "taa-notes", another group plays "ta-te-notes" with maracas, and a third group plays "taa-aa-notes" on hand drums. The children with auditory synthesis problems then find it difficult to concentrate on one rhythm when all the groups play different rhythms simultaneously.

Learning melodic and rhythmic ostinato and song separately (analysis), and then playing all the elements together (synthesis) create a problem. Thus, the child with an auditory synthesis problem can't play the melodic or rhythmic ostinato while the other children sing the song.

The children find it difficult to hear different instruments played individually (analysis), and then hearing them all played together (synthesis) (De Kock 1989:151). They then find it difficult to discriminate between the instruments when they play together (synthesis).

#### 3.6.2.6 AUDITORY CLOSURE

Problems in auditory closure are problems in the ability to blend sounds (De Kock 1989:125).

Children with this problem find it difficult to complete a musical phrase, e.g. when the teacher sings or plays a melody and then asks the child to complete it. He finds it extremely difficult. Problems also occur in question and answer singing and question and answer clapping. Thus, when the teacher sings a phrase and asks a child to sing an answering phrase, he can't. These children have difficulty identifying the tonic pitch or "resting place", that is when a song seems to come to a rest (tonic-doh). They can't hear the difference between a completed or uncompleted phrase.

### 3.7 CONCLUSION

Hearing is perhaps our most versatile and valuable sense. Uniquely designed as a high-fidelity stereo system, it personalizes or decodes much of the world in which we live. "Hearing the sounds of his environment enables an individual to spin a web of language during his early childhood" (Berg 1976:7). At this time sensations from events and from word and sentence patterns become associated in a person's brain.

The language code provides a means for the individual to express ongoing experience and his ideas and feelings toward it.

Hearing also makes speech possible. During the child's development, hearing provides him with a way of comparing how he is saying words with the way people around him say these same words.

Hearing also contributes to the manner in which a child plans his life, copes with problems, and organizes experience. "It has a pervasive influence that affects personal adjustment, social competence, and vocational fulfillment" (Berg 1976:8). Hearing causes a child to perceive the world, conceptualize experience, describe events and anticipate the future in a manner different from the way he would if hearing were absent or not utilized (Allen in Berg 1976:8).

Perception as a receptive process not only assumes discrimination, the ability to distinguish among sounds, but also the capacity to organize all sensation into a meaningful whole, the capacity to structure incoming information. In addition, it assumes attention. "The total process of perceiving is a complex facet of experience requiring attention, organization, discrimination and selection" (Johnson & Myklebust 1967:39).

Auditory perception is very important in the language development of a child (Schmidt 1992:46; Van der Mescht 1976:55). Van der Mescht (1976:55) writes: "Dit is van groot belang dat die leerling in sy aanvangsjaar ook ouditief gereed is vir die leesproses. Om klanke te kan herken moet die leerling in staat wees om redelik goed (normaal) te kan hoor en tussen verskillende klanke te kan diskrimineer. Swak ouditiewe diskriminasievermoë werk swak lesers en spelprobleme in die hand." It is clear that auditory perception is of extreme importance for the language development of young children. Therefore, a young child's auditory perception must be developed properly in order for language development to take place. Music can play an important role in that auditory developing process. Through music activities the auditory perception of a child can be developed or improved.

In summary, auditory processing is the system whereby the human organism takes in an auditory signal, transmits it to the brain, then perceives it and interprets it. A number of skills have been associated with auditory processing. Among them are discrimination, attention, blending, and analysis. "Certain behavioural characteristics such as reading problems and difficulty in monitoring one's own voice might

be an indication of an auditory processing problem" (Reynolds & Mann 1987:159). According to Ferreira (1990:34) all the auditory perceptual deficits need not be present in one child, but "... probleme in een of 2 ouditiewe vaardighede kan egter 'n geringe probleem veroorsaak wat veral waarneembaar word wanneer eise aan die kind gestel word in die junior primêre fase."

In chapter 4 the different developmental stages of children from the prenatal stage to 10 years of age will be described. The researcher will concentrate on auditory perceptual development as well as children's development in musical experiences.

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## The development of auditory perception and musical experience

### 4.1 INTRODUCTION

The young child is always active and involved in music in his totality by means of observation, experimentation and selecting by interpreting sound. The interpretation of sound is mainly dependent upon the sensory perception of the young child. Nye (1979:2) wrote that when the sensory perception is especially acute, the feeling is compulsive, and the level of response moves from talking to singing and from jerky walking to dancing. Thus for the two or six year old the essence of music is an intense inner feeling and active physical expression.

In this chapter the different stages of development will be discussed, according to the ages of the children. The prenatal phase will be the first stage and the discussion will end with the development of children ten years of age. The developmental stages carry on till adulthood, but for the purpose of this study only the pre-primary and primary stages will be discussed.

The results and characteristics of the phases are taken from tests given to children by different researchers. Through observation and testing, results were found and certain reactions and behaviour patterns were categorized according to the age groups of the children. Even though the stages are divided according to age, it is important to stress that transfer from one stage to the next occurs gradually, depending on the individual differences in the child's level of readiness.

Why is it important to know the development of musical experience? Moog (1976:1) said: "As psychological considerations have an appreciable effect on both the type of music making and the scope of musical training, nursery teachers especially will find opportunity to put the results of this investigation into practice". At

the same time the development of musical experience from the earliest years should also be of interest to teachers of older children, since the reasons for difficulties in teaching music to older pupils are more likely to be more apparent to a teacher who has some understanding of the stages of musical development in early childhood. Moreover, music courses should be planned so as to take into account the order in which children develop an awareness of the different elements of music in early childhood.

#### 4.2 PRENATAL STAGE

Whether a fetus hears or not is still an open question. According to Kidd and Kidd (1966:117), Spelt in 1948 recorded fetal movement by means of a tambour placed on the mothers abdomen. Using a vibro-tactile conditioned stimulus and a loud noise as the unconditioned response, he was able to establish a conditioned response in the fetus during the last two months of gestation. He reported the extinction and spontaneous recovery of the response. In 1955 Munn (as recorded in Kidd & Kidd 1966:117) concluded that fetuses respond to loud sounds and that such responses can be conditioned. Greenberg (1979:47) writes: "One of the first recognizable signs of life in the unborn fetus is the heartbeat - an automatic 'musical' response".

The development of the human auditory system is documented by Eisenberg (1976:11). According to her, cochlear function is demonstrated as early as the fifth fetal month, by which time both middle and inner ear structures have reached full adult size. Auditory nerve fibers begin to myelinate during the sixth month and, in the full-term baby, even the cortex is medulated. Greenberg (1979:48) writes that the fetus of six months' "hearing apparatus, central nervous system, and vocal mechanisms have been formed, although these do need further maturation to be fully functional". The fetus has been shown responsive to pure tones and other sounds. Eisenberg (1976:11) says the premature infant responds both behaviourally and electrophysiologically to sound.

Forbes and Forbes (1927:353-355) and Greenberg (1979:48) recorded a pregnant woman who, approximately a month before delivery, was in a bathtub which her two year old struck with a glass. The fetus reported to have jumped. Eight days later when the tub was struck again, the movement was repeated. Two weeks later when a board clattered to the floor beside the mother, fetal movement was re-

ported. Eight days after birth, the infant responded to a sound by flattening his ears against his head. However, Forbes and Forbes had already questioned whether such responses of the fetus arise from auditory or tactile stimulation, or from both. According to Greenberg (1979:48) prior to birth, the fetus is able to respond to vibrations that produce auditory sensation. "Numerous observers have noted that muscular contractions, kicking and other movements are exhibited by the fetus when unusually loud and sudden noises are heard in the environment" (Greenberg 1979:48). Greenberg (1979:48) reports that during the late stages of pregnancy, some mothers have reported that a concert or recorded rock music often produces increased fetal activity. According to him, one study has shown that fetuses and infants both respond more "... to sounds of varying pitch than to sounds of varying loudness" (Greenberg 1979:48).

The matter of fetal responses to sounds is still an open question, although many experimenters believe that fetal reaction to sound does exist. In 1910 Peterson and Rainey (in Kidd & Kidd 1971:117) believed that a fetus can hear before birth, because they found evidence of an auditory response in a premature infant soon after its breathing, crying and yawning had permitted drainage of the fetal middle ear fluid. Greenberg (1979:48) confirms that a fetus does react to sound: "As early as the third month of gestation, most fetuses will react to external sound stimuli by moving and changing their internal rates of breathing." By the sixth month, the fetus is "equipped with practically all the machinery necessary for him to become a musically responsive human" (Greenberg 1979:48).

According to Grobler (1990:1) research has indicated that a fetus displays signs of reacting to sound from as early as the fifth month of pregnancy. It would seem that a fetus does respond to sound but, according to her, the topic is enjoying great attention and currently, research is being conducted (Grobler 1990:1).

### **4.3 AGE 0 MONTHS TO 1 YEAR**

Auditory assessment, particularly during the early months of this age range, is primarily limited to reflexive responses to relatively intense auditory signals. According to Katz (1972:399), the most useful responses are the auropalpebral reflex (APR). It represents contracture of the orbicularis palpebrae muscles and is seen as a quick closing of the lids if the eyes are already closed, the startle reflex (moro reflex) is

seen as a small jump of the infants body immediately following the stimulus. In most cases the arms go apart, the fingers spread, the legs extend and the head is thrown backward, and thirdly, arousal (observable by generalized body movement). An infant lying quietly may be aroused to generalized movements by auditory signals. Some neonates will halt motor activity on the presentation of an auditory signal. Unfortunately, infants who are awake are seldom still and the examiner must be careful not to interpret random activity as responses. According to Clifton, Morrongiello, Kulig and Dowd (1981:833), the auditory system at birth exhibits relatively more maturity in peripheral structures compared with midbrain and cortical structures. "At the receptor level some components, such as the middle ear ossicles and cochlea, even reach adult proportions in utero" (Clifton *et al.* 1981:833).

Although hearing apparently occurs during the prenatal period, there has been much controversy over whether it is functional at birth or not. Referring to Kidd and Kidd (1966:118), Preyers in 1893 reported of the auditory development of a child from birth to 36 months, and indicated that the child is deaf for the first three days, but that such sounds as hand clapping were heard on the 4th. According to Kidd and Kidd (1966:118), Kroner in 1881 reported some newborn infants to be sensitive to sound, but found early auditory sensitivity extremely variable; Pratt in 1934 also reported auditory sensitivity in the newborn and in 1907, Koellreutter confirmed auditory sensitivity in the neonate. Greenberg (1979:20) writes that at birth, the infant is able to respond to a large array of sensory stimuli, including sound and music. "The newborn child can respond to sound and music almost immediately ... like the fetus, he will be jarred by loud and sudden sounds" (Greenberg 1979:48).

To contradict the above-mentioned experimenters, Kidd and Kidd (1966:117) name experimenters that found the neonate insensitive to sound: Kussmaul (1859), Shinn (1893-1899), Compayer (1896) and Feldman (1920). According to the authors, Lowenfeld (1927) and Bryan (1930) reported relative auditory insensitivity in newborns and Kroner (1881) reported some newborn infants sensitive to sound, but found early auditory sensitivity extremely variable. Clifton *et al.* (1981:837) writes: "... we were able to show that newborns respond to directionality of sound under the simple condition (single source) but not when more complex temporal processing is required (precedence effect)."

Carmichael (1946:136) provides the conclusion by saying that, because of the closure of the external ear or because of the gelatinous liquid which fills the middle

ear, the fetus is probably deaf to sounds of normal intensity before birth and during a short period immediately after birth. However, strong sounds seem to be able to bring about auditory stimulation, especially those which can directly pass through the mechanical block.

Kidd and Kidd (1966:118) report that on the 11th and 12th days the child responds to whispering and blinks at the sound of a quiet voice on the 26th day. On day 30 the baby shows fear at a loud voice and during the 5th and 6th weeks the baby does not sleep if people walk and talk near him, and he shows a startled response to noises. During weeks seven and eight he begins to show pleasure at musical sounds such as the playing of a piano. He orientates his head toward a sound at 11 weeks and turns his head toward a sound with the certainty of a reflex at 16 weeks. By the 319th day, he distinguishes between the sound of a spoon on a plate held by a hand and the sound when the plate is not held by hand (Kidd & Kidd 1966:118).

Williams (1983:137) gives the following general age characteristics of auditory perception development in young children: Age 0-3 months, the baby starts in response to a sudden loud noise, but may diminish activity to a softly spoken voice. His face brightens to a pleasing voice and he vocalized vowels in prolonged ways. At the age 4-6 months, the baby turns his head in the direction of the sound and modulates voice when cooing. He further perfects vocalization of sounds, pronounces the "m" sound and babbles to people. At the age of 7-8 months, Williams reports that the young infant recognizes familiar voices. He listens to the tick of the watch at his ear and uses polysyllables, *ba, ma, da*.

The first evidence of musical awareness is some form of differentiation of musical sequences from another or from non-musical sound sequences. According to Sloboda (1985:198), it is a necessary precursor of musical awareness that a child should be able to notice differences in crucial dimensions of sound. The question is, "How good are young babies at detecting sequence?" Moog (1976:1-27) carried out an extensive study of children's responses to a set of prepared tapes. The tape contained six tests. Test one consisted of three children's nursery songs, sung by children. Test 2 consisted of words spoken to definite rhythms, but without precise pitch. Test 3 consisted of pure rhythms played on various combinations of percussion instruments. Test 4 consisted of instrumental music. Text 5 took one of the tonally consonant items from test 4 and subjected it to various rewritings which introduced a high degree of harmonic dissonance. Test 6 consisted of non-musical

sounds such as the sound of a vacuum cleaner and traffic noise. These tests were played to about 500 children at varying ages between three months and five years. Moog observed the nature of response to the various tests and recorded details of any musical behaviour in response to them. Greenberg (1979:50) writes that up to age two to three months, the baby is "able to hear most sounds within adult hearing range". The infant may react with bodily movement, an eye motion, or a cry, but he generally will not attempt to turn his head to the source of the sound. According to Greenberg (1979:50) the baby does not yet connect his hearing response with his visual capacity. However, "at about three months, the infant will begin to show some coordination between his hearing and his seeing. He will hear and then turn to the source of the sound ..." (Greenberg 1979:50).

According to Moog (1976:53), the behaviour of infants, when they hear music, changes noticeably between the 4th and the 6th months, in exceptional cases as early as the 3rd month. "The baby is no longer calm and sleepy when he hears music ... he now listens to the music and turns towards the source of the sound stimulus, often with an unmistakable expression of astonishment." According to Peery, Peery and Draper (1987:41) music response was first observed at four months, involving arousal modulation with a music box within the mother-infant relationship. "When the mother played the music box at nap time, the baby expressed excitement by waving her arms rapidly and screeching repeatedly at the sound of the music box." Some of the six months old subjects showed that they were approaching a stage of active listening by becoming restless when they heard music. By about the fifth month, as Greenberg (1979:50) reports, the infant's eye-ear coordination improves to the point where he is more accurate and reliable in turning his eyes and his body to the source of sound he hears. A baby of five months also recognizes the mother's voice, regardless of the words she uses, through its particular sound qualities. According to Greenberg (1979:51) research has shown that the five month old infant can "identify the mother's voice from among many other voices, despite the physical absence of the mother" (Greenberg 1979:51).

Between ages four to six months, the infant begins to show a very strong interest in sound. He listens intently to any sounds and music in the immediate environment and enjoys listening to and experimenting with sounds that he himself can produce, either vocally or by hitting or kicking objects in his vicinity. At this age the child becomes "acutely aware of sound as a source of pleasurable or discomforting stimula-



tion" (Greenberg 1979:52). At about six to seven months of age, the infant may seem to be responding to words he hears, but usually it is the sound and inflection of words, rather than their meanings, that interest him the most. Peery *et al.* (1987:43) writes that a child of eight months "... responded consistently by clapping and 'dancing' with recorded music".

Moog's tests 1, 4 and 5 attracted much more attention than the others. It seems that babies are here selecting quality of sound as the criterion for attention. Test 3 attracted hardly any attention, even though it was much louder than any other test. In Moog's study it was found that nearly all babies made some sort of movement response to his tests. The most common responses were swaying from side to side in a sitting position or bouncing up and down. These responses were most commonly observed to song and instrumental music rather than pure rhythms, and they were not rhythmically coordinated with the music (Moog 1976:63). Greenberg (1979:52) agrees that the movements are not coordinated with the music's rhythmic flow, and reports that the movements of infants, aged four to eight months, are "rhythmic, regular and repetitive and vary in intensity from small, smooth and flowing movements to those that are large, jerky and even violent in character". Between the ages of nine months and one year these movements increased in frequency, duration and intensity (Moog 1976:63).

Moog (1976:63) also found that around nine months babies began to make distinctive vocalizations to the music. He calls these vocalizations "song babbling", but it bears no relation to the pitch or rhythm of the music being played, it seems to be a characteristic response of pleasurable expression to the sounds. Greenberg (1979:59) writes: "Musical babbling, i.e. making speech sounds on various pitches, usually begins between six and nine months of age and parallels the infant's ability to move to music." These musical babbles follow the speech babbles that began at three or four months of age. Unlike the speech babbles, the musical babbles have definite pitch and do not have as many syllables as speech babbles. They usually lack definite rhythm and begin relatively high in pitch and then descend. "Tones that repeat, or that move in very small intervals, or that slide down from the first tones are more frequent" (Greenberg 1979:58). Greenberg (1979:52) also found that the infant of nine months begins to "... respond selectively to a few simple words". The first sounds that resemble words now start to appear in the baby's vocalizations.

Greenberg (1979:53) also describes the nine month old infant as follows: "By nine months, he may show displeasure at music he does not like." According to him, the baby appears to respond more to vocal than to instrumental selections. Motor response to music becomes more frequent and the length and intensity of his musical responses increase.

Moog (1976:65) provides the conclusion: "The child's response to music during his first year of life is based entirely on the quality of the sound itself; but it soon begins to include an awareness of the rhythmic motor element and towards the end of the first year its development is hastened by awareness of the sound qualities of speech." According to him, children of one year do not distinguish differences in pitch in melodic lines. The total sound, including its clarity, is taken in, but this clarity is not perceived in relation to the clarity of other sounds. "No child under 1 year noticed the absence of definite pitches in the nonsense word rhythms, and no child showed the slightest attempt in his own babbling songs to keep to the pitch of what was sung to him". So one essential element in the perception of melody, the awareness of differences in pitch, is not yet present in a child aged one year.

#### **4.4 AGE 1-2 YEARS**

Williams (1983:137) gives the following general characteristics of auditory perception development in children. A child from 9-15 months: he hears a watch from a distance of 1-2 ins., and says "ma-ma" and "da-da". He localizes distant noises and understands a few commands. The child understands several words, e.g. "car" and "dog". At the age 19-24 months, the child obeys commands, e.g. "give it to Mommy". He may hum a tune frequently heard and begins to combine words. He also can bring various objects upon request. A major part of the nine month to two year old child's waking hours is spent looking at and listening to two or more adults or older children talk. According to Greenberg (1979:53) the child is apparently enthralled by the sounds and intonations of spoken language, especially those sounds that he can understand. Elkind (1974:48) writes: "The infant listens intently to adult language and repeats words he likes, finds interesting and that he can echo with his powers of imitation."

Haines and Gerber (1980:31) write about the 18 month-old child's movements. According to the authors he/she uses crawling, creeping, walking and rolling as ways

to reach places and things. He uses his hands with growing versatility, and enjoys rhythmic movements initiated by himself or an adult. He bounces to music or a rhythmic sound, or to his own inner rhythms.

A typical two year old has learned to walk, rock, sway, roll, jump, clap hands, gallop, run, and move up and down. A child of this age is constantly moving. They love to feel, pound, or squeeze toys that produce sounds or motion. Drum banging is most gratifying, since the loud sounds make children feel in control of their environment. The two-year-old plays with language, often repetitively; thus simple rhymes are formulated. Repetition of the same song, chant or play activity is a favourite experience. "Die kind is ritualisties - hy hoor graag dieselfde lied of storie oor en oor" (Landsberg 1978:13).

The child moves by swaying, swinging arms, clapping hands and bouncing torso. When the child dances to music, he bobs or bounces to the music with little movement through space. The rhythms do not necessarily follow the beat of the music, but the body is definitely responding with joyful exuberance to the musical sounds. The child is already demonstrating the ability to discriminate between musical and non-musical sounds in the environment.

According to Moog (1976:66-71) the most important change takes place about the time of the child's first birthday, as he begins to learn to talk and to walk. At the beginning of the second year, children experience music more intensively than they did a few months earlier. Their attention cannot be so easily distracted from music once they have become aware of it. He writes: "... their movements to music have become larger and stronger, a fact observed so widely that it cannot be explained entirely by the general growth of motor ability at this age" (Moog 1976:67). At this age, while the amount of response to music increases, the number of children who show displeasure when music is played to them, decreases. Children show displeasure by crying, by turning away from the source of stimulus, by running to their mothers or by pulling faces. Moog (1976:68) says "the sharp increase in the number of responses of all kinds slows down between the ages of 12 and 15 months, and then a decline begins". According to him, this decline is due to an important step forward in the general development of children. An explanation may be found in the development of the child's ability to think. Until about the beginning of the second year the child's thinking is always based on immediate perceptions. Until this stage the child was only capable of hearing music as a direct sensory experience and of re-

sponding with movements or with "singing". All these responses are observable, but once he is able to internalize actions, and to think, the child can use his sense impressions in the process of "inner combination" and so some of his response is a kind that cannot be observed. The absence of an obvious response to music is not a sign of regression, but is an indication of "an essential advance in a child's development" (Moog 1976:72).

As the child learns to walk and talk during his second year of life, he begins to actively and enthusiastically explore his environment. He listens to some of the music and sounds on television or on the radio, and he is fascinated by the sounds of birds, cats, cars, planes and clocks. He uses many objects in his environment to make a sound. Elkind (1974:49) writes: "At eighteen months, the young child's perceptions are considerably sharper than they were even several months before ... the eighteen month old gives evidence of perceiving sequences, of being aware that action patterns have a definite beginning and end." According to Greenberg (1979:53) he occasionally moves rhythmically to music he hears. "He now moves his whole body from a standing, rather than a sitting position." He also begins to move individual body parts to the music. His world of music is constantly growing between the ages of one and two.

At the age of 18 months, spontaneous singing begins to occur. The main characteristic of spontaneous singing, is the use of discrete stable pitches (rather than the microtonal glides of the earlier "song babbling"). These pitches are joined in sequence to form simple intervallic patterns. Although the child at this age has usually begun to speak, words are not usually used in spontaneous singing. Greenberg (1979:61) writes the following about the 18 month old infant: "More and more 'babbling songs' are heard, and they are more varied rhythmically and melodically than previously. These spontaneous babbles now contain definite rhythms, usually consisting of short tones followed by tones of longer duration, resembling ta-te, ta-te, taa." The pitches of his songs become more definite, and more frequent and wider intervals are used. Moog (1976:75) has also observed this, and noticed that between the ages of 18 months and two years, many children no longer sing short phrases only, but manage longer songs. There is marked progress in the intervals which children use in their singing, since the number of microtonal figures declines towards the end of the second year. Thus, the "... total effect is much nearer to the diatomic system" (Moog 1976:75). Gardner in 1981 (in Sloboda 1985:202) noticed

that the most frequent intervals initially used, approximated to seconds, major thirds and minor thirds. As the second birthday approaches, children begin to experiment with larger intervals, such as fourths or fifths. The intervals are only approximate, and children are not yet producing the exact intervals of the diatonic scale.

Children at the age of 1-2 years usually do not imitate pitch and rhythm first, but choose words or parts of them. The reason is that speech sounds make a much greater impression on their senses than pitch or rhythmic patterns (Moog 1976:78). Compared with the evenness in pitch and timbre, the sound of speech has a powerful impact on the senses, because of the "... range of colour of the vowels and the combinations of sounds in the consonants" (Moog 1976:78). Moog (1976:81-82) also tested children on the imitation of songs, and the results showed that no children of 18 months were able to keep to the pitch or the rhythm of a song for more than a bar at a time. Only word imitation could be kept up for longer than a bar, and only four per cent of the children could do this. Greenberg (1979:61) agrees that the two year old first notices and imitates the sound pattern of the words. Then he begins to imitate the rhythmic patterns of the words. At about age three, most children should be able to imitate the pitch as well as the words and rhythm. "Nevertheless, there are some children who will not follow this sequence; rather, they will first learn the song's pitches, rather than its words and rhythms" (Greenberg 1979:61). In general, the sequence from learning words to rhythms to pitches persists through early childhood.

In broad outline, the development of singing during the second year of life, can be traced through the songs in which words were sung. It begins with the words; then later children can match the rhythm and, finally they begin to approximate more closely to the pitch as well. The length of the piece of tune, which the children are more or less able to match correctly, extends from one or two notes or fragments of the words, up to whole lines of a song, and with some children even to whole songs. In the most successful attempts at imitating, the words are more or less correct, but there are some mistakes in the rhythm, while the least accurate is the pitch (Moog 1976:83-84).

Through the experiments of Moog (1976:75-86) it is clear that when the child sings spontaneously, the songs are dominated by simple repetitions of the same pitch, or small movements up and down in pitch. The songs are also rhythmically

primitive, being dominated by simple repetition of a simple note length. These songs have little sense of adult tonality or harmony.

Between the ages of 18 months and two years, the young child experiences difficulty in coordinating his movements with musical sounds. The difficulty lies in the child's inability to isolate the time element in the sounds which he hears. According to Moog (1976:74) the child cannot begin to coordinate the sound of music and the movements of dancing, until he begins to have some awareness of the passage of time. He writes: "The difficulty must surely lie in the child's inability to isolate the time element in the sounds which he hears, for until he begins to have some awareness of the passage of time he cannot begin to coordinate two such totally dissimilar elements as the sound of music and the movements of dancing" (Moog 1976:74). Thus the problem is, to bring into relationship with each other, one aspect of two disparate sensory fields, and this cannot be done purely by processes of thought; it also involves action. A child's ability to match his movements to the rhythm of music, is a most important step forward in his development.

In conclusion, during the second year of a child's life, the child's powers of perception develop enough for him to begin to be able to sort out the different elements in the general sound and, since he is able to extend the range of his bodily movements, he begins to perceive what he hears as a sequence of events of time. Up to the age of a year, the child is not capable of perceiving the melodies as a succession of sounds of different pitch. Between the ages of one and two, he begins to be able to start arranging what he hears into a series of sounds. Because of his progress in intellectual development, the child now begins to be able to sort out and put into order a series of sounds of different frequency. "During the second year, it is still sensory impression of the sound, together with the rhythm, which lies at the heart of musical experience" (Moog 1976:856).

#### **4.5 AGE 2-3 YEARS**

In the general development of the child of this age, the child shows increasing independence in all respects, though he still clings to his mother if he is frightened. This independence shows itself in tantrums if the child is frustrated. There is a tendency towards self-protection and traits such as shyness, reserve and self-consciousness appear, together with their opposites, aggressiveness, envy and malice. The child

also develops a will of his own. He is restless and rebellious and is not so easily distracted from his tantrums.

According to Moog (1976:88) the child is beginning to be aware of the future, and any concept of the future is only possible in the context of the past. "Memory images, which make their first appearances at this stage of development, provide confirmation of this assumption, since in various different fields of experience the growing concept of past and future presupposes an extension of the mental present" (Moog 1976:88).

Moog (1976:88-89) stresses the fact that music can only exist in time. Thus, the extension of the mental present and the acquisition of memory must play an important part in musical experience. "Awareness of past and future extends the child's ability to assimilate musical sounds in the way that no one would expect and, finally, the changes in the relationships between perception and feeling, and in those between the instinctual drives and feeling, also have an influence on musical experience" (Moog 1976:88-89).

During the period of age 18 months to three years, the learning process depends exclusively on imitation, and usually develops as follows: words - rhythm - pitch. First of all, the sound pattern of the words is imitated. Thereafter the rhythmic pattern of the words is repeated and by the time the child is three years old, the pitch of words can be imitated to a limited degree. Songs which consist of two or three notes (a limited range) and with plenty of repetition, are very popular.

Spontaneous songs increase in both number and length. Quite a number of children aged two and a half to three, keep up spontaneous singing for over four minutes on end. Their songs are sometimes hummed to "m" or "ng" or sung on one vowel or one syllable. Now and again part of a word or even a whole word is included. Haines and Gerber (1980:33) write: "Language competence grows apace, both in vocabulary and syntax ... talking, chanting and singing accompany many activities. The labelling of objects and actions seems to give three year olds new control over themselves and their worlds." Moog (1976:95) found that children of this age would also sing spontaneously, repeating the same word over and over again or using a series of different ones. Haines and Gerber (1980:33) agree that songs with repetitive words are added to the growing repertoire. A spontaneous song sung by a two to three year-old, is dominated by a single note-length, with varied

groupings of notes into phrases, giving the song some sort of structure. However, generally longer notes are not used very often. "The rests between the individual phrases in the songs of three year olds are almost always short pauses for breath ..." (Moog 1976:95), and they hardly ever last for more than one beat.

Between the ages of two and three years all children of normal ability learn how to sing at least part of a song that has been sung to them. Like the one or two year olds, the children aged two to three are most successful at imitating the sound of the words; they make most mistakes in the rhythm; and the greatest difficulties continue to be presented by differences of pitch. According to Grobler (1990:74) the singing of all children of this age group is based on a pattern of sing-song. The sing-song tune consists of two or three notes based on the descending minor third. In the major scale the third, fifth and sixth notes are used. Grobler says that these young children do not usually sing along, and only repeat a word here and there. They do make up their own words and sing at their own pitch according to their own interpretation.

Moog (1976:104) provides the conclusion for the child's singing ability: "It is not just the rhythmic pattern, but the combination of this with the sound of the words, that attracts two to three year olds so strongly." So, the overall sound of the words is still the most important element in the child's experience of music. The child is able to take in something which extends over a period of time, and he should therefore be able to take in melodies as well, but he experiences melodies less as a series of rhythms and pitches, more as modifications of the general sound that is going on, in which the speech sound is of prime importance. From the child's singing it is clear that exact pitch still presents considerable difficulties. Thus, the child is still bound to the general impression of the sound as a whole, in which pitch represents a relatively abstract element (Moog 1976:102-104). "However, by age three, most children will imitate simple songs that they have heard. Singing as we know it, has been established in the young child" (Greenberg 1979:62).

The capacity of the two year old to lose himself in listening is quite different from the baby's earliest attentive listening, since his vocal and motor abilities are now developed and he is capable of responding to music by making sounds or movements. Some children choose to listen quietly, which shows that the children are beginning to be able to concentrate for longer at a time. Some music may even pass unnoticed, because their whole attention is actively engaged with something

else (Moog 1976:89). Greenberg (1979:54) confirms this by writing: "His ability to concentrate on and listen to the music increases." According to Greenberg (1979:54) the child of two to three years old may sit or lie down quietly and attend to the music for several minutes.

Listening to nursery songs is often a favourite activity. The constant repetition of words and sounds is an enjoyable pastime. During this stage (2-3 years of age) the child will approximate rhythms and the up-and-down pitch movements of a tonal pattern and later, a complete song. "He will raise and lower the pitches of the song, but will rarely if ever match all the tones" (Greenberg 1979:62). According to Greenberg, some children during this stage will approximate the tonal pattern using a wide variety of tones in an extended range. Most will confine themselves to tones with only slight variations in pitch level (Greenberg 1979:62).

Sloboda (1985:207) remarks that around two years of age, about 10 % of children begin for short stretches of time, to match their movements to the rhythm of the music. The few children who were able to do this at all, were only able to keep up the coordination for a few bars at a time. According to Moog (1976:91), most children only manage to accompany part of their singing with rhythmically matching movements, sometime between the ages of two and four. "When they do this, children use movements which they have made in an uncoordinated way to music which they have heard or sung themselves" (Moog 1976:91). Children succeed in coordinating their movements with their own singing, for a short stretch at first and then gradually for longer at a time. Greenberg (1979:54) writes that the child now has better control over playing rhythm instruments and "slowly begins to synchronize his playing and bodily movements with the rhythm of the music". This synchronization provides evidence that he can focus on a musical element - rhythm - in his responses and can represent this element in his movements.

The movements made by children aged between two and three show an astonishing variety. Haines and Gerber (1980:33) noted that improvised dancing changes from the toddler's jiggling up and down to include arm movements and a variety of steps. "Often this creativity is quite a private affair and may stop if it draws attention." The swaying backwards and forwards, the rocking from side to side, and the jumping up and down appear frequently at this age. Conducting and swaying on one foot, are the most common among the movements of parts of the body. Children are observed to clap their hands more frequently, or to tap on a board on

their knees, and also to move an object which they are holding. Moog (1976:94) observed the most frequent movements made by the three year olds were proper dance turns. The children would make a circle round the room, turning round as they went, and some of them swung a doll or a teddy most gracefully round with them. "Some children danced themselves into a state of ecstasy, by turning faster and faster in smaller and smaller circles" (Moog 1976:94). It is astonishing to see what feeling for space the children of this age develop. Greenberg (1979:54) writes that "he uses more space than previously when he moves to music".

Andress (1980:5) provides the summary of the development in the movements of the two and three year olds. According to her, the two year old child moves by swaying, swinging arms, clapping hands and bouncing torso. The rhythms do not necessarily follow the basic beat of the music. The three year olds move in a more coordinated manner than the twos, often reflecting fairly accurate rhythmic responses. These children use much energy in movement, falling and tumbling down. When nearing four, the child discovers it is fun to have a friend with whom to talk and play, through limited experiences, the three year old develops an awareness of and a greater interest in being a part of a group (Andress 1980:5; Haines & Gerber 1980:33).

#### **4.6 AGE 3-4 YEARS**

Between the age three and four, the child becomes more aware of things as something apart from himself. The emotional element in perception becomes less important, the intellect plays a greater part, and perception is more and more influenced by previous experiences. They are still clearly influenced by what they see and hear, and individual children vary considerably in the extent to which their perceptions are still influenced by their emotions. The child does not yet possess the insight into causality to explain everything he perceives, so it is the emotions aroused by his perceptions which are most apparent. At this age children give themselves up to all forms of play, either on their own, or imitating each other in parallel play or in social play together (Moog 1976:107-108).

Andress (1980:5) describes that the child works hard to acquire language. Imaginative play begins to reflect language and logic, and imagination is often bound to what has most recently been seen and has caught the child's interest. The child

speaks and sings thoughts aloud, but according to Andress, language is not necessarily used as a conversational tool. Sounds and words express feelings and actions. By playfully repeating word patterns, it becomes a delightful song game, and the child often makes up simple chants to accompany various play activities. As Haines and Gerber (1980:34) put it: "Singing games in circles or with partners are now within the four year old's interest and ability." Music becomes more than just sound. It becomes a nonverbal means of expression and communication. It begins to fulfill the child's need for obtaining aesthetic satisfaction in life's experiences (Greenberg 1979:54). It is at the age of three years that music begins to be felt, thought about, and enjoyed for its aesthetic dimensions.

Timbre differences have been tested in experimentation with children. According to Kidd and Kidd (1966:131), Gebhardt in 1929 reported on a single child who could, at the age of two years, discriminate between a tone of the same pitch played on a piano and on a violin and could at age three, recognize the difference between the sounds made by old and new streetcars. In 1961 Repina (as reported in Kidd & Kidd 1966:131) taught 3-7 year olds to discriminate among seven tones of identical pitch and different timbres by making each tone the specific voice of one of seven teddy bears. However, according to Kidd and Kidd (1966:131) at the present time, little can be hypothesized about the development of timbre discrimination in children.

According to Nye (1979:52), a three year old is capable of enjoying short listening to a song with content about his world, to an appropriate recording, or to the sound of a musical instrument, and this he can do alone, and with a small group. Landsberg (1978:17) agrees with this and writes: "Hulle luister met aandag na musiek en is geïnteresseerd in die instrumente wat bespeel word." A child of this age can be encouraged to explore, identify and listen to sounds of his environment - human, mechanical and those in nature.

Grobler (1990:75) describes the following characteristics of singing in this age group:

- The children enjoy singing on their own.
- They enjoy listening and may possibly sing a word here and there.

- They often do not manage to keep up when all are singing together. They may sometimes only manage to sing the last word.
- They enjoy repeating sounds.
- They enjoy moving while singing.
- The range of the songs increases from the chant (three notes) to a range of five notes.
- The voice range in this group is limited and ranges from the D to the A above middle C.

The typical three year old experiments with singing with another person or with a small group. He may lag behind in the song and may sing other words (Haines & Gerber 1980:80; Nye 1979:84). After having had many experiences in approximating the tones in a melodic pattern or a song, the child then will begin to sing the pitches and rhythms more accurately. This usually occurs with songs or patterns that have a limited tonal range with only a few different pitches. "By about age three, most children, with experience and some previous training, will be able to sing tunes within the limited range of D to G above middle C" (Greenberg 1979:63). A few children may sing in a range slightly higher than that.

During the third and fourth years of life the child develops imitative capacity to the point where whole songs can be repeated. Generally the rhythm and the pitch contour are mastered before the ability to reproduce precise intervals and maintain the same tonality throughout a song. Most children can accurately reproduce the familiar songs and nursery rhymes of their culture by the age of five (Sloboda 1985:205).

According to Moog (1976:114-117) an addition to the spontaneous songs and the imitative songs of three to four year olds, there emerges a third group, imaginative songs. This group consists partly of spontaneous singing by the children, partly of snatches of songs which they know, or new versions of these. Greenberg (1979:62-64) confirms this by saying: "The words are often repetitive. They may also be fragments from songs already familiar to him ... the tunes may be original, but more frequently, they resemble or imitate tunes already familiar to the child." Moog (1976:115) reports that three year olds will often produce continuous songs of several minutes' length. By four years of age there was a great extension of, what he

calls, "potpourri" songs. In these songs children make up new ones, by putting together pieces of several songs which they already know. Words, melodic lines and rhythms are mixed up, altered, taken apart and put together again in a different way, and then fitted in between stretches of original ideas. Usually these "potpourris" were free episodic structures with little sense of overall organization.

Moog (1976:115) claims that narrative songs show a similar development to the "potpourri" songs, though with a four year old they still can hardly deserve this name. The child sings any words, as long as they seem to tell a story. Haines and Gerber (1980:34) describes the child's "story telling" as follows: "Not only can the 4 year old order, classify and reproduce sounds, tones and rhythmic patterns vocally and with instruments, but he can use these creatively to help him express his ideas in a story ..." Landsberg (1978:21) confirms this by saying: "Hulle fantaseer deur middel van verbeeldingryke stories, word meer skeppend en oorspronklik in speletjies en gesels spontaan." He sings without trying to tell the story to another person, carrying on as if he were alone. Occasionally, little pieces of learnt songs find their way into the narrative songs. By using snatches the child rearranges and finds new ways of expressing what he has already taken in.

Moog (1976:117) reports that "in a few isolated cases the imagination of the children was far enough developed to go beyond the mere rearrangement of what they had already heard. Figures or phrases from learnt songs were altered according to a definite formal principle". One girl of three and a half sang the whole Christmas coral, *Ihr Kinderlein Kommet*, in triple time instead of quadruple time. She did this by altering the dactyl pattern to a triplet wherever it occurred. Such grasp of formal structure is most unusual at this age.

Duple time predominates and usually notes of only two different lengths are used. If a note of a third or fourth length is included, this is always due to the rhythm of the words. The words play an important part, even in the simple rhythm in duple time which the children use (Moog 1976:117). According to Greenberg (1979:64) rhythmic accuracy in singing will improve during this stage, but errors in rhythm still abound. The child can now sing faster and/or louder. "Expressive singing, however, is negligible or absent, since the child is still too involved in learning how to match pitch and rhythms and how to articulate and remember the words to bother about the expressive aspects of singing" (Greenberg 1979:64).

Moog (1976:119) provides the conclusion: "Children who begin to imitate without singing the words, learn to sing more or less correctly between the age of three and four. About a fifth of the children who began by imitating the words still cannot manage pitch by the end of their fourth year. From the age of two onwards, the development of imitative singing depends more on the child's musical environment than it did at an earlier age. A large number of the children who could sing parts of songs correctly, would surely have managed a whole song if they had been given sufficient encouragement to do so." According to Moog (1976:110), the children who had the largest repertoire of all came, without exception, from homes where the parents sang particularly often. Children with a repertoire of five to ten songs would never have had this, had they not been taught the songs.

The threes move in a more coordinated manner than the two year olds, and they often reflect fairly accurate responses. These children use much energy in movement, falling and tumbling down, yet exerting some control if they deem it important to do so. The threes also develop an awareness of and a greater interest in being a part of a group (Andress 1980:5; Haines & Gerber 1980:34).

According to Nye (1979:15), the typical three year old is learning to move rhythmically, and responds when the teacher delineates his movements with accompaniment. Walking, running, jumping, rolling, galloping, rocking, and clapping are some of the activities in which the child is almost continually involved in. He can also do some of these things in time with the music, and he can accomplish sudden stops or "freezes".

Children of this age can listen to recorded music and dance by doing whatever they feel like doing in response to the music. Sometimes they imitate motions of the teacher as she joins them in their dancing. Nye (1979:15) mentions that the alert teacher notices when a child begins a new motion, imitates it, and uses it to expand the child's and the group's rhythmic development.

Moog (1976:111-112) states that exact coordination of movement and music is achieved by only one child in ten. However, most children can at this stage make the distinction between fast and slow. During the tests of Moog, the children did not keep exactly in time with the music, but they made the most varied curving shapes about the room as they turned, stepped or ran. For the first time, during Moog's investigation, they noticed that the children changed direction as they danced. Some-

times the young children paused, staying on the same spot with arms raised, or crouching down, rocking backwards and forwards, or rising up on the toes and then down again, as they responded in movement to the sounds they heard. The children also sometimes stopped moving, and then listened motionless to the music for a while, before continuing their dancing.

Between the ages of three and four, simple rocking and jumping movements, such as those made by much younger children, may be observed twice as frequently as proper dance movements. From the age of three onwards, movements of individual parts of the body become increasingly frequent, and are met with, almost as often as rocking movements. "Specific movements of parts of the body are much more frequent than movements of the entire body" (Greenberg 1979:55). According to Moog (1976:112) the following movements of parts of the body were observed among the three year old subjects:

- rocking feet
- moving the mouth rhythmically
- nodding head
- rocking the head from side to side
- circling outstretched arms
- swinging outstretched arms
- drum beating
- hand clapping.

These movements have been listed by Moog, in order of frequency, beginning with the most frequent.

Moog (1976:112-113) and Greenberg (1979:55) stress the importance of singing games and round dances at this age: "Until the age of three, the development of a response to music was determined by innate ability and by the musical stimuli presented to the child more or less haphazardly. At its earliest stage the development of musical potential depended only to a small extent on the provision of chosen stimuli, to which the child more or less had to respond ... but now given a particular level of

ability, a child needs forms of movement other than the instinctive swaying one. To make these new movements a child has to learn singing games and round dances" (Moog 1976:112-113). The child shows interest in the meanings and story content of words of songs. His interest in play and imaginative activities makes him very responsive to creative bodily movement, especially when acting out a song's story or showing how animals move (Greenberg 1979:55).

Moog (1976:113) reports that, between the ages of three and four, differences in home environment begin to show their effect in the field of music. According to him, children who are taught songs and games by their parents, brothers and sisters, or in nursery schools, have a clear advantage over other children.

#### **4.7 AGE 4-5 YEARS**

According to Williams (1983:136) the general age characteristics of auditory perception development in young children are:

- he can hum several tunes
- he repeats three digits
- he uses prepositions in speech
- he can define functional uses of several familiar objects.

Observations described by Williams (1983:138) indicate that four and five year olds are more accurate in recognizing differences in spoken phonemes (e.g. sun-fun, mouse-mouth) to the author, in general, recognition of phonemic differences develops first in young children; imitation of such sounds develops later; spontaneous and correct production of such sounds develops last.

The child of four or five takes in the world around him through the increased liveliness of his senses. His attention span is longer and he no longer stares or hears passively. The child can even concentrate if he wants to. This means, according to Moog (1976:123) that "... he cannot only be more attentive to what he perceives, but he can also adapt his behaviour to a situation in a variety of ways". He is also, to a certain extent, able to "... behave in a reasonable way".

The child of four begins to be aware of time ("today, tomorrow, now, later") and this shows how much progress he has made in this kind of thinking. Because of the growth in logical thought, the child is able to analyse the environment which he perceives. He is more able to recognize things in this environment objectively. He uses his imagination to help him interpret the world around him, and fantasy is still used to supplement the real world. The child of this age loves fairy tales, and stories which mix up fact and fantasy. He has a need for social contact (Andress 1980:5) and this is apparent in his speech. He loves to tell stories and to listen to them being told or read to him (Moog 1976:123-124). According to Moog, these changes in social and emotional development leave their mark on music experiences.

The child's ability to recognize sound develops greatly during this time. Children now have the tendency to identify an object by the noise it makes. When a child recognizes an instrument by its sound, he is using the ability to recognize objects by the noise they make. The ability to identify a thing by the sound it makes, is also used when a child recognizes a musical instrument by its sound. Recognizing a musical sound seems with many four and five year olds to be a mental process of tying things together. When it happens, the situation in which the music was heard before, is reproduced in the memory (Moog 1976:133-134).

A typical four year old is sometimes capable of enjoying a listening experience with a large group. Children of this age can be guided to explore sounds of classroom percussion instruments and improvised sound sources. Listening experiences involving bells, recorder, piano, flute, violin and cello can be arranged, as well as those involving songs. Nye (1979:52) suggests that the children should demonstrate their musical learning "by becoming able to use and apply concepts as loud and soft, heavy and light, fast and slow, happy and sad". The teacher should also ask questions to assist the learning of these concepts. According to Swanson (1981:10) at age four children can match sound-blocks by loudness, but at age four and a half can grade sound-blocks in order from softest to loudest.

The singing activities of this age group can be extended since the children are better adapted socially and since they are able to concentrate for a longer period of time. At four and a half, children can remember short sentences and imitate a melody.

Intellectually the years from four to six are categorized, by Piaget (as reported in Swanson 1981:10), as the period of intuitive thought. Children are subject to perceptual dominance. This means that when an item has several attributes, they can take into account only one at a time. This can be explained by taking a musical note as an example. A musical note has pitch, duration, loudness and a particular quality of sound, but the young child will notice only the one attribute that dominates their attention at a given time (Swanson 1981:10). A teacher must help children to switch their attention from one attribute to another at different times. This will enable the children to develop the separate concepts and, as the children mature, are ready to combine the separate concepts into a complete idea.

Four year olds are great talkers and they like to dramatize and make up new verses as they act out songs and rhymes. During play, a few key words are extended by nonsense syllables to create chants that accompany rhythmic activity. According to Andress (1980:5) games involving simple tonal and timbre discrimination tasks are of great interest. Children this age are capable of organizing sounds to help express a story or accompany a song. Haines and Gerber (1980:34) confirm this: The four year old can "improvise simple melodies on pentatonic instruments and sustain one- or two tone accompaniments to familiar songs".

At ages four and five children like stories and songs with repetitive action and repetitive phrases. Songs with nonsense words, silly language, and rhyming are favourites. It becomes important to the child to match the tones of others when singing, but matching tones is a growing skill for the four year olds (Andress 1980:5).

Grobler (1990:75) provides the following characteristics of the singing activities of children, aged four to five years:

- They sing longer songs which may also include action songs.
- Their voice range gradually extends to include the notes, for instance, from the D to the C above middle C.
- They enjoy repetition: "Appropriate finger plays, rhythmic chants, and action songs are quickly memorized and gladly repeated from day to day" (Haines & Gerber 1980:34).
- Their intonation is still not pure.

In a study by Davidson and McKernon (in Sloboda 1985:206), children aged four and five were taught folk songs. The four year olds couldn't keep to the same key throughout the song, but the five year olds were able to maintain a single key throughout, starting on and returning to the tonic, even if some notes were wrongly remembered. The four year olds did not maintain a steady pulse, and tended to organize rhythm largely from placements of accents in the words. The five year olds were able to organize their reproductions in terms of an underlying pulse or beat. Their songs conformed to the beat even if individual rhythms were misremembered. This study shows that the child is focussing on and using, maybe for the first time, the characteristics of song, which are determined by superordinate structures of tonality and rhythm.

The spontaneous singing of children age four and five were, according to Moog (1976:131) partly just trilling or humming away to themselves, and these songs showed hardly any advance in their rhythmic pattern on those of children a year younger. The "potpourri" songs were also observed several times, but not as often as among the 3-4 year olds.

Moog (1976:131) explains why the singing of imaginative songs occurred quite often among the four year olds. According to him, it may be that the child "only knows part of the song properly and makes up the part he does not know by using any words and an original melody".

In a study Moog (1976:131-133) did, half of the children aged four and five were able to sing songs with several verses correct, or with only a few mistakes. Most of the mistakes made by these children were cases of singing out of tune. A third of these singers reproduced the songs correctly, but made the intervals too small. "About 15 per cent of the four and five year old children had difficulty in singing a song they had learnt in tune" (Moog 1976:133). After one out of tune note, the whole of the next line of the tune is transposed. Few children of this age sing "... just one or two notes out of tune and then return to the right key" (Moog 1976:133).

To sum up the findings of the studies made by Moog (1976:128-133): Ten per cent of the children sang either very slowly or very quickly, but the relationship between the different lengths of note remained correct. Mistakes in the rhythm were much less frequent than out of tune singing. Mistakes in the rhythm always occurred in connection with out of tune singing. Even fewer mistakes were made in the words,

than they did in the rhythm. The line of development, words - rhythm - pitch, is still apparent in the singing of the pre-school children. The singing voice is more secure and an increasing portion of every group of fours can sing in tune as the year progresses (Haines & Gerber 1980:34). According to Greenberg (1979:65) it is during this stage that the child begins to express the musical aspects of the song and sings with attention to the song's dynamics and tempo. He writes, "the child starts to use his voice more effectively to express the meaning and emotional content of the song and its words ... He learns to add subtleties and nuances to his rendition of the song, which will enhance his ability to communicate how he feels about the particular musical experience." By the time the child reaches his fifth birthday, he should be well on his way toward using his voice as a primary means of expressing himself musically.

The 4-5 year olds enjoy gross motor activity, but they also have developed some skill and gracefulness in hand movements. Finger plays and action songs are appropriate for these children. Their movement activities are also becoming more accurate (Swanson 1981:10). Moog (1976:125) lists the following movement which were made by children of four and a half years of age:

- swinging one leg up and down
- tapping on the table
- swaying backwards and forwards
- "conducting"
- clapping
- nodding the head
- hopping up and down.

Swanson (1981:10) adds that running, walking, bending, stretching and turning can now be used freely. At age four, children generally can blend a step and a hop into a gallop.

A typical four year old usually learns a given movement by moving at a fast tempo. Nye (1979:15) suggests that the teacher must provide such tempos, then

assists the child to expand his control by gradually moving to slower tempos. This age group enjoys adding to the movements learned earlier by marching in a straight line or in a circle; forming square or rectangular patterns, sliding, hopping, whirling, stamping, crawling, swinging, bending, shaking, nodding, flopping, and walking on tip-toe. The children enjoy imitating movements of animals, machines, and space objects. She writes: "When these children listen to recorded music, they sometimes dance as they feel or sometimes follow the teacher's instructions" (Nye 1979:15).

As a result of tests carried out by Moog (1976:124-125), he states that the variety of spontaneous movement declines from the middle of the fourth year of life to the middle of the sixth year. When music was played to the children of 4-6 years of age and instructions such as, "you are allowed to move round", or "would you like to dance to it?", were given, only a few children responded to the invitation to move, and these hesitated to do so. The children who did respond, were simply being obedient. There was no natural connection between the music played and the spontaneous movements, such as they observed in younger children. The children did not make any other movements than the dance movements that they were specially asked for. Greenberg (1979:55) writes that the child appears to "internalize the music rather than express it through physical movements". Specific movements of parts of the body are much more frequent than movements of the entire body. At this age the child can talk about the musical experience and what he hears. Repetitive spontaneous movements to music slacken at this age.

Children were asked by Moog (1976:125-127) to clap their hands or to tap on the table, to see if they could keep time with the music or not. Of the 28 four year olds, there were four children who could not clap or tap in time with the music. Twenty of the four year olds and 26 out of the 35 five year olds could either spontaneously, or on request, keep in time with the music, at least for part of the time it was being played. Some were able to keep it up for only a few bars at a time, while others were able to accompany a whole song with rhythmically correct clapping, but clapped quite out of time to other songs. Moog decided that in these cases it was not possible to decide whether the child was not able of keeping time, or was simply not bothering to try. Only four of the four year old subjects, and nine of the five year olds, were observed keeping in time throughout the whole series of tests. According to Greenberg (1979:55) the child is able to coordinate his movements with the music to a longer extent than before.

The progress of children in this age group is described by Moog (1976:127-128) as follows: "There is considerable progress between the ages of four and six, in keeping movements in time with music. It is not only a question of all children becoming able to keep in time at least for a short stretch, but also a matter of the length of time the child can keep up his coordinated movements. A child who, at the time of his fourth birthday, can already keep in time with the music he hears for a short while, learns to keep this up for longer between the ages of four and six. Finally the growth of this ability is shown by the fact that the number of subjects who kept time with all their movements, doubled between the ages of four and six" (Moog 1976:127-128). To conclude: "The child, upon reaching his fifth birthday, has learned a variety of new ways to respond to what he hears in music. In five short years, he has made tremendous strides in becoming a more musically responsive individual" (Greenberg 1979:55).

#### **4.8 AGE 5-6 YEARS**

Children of this age can accurately imitate several pure tones. They can repeat four digits correctly 50 % of the time. They are able to describe actions in pictures, and ask the meaning of words. They can be taught a simple tune in one session and recite numbers up to 30 (Williams 1983:137). Williams reports that, when using the Wepman test of auditory discrimination as a basis, there is little or no difference between five and six year olds in the ability to discriminate between pairs of spoken words that differ on one sound. Observations from studies on auditory memory abilities of young children indicate that there are significant differences among five and six year olds in memory span for spoken digits, memory span for unrelated words, and memory span for meaningful or related groups of words. Six year olds are superior to five year olds in these auditory memory abilities. In another study mentioned by Williams (1983:139), children of six years were asked to learn and then to recall simple eight note melodic auditory patterns. The six year olds were unable to perform this task.

According to Kidd and Kidd (1966:127), responses of three to seven year olds were investigated, by asking the children to repeat prerecorded numbers they heard through a telephone receiver. The term "threshold" is defined as the point in the

decreasing intensity at which the children could no longer report the numbers accurately. They conclude that acuity increases with age.

In pitch studies done by Repina, as described in Kidd and Kidd (1966:130), three to five year olds were trained that a 250 cps tone represented a "bear's voice", a 400 cps tone was a "dog's voice" and a 1500 cps tone was a "chicken's voice". The younger children were able to discriminate between the extreme tones and the older to discriminate among the three tones. Kidd and Kidd (1966:131) also describe two experiments performed by Endovitskaya (1959). In the first, 40 four to seven year olds were conditioned to discriminate between two pitches. Discrimination was established in all the children over 4-6 years old, while those below this age were believed to be pitch deaf. However, in the second experiment, two subjects younger than 4-6 were trained to react with different hand movements to 11 sounds of pitches ranging from 500 to 100 cps, and then retested with the first experiment. Pitch discrimination was better than it has been for the older subjects. Endovitskaya concluded that pitch discrimination in children could be taught and was not inherent.

By the time the child is five, he understands the meaning of the time on the clock in relation to his daily activities, and he may continue a game from one day to the next. Piaget calls the age of 4-7 the age of "intuitive thought" and he considers that one of the most important characteristics of thought at the age of four to five and a half, is the continuing need for thinking to be attached to an actual object or sense impression. According to Moog (1976:124), "... considerable developments in musical experience are made possible by a growing awareness of time, and also by the development of thinking".

Five year olds speak conversationally with others and question to seek information. They have not totally separated fantasy and reality, thus their play still involves much imagination. Fives are more able to cope with group experiences and they play independently and socially when exploring and performing music (Andress 1980:6). According to the author, five year olds are more aware of multiple sounds played simultaneously, and they can respond with greater accuracy to the basic beat. The children possess greater skill in matching tones of others when singing, and they can begin to use visual ikons representing musical sound. An ikon is when the child internalizes an object or sound, and retains an image of it when it is no longer pre-

sent. Fives are growing in ability to improvise, organize, recall, and reorganize sounds or musical ideas.

The five year old is able to hear and match pitches vocally and on instruments such as the bells or psaltery. He is also able to make pitch adjustments to correct his errors. The child of this age listens to a song, a piano selection or a recording, and is able to play a simple percussion instrument to accompany it (Nye 1979:52-53). Nye suggests that the children should have opportunities to use, discuss, and apply concepts such as loud and soft, heavy and light, fast and slow, happy and sad (concepts stated for the four year old). The teacher should also ask questions to assist children's learning of these concepts. Since five year olds are becoming socially concerned with peers, most are capable of listening as members of a larger group.

Grobler (1990:76) provides the following characteristics of singing in the age group 5-6 years:

- They enjoy singing together in a group (also in Haines & Gerber 1980:35).
- The intonation has improved, but is not always pure.
- The voice range has extended from the D to the second E above middle C.
- They enjoy different types of songs, for instance action songs, singing games and dramatizing.

Moog (1976:128-129) experimented and then reported a decline in the number of sung responses during the fifth year, and a rise during the sixth year. This is only partly determined by the stage of development which the child has reached. He explains the importance of development in the vocal apparatus as follows: "In the very earliest years the development of the ability to sing does indeed depend on maturation, but from the age of three onwards success in singing depends more and more on the functioning of the vocal apparatus. The five or six year old can sing and can produce words, rhythm and pitch, at least recognizably. Ability varies considerably between one child and another and, as well as musical ability, the efficient functioning of the vocal apparatus undoubtedly plays a part" (Moog 1976:129). According to Haines and Gerber (1980:35), during the year, most five year olds find

and keep their singing voices, and sing enthusiastically in large and small groups and alone.

Every child can greatly increase his singing ability if he is given the necessary practice. Moog (1976:129) always heard the best songs "... from children who regularly sang at home with parents or with brothers and sisters". Children sing of their own accord relatively well, if the same limited repertoire is sung to them frequently. Moog observed that some children with a much wider song repertoire, not only sang more inaccurately, but less frequently.

In a study by Davidson and McKernon (reported in Sloboda 1985:206), a new folk song was taught to children aged four and five. The five year olds were able to maintain a single key throughout, starting on and returning to the tonic, even if some of the individual notes were wrongly remembered. Secondly, five year olds were able to organize their reproductions in terms of an underlying pulse or beat. Their songs conformed to the beat even if individual rhythms were misremembered. It is important to remember that spontaneous musical experimentation may well cease to play any further real part in a person's life after the age of five, unless it is specifically encouraged.

When Moog (1976:135) played a simple tune on an instrument, thus the sound of the words was replaced by the sound of an instrument, 75 % of the five year olds could recognize the tune by its rhythm and melody. This can indicate that children of this age are not just listening to words, but also perceive rhythm and pitch when listening to music: Haines and Gerber (1980:35) adds to this by saying that the five year old "can play instruments with accuracy" and "create and notate his own melodies".

In 1964 Pflederer (in Sloboda 1985:209-210) did an experiment where he played the same melody at two different speeds and asked the children if they were the same. Only 50 % of the five year olds thought the two were the same. Wohlwill (in Williams 1983:138) provides an explanation: Children do not observe the melody under continuous transformation between one speed and the other, and so have no independent way of knowing the two melodies are of the same material. At age five, a child is already capable of singing the same song at different speeds or pitches. This behaviour demonstrates the existence of knowledge that a melody is still the same after transformations. According to Sloboda (1985:210) what a child of this

age lacks, is the ability to translate that knowledge into a procedure for making a considered judgement in a perceptual situation, where a change (such as in speed or pitch) is highlighted through temporal juxtaposition.

In their spontaneous singing, the children will stick to a few simple rhythmic formulae, which remain their models of rhythm for some time. The music which children of this age most enjoy listening to, is that which presents a rich sound with a plain rhythm maintained throughout the piece. The rhythmic models which the children like, are almost all in duple time. According to Moog (1976:135-136) children hardly ever use triple time in their spontaneous singing, "... but it is more acceptable in music which the children listen to" (Moog 1976:153). Tests confirmed that children respond well to rhythmic training. They are also able to copy much harder rhythms than their own singing indicates.

Children of pre-school hear sounds, feel rhythmic patterns and can also perceive differences of pitch, but they cannot experience any sort of harmony at all. The child is deaf to harmony at least till the end of his sixth year, and even for a long time after that. The child of this age lacks the ability to analyse notes of different pitch when he hears them simultaneously (Moog 1976:136).

Children aged 4-6 enjoy gross motor activity, but they have also developed some skill and gracefulness in hand movements. Their movement activities are also becoming more accurate and they have fine movements that are better differentiated (Andress *et al.* 1973:4; Swanson 1981:10). Children enjoy finger plays and action songs. The ability to skip develops about age five, musical accompaniment for such activities should be adapted to the child's tempo and movement style (Swanson 1981:10). Nye (1981:16) reminds the teacher that skipping cannot be done by all children, but that "... the development of this skill can be assisted by providing accompaniments that stimulate it".

The five year old becomes able to move rhythmically to the regular beat; he can keep time with music (Nye 1979:16). Moog (1976:207) found that, at age five, very often the children would make any sort of clapping movement, sometimes not even rhythmically regular ones. Only about two thirds of the children he tested kept in time with the music for even a short time. When asked to clap while singing a song they knew, they could clap in synchronic with the successive notes of the song. According to Moog, it is not clear that children of this age are capable of maintaining a

steady beat while singing a song which subdivides the beat and contains silent beats. Moog (1976:128) observed that all movements made in time with the music were simple, repetitive ones. He writes: "As long as it was a question of keeping with music heard, and not keeping time with their own singing, the children always kept the pulse, and now and again a note of longer duration." Shorter note values were not observed. When children were accompanying their own singing, they sometimes clapped the rhythm of the words.

This age group can perform the basic locomotor (propulsive) movements with a good sense of balance. Nye (1981:16) describes their rhythmic activities as a "natural extension of those of the four year olds". Children are able to incorporate changes of direction and movement such as run and stop, walk and jump, whirl and fall. The teacher's accompaniments should have changes in tempo and dynamics (such as fast and slow, heavy and light, loud and soft, short and long) the children are able to reflect in their movements. Changes in tempo and dynamics can also be dramatized more easily.

Moog (1976:125) describes the types of movement that occurred during a test with children aged between five and six:

- clapping, 33 times
- swinging one leg up and down, 15 times
- hopping up and down, three times.

Movements of parts of the body are the ones which occur most often at this age. According to Moog (1976:126), clapping which has hardly occurred before the fifth year, appears to be by far the most frequent form of movement among the six year olds. He writes: "Clapping is often used in singing games which small children enjoy playing so much", so this may possibly be due to a learned response. It is likely that the children (in pre-school) had learned clapping as a movement which goes with music, and so they clapped when they heard other music. If the clapping of the six year olds is not taken into consideration, only a very small number of spontaneous movements to music remain, and these few movements are weak and only made for short lengths of time.

Moog (1976:126) makes the following conclusion: "By the end of the sixth year, apart from a few exceptions, children no longer respond to music with repetitive spontaneous movements."

#### **4.9 AGE 6-10 YEARS**

At first the development of certain auditory abilities will be discussed by using reports of experiments done on children.

Recognition of differences in speech sounds appears to undergo important changes during the period from six to eight years. In 1978 and 1979 Temple and Bateman (in Williams 1983:138) reported observations on auditory discrimination abilities of young children aged five, six and eight years. Using the Wepman test of auditory discrimination as a basis, it is suggested that there is little or no difference between five and six year olds in the ability to discriminate between pairs of spoken words that differ on one sound. However, the performances of the eight year olds are significantly better than those of either five or six year olds.

Williams (1983:138) reports another experiment performed by Birch (1976). Birch asked 7, 10 and 13 year old children to perform two auditory discrimination tasks. In one task the children had to indicate whether selected words described items and/or objects of a given category (e.g. food). In the other task the children had to respond to phonemic similarities or differences in words. In general, the seven year olds made significantly more errors on both tasks than the children aged 10 and 13. Although 10 and 13 year olds were able to match words on a phonemic basis, 13 year olds were better than 10 year olds in identifying words that belonged to the same category. Thus, processing of auditory information, using lower order physical characteristics, seems to be well established by the age of 10. Processing auditory information that involves the use of higher-order rules, appears to continue to develop through the age of 13.

Observations on auditory memory abilities of young children indicated that there are differences among five, six and eight year olds in memory span for spoken digits, memory span for unrelated words, and memory span for meaningful or related groups of words. According to Williams (1983:139), eight year olds have a better auditory memory for digits, words, and sentences than do six year olds. However, six

year olds are in turns superior to five year olds in these auditory abilities. Important changes do seem to occur in auditory memory processes during the period from children five to eight years old.

Wohlwill (in Williams 1983:139) did another study where children 6, 9, 10 and 14 years of age were asked to learn and then to recall simple eight-note melodic auditory patterns. The six year olds were not able to perform this task, but children aged 9 and 10 were able to learn the sound patterns with greater ease than the younger children. It was not until the age of 14 years that children could recognize and/or recall these melodic patterns with little or no difficulty. According to Williams these data suggest that certain auditory memory abilities may continue to improve throughout middle and late childhood years.

Pitch studies were done to present knowledge about the development of pitch discrimination. Kidd and Kidd (1966:130-131) describe some of these experiments: Gilbert (1893) found that pitch sensitivity increased from age six to age 10. He attributed the change to practice, attention, improvement, maturation, comprehension improvement, or to a combination of these. Peters (1927) also showed that, when the differences between tones to be compared are small, pitch discrimination improves with age. Haines and Gerber (1980:38-39) confirm this statement with the following information about seven year olds: "Singing is increasingly accurate and of good, light tone ... and can learn to sing simple canons or hold a melody while the teacher sings or plays another part. When this is done with a listening ear, rather than blocking out the sound, a complex stage of perception and coordination has been reached, indicating the productiveness of this year of consolidation."

In research done on other auditory variables (as described by Kidd and Kidd 1966:132), Orsini (1958) noted that before training, his group of 30 adults could estimate the duration of a sound far better than could his group of seven year old children. After training, the children reached the level of estimation of sound duration which the adult group has shown during the original testing. According to Haines and Gerber (1980:40) physical development and continuing vocal training find eight year olds well able to sing canons, rounds and simple two part songs.

Six-year olds have a strong sense of rhythm, they can understand the concept of beat and rhythmic pattern, and play tuned and untuned instruments with growing ability. They can create and play simple ostinati to accompany singing and creative

movement. "The aural discrimination being emphasized in early reading helps in concentration, tonality and diction in singing, which in turn improves reading and listening skills" (Haines & Gerber 1980:37).

The stage of "concrete operations" (named by Piaget) begin around age seven (in Grobler 1990:18; Nye 1979:11). At this intellectual level children can deal more effectively with the multi-dimensional qualities of music. The eight year old is beginning to be capable of sustained and coordinated group work, but opportunities for musical activities by individuals and pairs of children continue to be valuable. At this level, according to Swanson (1981:11) children build habits of industry and perfect their performance skills.

Children of seven and eight years of age are imaginative and creative. Their interest in dramatization continues during these years, but the topics begin to have different appeal for different individuals. According to Haines and Gerber (1980:38), creative output in movement and dance may not be great during their seventh year, but it is a good time for learning the steps and sequences of partner dances and simple folk dances. At age nine, a discontinuity in creative functioning is reported by Torrance (Swanson 1981:11). This may be related to the child's motivation to master certain functional skills at this age. Torrance believes this is a serious problem, but it should be overcome by guided, planned experiences in creative thinking. Classroom singing can be handled in such a way that the nine year olds find "music" to be a means of creative expression, and not only a facility in singing and playing the "right" notes.

Pflederer and others (in Sloboda 1985:210) claim to show that children around the age of eight come to conserve musical qualities. As Haines and Gerber (1980:40) write: "Interest and skill in music may be fostered in both boys and girls by group activities such as primary choirs, extra-curricular recorder groups, or other instrumental groups". Pflederer (in Sloboda 1985:210) says children of this age are capable of perceiving and remembering invariant aspects of otherwise different patterns. According to Sloboda (1985:210), whilst this ability is of profound psychological interest and importance, it is not conservation, but "it shares with conservation the increasing awareness by children of the possibility of going behind surface perceptual features in their search for underlying patterns and structures".

The main developmental trend in music between the age of five and 10 can thus be described as the increasing reflective awareness of structures and patterns that characterize music and which are already implicit in the child's inactive repertoire. At age five a child is already capable of singing the same song at different speeds or pitches. According to Sloboda (1985:210) this demonstrates the existence of knowledge that a melody is still the same after transformations.

We may summarize the developmental trend in music between the ages of five and 10 as follows: "Changes in musical awareness between the ages of five and 10 seem to reflect a general intellectual change from inactive competence, which is displayed only within the bounds of specific and directed activities, to a reflective awareness of the structures and principles which underlie such competence. This change is characterized by Piaget as a change from pre-operational to operational thought. In music it is marked by an increased ability to explicitly classify music as conforming to rule or style, and an increasing advantage in memory and perceptual tasks for those sequences which conform to rule" (Sloboda 1985:214-215).

#### 4.10 CONCLUSION

This chapter has reviewed much of the past research relating music and child development.

Three general themes run through the music and child auditory development research. First, it is clear that music plays an important role in a child's life, both as he or she comes to enjoy and appreciate music for itself, and because music involvement can enhance other aspects of cognitive, physical, perceptual and social development.

Second, the process of maturation in normal child development is an important part of a child's developing music-related abilities. When planning how to integrate music into the child's life, parents, teachers and curriculum developers need to take into consideration a child's age-appropriate skills and developing capacities.

Third, musical experiences need to be planned and monitored. Even more important than being innately musically gifted, is the importance of experience in encouraging and refining musical aptitudes and abilities. Having carefully designed musical experience in the classroom, can make an important difference in the way

children appreciate music. Parents are particularly important and influential in encouraging music involvement. Starting children's musical life very early and promoting music consistently, pay dividends as children become musically encultured.

According to Piaget, children progress through logical and sequential chronological steps in physical, social, affective and cognitive development. However, even though certain general characteristics are common to a specific age, this does not mean that these characteristics will be found in all children of a particular age level. Since each individual has his unique way and rate of development, a given characteristic may appear on an earlier or later date. The teacher's familiarity with the general characteristic growth and behaviour patterns of the various chronological levels is of value in organizing music programmes.

One of the teacher's major tasks in teaching young children, is to develop the child's perceptual background as a basis for teaching musical concepts, since musical perception leads to the formation of musical concepts. The young child's musical growth is the result of his various experiences and explorations in music, leading to the apprehension, naming and gradual classification of significant musical concepts.

According to Nye (1979:13) the young child is always active and involved in music in his totality by means of observation, experimentation and selecting by interpreting sound. The interpretation of sound is mainly dependent upon the sensory perception of the young child (Nye 1979:13). Perceptual observation in music refers, according to the structural content of music, to the auditory, visual and tactile senses of the young child. The most important task of the teacher is that of helping the young child to create a background of knowledge by means of opportunities for observation, so that this background can form the foundation for learning further concepts in music.

The auditory or hearing sense is of primary importance, since the child must be able to hear in order to be able to sing, to play instruments, to move to music and to create music.

The child starts imitating noises and sounds from an early age. The ability to reproduce a few sounds or notes in a specific order occurs when the young child manages to sing a simple tune which he may have picked up from an adult or other children. Every song learnt is therefore proof of a memory exercise which is of value for

later reading readiness as well as for the systematic solving of problems, such as those required in mathematics.

We know that each child is unique, that from his birth he has attributes and behaviours which make him different from every child ever born. As a result of this knowledge of individuality, we should not expect any one child to match exactly every characteristic described for a particular stage in a developmental profile. We should use such norms to assess the general appropriateness of a behaviour or ability and also as a basis for planning good environments for children as they grow from one stage to the next.

The ability to listen is an important condition for learning. Every music experience involves the ability to listen, as the child has to identify the sounds whether he sings, plays instruments or moves rhythmically.

In chapter 5 listening activities to develop and/or improve auditory perception in children will be discussed. All the activities will be based on musical experiences.

## Listening activities to develop auditory perception through music

### 5.1 INTRODUCTION

The aim of this chapter is to provide a resource for the class and music teacher who wishes to improve the listening skills of her/his pupils.

One of the most important skills a young child needs to develop is that of listening. Musical abilities cannot begin to develop until a child can really listen. In developing his auditory discrimination one of the key factors involved in the basic literacy is being tackled.

Children fail to learn because they either won't or can't listen. Can it be that children have learnt to close their ears in an effort to survive in a world aurally polluted by traffic noise, noisy background music and often a noisy home background? It is clear that one of the first starting points, when considering musical activities, is to teach the skill of listening. Listening, too, is a creative activity. Roger Sessions (in Swanson 1981:16) puts it this way: "The really understanding listener takes the music into his consciousness and remakes it actually or in his imagination, for his own uses."

Listening is basic to all music-making. As children sing and play instruments, they listen. As they interpret music through body movement, they listen. All these activities help children in the important project of learning to listen, which is the chief musical activity of most adults. Much music listening can be shared by a group, but children should also have opportunities and facilities to listen and learn about music individually. Activities are outlined that will foster the development of musical concepts, growth in musical skills, and growth in listening skills.

The child must be trained to listen to the sounds going on around him, as well as those he himself is making. He must learn to listen to his own sounds in conjunction with those made by other children. According to Dobbs, Fiske and Lane (1974:2) the child may then be ready to listen to music made entirely by others.

What does the skill of listening involve? Gilbert (1981:9) provides the following exposition:

- First, the child must concentrate: This he will do if he is interested and the length of time for which he will concentrate will depend partly upon his degree of interest.
- Second, he must understand what he is listening to: If it is music or environmental sound, he needs help in the initial recognition and discrimination of the sound and in building up an accurate memory bank (e.g. sounds that are near or far away, high or low, human or mechanical, long or short, etc.).
- Third, he must learn to remember what he has heard: This demands a great deal of practice "since discrimination, comparison and sorting are so difficult with sounds - they fade and are gone so quickly!" (Gilbert 1981:9).

The pre-primary years are the most important years for mastering the skills required for learning. The teacher accompanies the child who is thus guided through the sequence of listening activities and the child is taught to focus his attention on the following (Grobler 1990:15):

- Auditory awareness of the presence of sound.
- Auditory discrimination or the ability to distinguish between certain sounds.
- Auditory sequence and memory or the ability to remember sounds in the correct sequence and to reproduce these sounds.

Listening activities and listening games will now be discussed under the following headings:

1. Sound recognition and discrimination:
  - 1.1 body sounds
  - 1.2 sounds from everyday material
  - 1.3 sounds from instruments
  - 1.4 environmental sounds
  - 1.5 music corner activities
  - 1.6 using tape recordings
  - 1.7 selecting sound effects
2. Using listening games and activities
3. Auditory awareness
4. Developing an aural memory and auditory sequence.

## 5.2 SOUND RECOGNITION AND DISCRIMINATION

This refers to the ability to distinguish between sound and silence as well as between different types of sounds and contrasts, such as pitch, tempo and dynamics. Here the young child learns by association, comparison and discrimination.

### 5.2.1 Body sounds

- The teacher says: "Copy the sound I make" (clap, tap, shuffle, snap fingers, any vocal sound). Everyone looks. Using a screen, back of a bookcase or large carton as a cover, play the same game. Ask a child to make the sound (Gilbert 1981:10, Haines & Gerber 1980:142, Nye 1979:57).
- Whispering chain: A short message is passed round in a circle. How does it become distorted? (Gilbert 1981:10).

- Based on the whispering chain: A short rhythmic pattern (e.g. taa taa ta-te ta-te) is passed round in a circle, by means of saying the names of the rhythmic patterns rhythmically.
- Seat the children in the middle of the room. Demonstrate the sound they are going to hear (patch, clap, whistle, blow, rub hands). With eyes closed the children are asked to "follow the sound", turning their faces and/or pointing their arms in the direction of the sound. Walk softly around the outside of the group, making the sound at intervals. Sometimes make it high above the children's heads, sometimes near the ground, as it moves from place to place (Haines & Gerber 1980:142).
- Stay in front of the children and ask them (with their eyes closed) to raise both arms above their heads when they hear a chosen sound (Haines & Gerber 1980:142), e.g. rubbing hands.
- Children can be encouraged to listen to sounds, to describe them, to articulate them vocally, and to label them. They can also respond to the request, "Show me (through physical action) how you hear the sound" (Nye 1979:61).
- Vocal and body sounds have high expressive potential. These might include hisses, hums, repeated phonemes or words, imitations of animals or bird sounds, claps stamps, clicks, laughter, or any childhood's vocal play. Develop an interesting sound that can be sustained or repeated for ten seconds (Swanson 1981:34).
- Three or four children stand behind a screen. They all speak except for one. Who is left out? (Gilbert 1981:10). Gradually increase the number of children.
- Body sounds can be translated into percussion instrument sounds by the following relationships (Nye 1979:61).

Finger snap: triangle, finger cymbals

Clap: instruments made of wood

Thigh slap: tambourine, shakers

Stamping: drums

- The teacher sings the opening phrase of a song without using the words, e.g. on now-syllables like "koo" or "non". The children must guess which song was sung. When playing this game, divide the children into groups and let them compete. This way guessing will not occur, because a point will be deducted for every wrong answer.
- Children should have the opportunity to listen to, identify, and verbalize the differences in the sounds of men's, women's and children's voices. Help them recognize differences between women's high voices (soprano) and women's low voices (alto) and men's high voices (tenor) and low voices (baritone or bass). Children must apply the proper labels (soprano, alto, baritone or bass). Compare children's voices to adult voices. Comparisons in timbre can be made on the degree of lightness or heaviness of the voices. Which voices sound lighter? Which voices sound heavier? (Garretson 1976:187).
- The children must indicate the contrast between fast and slow by hand clapping for fast sounds and knee slapping for slow sounds (Grobler 1990:104).
- To discriminate between loud and soft: Hand clapping and knee slapping according to the dynamics. Rhyme is said loudly or softly (Grobler 1990:104). Extension: Also gradually add louder and softer.
- Discuss people's voices (Gilbert 1981:84): Some are deep, some are gruff, children have high-pitched voices, some babies cry a lot. Voices are used for laughing, crying, talking, shouting, cheering, they show feeling.
- Try to get hold of a real stethoscope and let the children listen to each others body sounds (Gilbert 1981:84). Discuss the sounds heard and try and imitate them.
- Sing a phrase such as "Good morning", on one tone and ask a child to match the same note. As children's skill grows, ask a child to sing a note and another child to match it. Gradually ask the group to decide if the two tones are the same (Robinson & Schwartz 1972:46).

- When tone matching becomes skilful, ask for different tones. Sing a phrase on one note and ask for a different tone. Later, ask a child to sing a phrase on one note and another child to sing it back on a different tone. Ask the group to decide whether the two tones are different (Robinson & Schwartz 1972:46).

### 5.2.2 Sounds from everyday material

(Paper, tin, plastic carton, cup and spoon, sandpaper, pencil, wooden spoon, comb, bunch of keys, knife and fork, etc.)

- The teacher asks the children to identify sounds she makes behind a screen. Possibilities include crinkling paper, pouring water, or tapping with a pencil. Have a child make some sounds for others to identify (Lerner 1981:234; Nye 1979:58; Van Witsen 1973:31). Ask an individual to duplicate the sound he has heard by selecting the right source from those being used.
- Choose two sound makers and have the children listen carefully to the sounds. Hide them in a box, play quietly and let the children identify them as you play. Next time change the sound makers or add another sound (Gilbert 1980:10).
- Choose two distinct sounds such as a metal and a wood. Ask the children to tap their left foot when one is playing, their right foot when they hear the other (Burnett 1973:13).
- Prepare two sets of sound makers (4 or more to increase the difficulty). Make a sound. A child watches and then copies.
  - Use a screen to hide one set of sound makers and play the same game. Let the children make the hidden sound.
  - Make two sounds at once. Play with both sets visible first and then hide one set (Gilbert 1980:10).
- Make pictures of the sound makers you are using. When you make a sound, the child must select the corresponding picture.

- Play the same game with the sound makers hidden (Gilbert 1980:10).
- Let a volunteer hide or close eyes and turn away. Then put the sound makers into the middle of your listening circle. One child makes a sound for the hiding child to identify. If he is correct, it is his turn to make a sound for the next volunteer to guess (Gilbert 1980:11).
- Magic music: One child leaves the room and the others agree on a certain object or piece of furniture in the room. When the child returns, the class begins to sing. They continue singing while the child wanders about the room attempting to discover the secret object. The class gives him clues by singing louder as he gets closer to the secret spot (Athey & Hotchkiss 1975:119).
- The teacher taps against different objects in the classroom while the children listen with eyes closed. When a sound is heard, they say what the origin of the sound is (Grobler 1990:46).
- Bounce a ball for the children, ask them to clap each time it touches the floor (Burnett 1973:13).
- The teacher bounces the ball. The children close their eyes. When called on, the child must tell how many times the ball has bounced. If the child cannot count, he may imitate the movement the correct number of times (Van Witsen 1973:30).
- Sound matching: Sit the children in a circle and give out three or four different sound makers. A volunteer is given another sound maker that matches one of the four already given out. He is blindfolded, put in the middle of the circle and turned around. The children in the circle now all play their sound makers together, while the player in the middle must find the sound matching his own and sit down in front of that player (Gilbert 1980:11).
- Near or far: With eyes closed, children are to judge what part of the room a sound is coming from, and whether it is near or far (Lerner 1981:235).

- Follow the sound: The teacher or child blows a whistle while walking around the room. Other children should try to follow the route taken through listening (Lerner 1981:235).

### 5.2.3 Sounds from instruments

- The teacher demonstrates three well-known percussion instruments with contrasting sounds, e.g. a drum, a bell and a cymbal. Three are asked to stand behind a screen and to play the three instruments simultaneously. One instrument is then stopped, and the children are asked which one can no longer be heard (Grobler 1990:46).
- To illustrate contrasts in music (Grobler 1990:46):
  - Loud/soft: When the drum plays loudly, all stamp loudly with their feet, and when it plays softly, all say "sh-sh, sh-sh" to the music.
  - Fast/slow: All walk briskly together to the beat of the drum. As soon as the beat becomes faster, it means that we are going downhill and that we have to walk faster. When the beat becomes slower, we slowly walk up the hill.
  - High/low: When the high notes sound, we pick apples high up in the tree and when the low notes sound, we pick up apples from the ground. "High and low sounds should not only be associated with up in the air or low down on the ground", but the young children can for instance imitate high and low sounds with their voices, e.g. meowing like a small kitten and barking like a large dog (Gilbert 1981:11; Grobler 1990:46).
- Ask the children to listen for the two sounds the drum can make. Use a mallet to play skin side and wood side. Ask them to stretch arms up as they hear the skin side played, and drop their hands down, when they hear the wood side. Mix the sounds so that they must listen in order to respond correctly (Burnett 1973:55).

- Use skin side of the drum to bounce or hop on the left foot. When wood side is played they must hop on the right foot. Change sequence and tempo as you do this (Burnett 1973:55).
- After children have come to know a number of different percussion instruments, have them classify each in accordance with the type of sound it produces: jingle, rattle, click, boom (Nye 1979:58).
- Experiment with a variety of percussion instruments and have the children analyze and verbalize the unique tonal characteristics of these instruments. They must describe differences and similarities in sounds of various instruments (Garretson 1976:188).
- Two resonator bells (pitched more than an octave apart) are given to two players. These two players are asked to stand about three metres apart. One child is blindfolded and stands between the two bells. Both bells play together at the same time and the teacher tells the child to walk toward the high (or low) sound. The child must choose the correct sound. After a few rounds, be sure to rearrange the placement of the bells (Athey & Hotchkiss 1975:107-108).
- Take any of the percussion instruments - only one at a time - and make sounds with it. Ask the children such questions as:
  - "Can it make a short sound?"
  - "Can it make a long sound?"
  - "Can it make a soft sound?"
  - "Can it make a loud sound?"
  - "Can it sound like a song?"
  - "Can it make a jingling sound?" (Nye 1979:59).
- After children have explored a bell set, encourage them to make such findings as (Nye 1979:59):
  - A long bar sounds lower
  - A short bar sounds higher

- To make gradually higher sounds, one plays from left to right
- To make gradually lower sounds from right to left
- Bells sound best when struck in the middle of the bar.
- The teacher plays a pattern on the drum varying the dynamic level, i.e. changing gradually from loud to soft (*decrecendo*) or soft to loud (*crescendo*). The children respond by showing hands close together when they hear soft sounds and spreading their hands as the sounds grow louder (Athey & Hotchkiss 1975:108).
- Play the drum loudly and softly. Ask the children to move with heavy steps when it is loud, and very soft steps when it is soft (Burnett 1973:13).
- Instruments and other sound producers are grouped according to whether their pitch sounds high or low. The children, grouped one or two at a time, play these as they are grouped and listen to the sounds. After this, the teacher mixes all the sounds producers and the task for the children is to listen to each one and rearrange them into their original high- and low-pitch groupings (Nye 1979:59).
- The teacher uses a piano and the children are instructed to listen as the teacher plays a single note on the piano. When they hear a high sound, they should stretch high, when they hear a low sound, they should stoop low (Athey & Hotchkiss 1975:111).
- Listen to two tones played on the bells. Ask the children to put their hands on their head when they hear the high one, and put their hands by their side when they hear the low one (Burnett 1973:13).
- Three resonator bells are displayed in front of the children. Two should be alike and one should be different. The first player taps each bell and decides which one sounds different. A correct answer might be rewarded with a paper badge that says, "a good listener" to be taped on the child's clothes. A new set of three bells should be displayed for each new player. "This game can be made increasingly

harder (closer in pitch) as the ability level increases" (Athey & Hotchkiss 1975:112).

- A child is instructed to beat a drum two times - once loudly and once softly. He must decide which to play first. After his performance, another child must guess which was played first. A correct respondent becomes the next player (Athey & Hotchkiss 1975:116).
- Two instruments are shown, sounded and identified, e.g. drum, triangle. Then both instruments are placed out of sight while only one is sounded. Some questions follow:

"Which instrument did you hear?"

"How can you tell it was a triangle?"

"What kind of sound does the triangle have?"

"How long did the sound last?"

"Raise your hand when I play the instrument; keep your hand up as long as you hear it".

In the beginning, the two instruments might have quite distinct and different sounds. Later the two sounds should be more similar in quality, "requiring finer discrimination for accurate identification, e.g. a high-pitched drum and a low-pitched drum, a small triangle and a finger cymbal" (Swanson 1981:29).

- Once children are well acquainted with the sounds and names of the instruments, they can be asked to identify:
  - a. An instrument they hear, but cannot see.
  - b. An instrument heard in a tape recording (Swanson 1981:29).
- Seat the children in the middle of the room. Demonstrate the sound they are going to hear (drum, sticks, resonator bell, maraca). With eyes closed the children are asked to "follow the sound", turning their faces and/or pointing their arms in the direction of the sound. Walk softly around the outside of the group, making the sound at intervals.

Sometimes make it near the ground, sometimes above the children's heads, as it moves from place to place (Haines & Gerber 1980:142).

- After working with forward movements for a while, introduce the wooden sound as a cue to go "backward". Caution them to watch where they are going. They must now listen to make one of four responses: Forward, backward, tempo or stop (Burnett 1973:55). If they are good at this, you may want to add another challenge. Play a loud accented sound for "turn around". Extension of the exercise: Use the established pattern of response to help the children move through space in different ways, e.g. straight, curved, zig-zag, circle, etc. (Burnett 1973:55).
- The class is divided onto two teams with one player competing at a time. His task is to match with the xylophone an interval played by the teacher on the piano. Success on the first try earns a point for his team (Athey & Hotchkiss 1975:120).
- Demonstrate two well-contrasted sounds such as jingle bells and bongo drums. Ask the children to stand in a space (with eyes open) and move to "go with" the sound. At first it may be helpful to suggest some movements such as arms and hands moving to the bells, and legs and feet to the drum. Quickly the children will initiate their own movements to show the contrasting sounds heard (Haines *et al.* 1980:143).
- Ask the children to move about the room as they respond to a series of short, sharp sounds on the tone blocks or long, resonant ones on the cymbals.
  - The piano may be used as variation. Arpeggios, spread chords, and glissandos contrast well with a series of staccato single tones and chromatic tone clusters (Haines & Gerber 1980:143).
- Use a large cymbal with a mallet to demonstrate a long or slow sound. Ask the children to listen as you play the cymbal once. Suggest that they raise their hand when they can no longer hear any sound. Now

ask the children to take a breath and let it out so slowly that it moves with the long sound which you will play (Burnett 1973:57).

- The children must move to the beat of the drum. Change the tempo and the rhythm, so that they have constant practice in listening (Burnett 1973:13).
- When the children know the names and sounds of the percussion instruments, make pictures of the instruments you are using. Make a sound on an instrument and the children must select the corresponding picture.
- Sound matching: Seat the children in a circle and give out three or four different instruments. One child is given another instrument that matches one of the four already given out. He is blindfolded, put in the middle of the circle and turned around. The children in the circle now play their instruments altogether while the player in the middle must find the matching sound to his own and sit in front of that player (Gilbert 1981:11).
- Divide the class into two groups. Each group receives a melodic instrument, e.g. glockenspiel, xylophone. One child in "group 1" plays high/low and "groups 2" must recognize the correct order which was played (high/low or low/high). When correctly answered, "group 2" gets a point and the next opportunity. A point is deducted for a wrong answer. Children can use the following concepts in this game: high/low, higher/lower, soft/loud, fast/slow, crescendo/decrescendo.

#### 5.2.4 Environmental sounds

- Near and far: With eyes closed, what can the children hear
  - in the classroom?
  - outside but within the building?
  - outside the school? (Gilbert 1981:11; Grobler 1990:103).

- A listening walk: Take the children out one day for a short walk and ask them what sounds they can hear. Prepare a sound frieze on your return to accommodate all the sources of the sounds the children heard, and find word sounds to accompany them, for example "zzz, sh, ooo, tch", etc. Classify the sounds - loud, quiet, high, low, nice, nasty, near, far away (Gilbert 1981:11).
- The children must close their eyes and listen to sounds. The sounds heard must now be imitated (vocally and/or with body sounds) by one child, and the children must recognize the sound that has been imitated. The child that answers correctly gets the next opportunity.
- With eyes closed to mask visual distractions, be completely quiet for 10 seconds; listen for any sounds in the environment. Then discuss what you have heard:
  - How many different sounds occurred?
  - In what order?
  - Describe the quality of each sound (buzz, thud, drip, roar, etc.).
  - Was the sound loud or soft?
  - Was the sound high or low in pitch?
  - How long did it last?
  - Was the sound constant, or did it change in some way?" (Swanson 1981:33).
- A task for the children: Search in your own environment for an object that can be used to create an interesting sound. A good source of such sounds might be the garage or kitchen, where you can investigate the sound potential of such things as a cookie tin, oven rack, or a wrench used to strike a length of pipe. In exploring the sound potential of any object, you may find that it can be sounded in more than one way, with more than one kind of striker. These are called "found" sounds. Now try to categorize the several dimensions of each sound in the following ways (Swanson 1981:34). (In this exercise you must use the

senses of sight and touch to aid the ear in categorizing the sound made when a given object is manipulated.)

- a. *Pitch*: (1) Is it high or low, very high or very low, or in a middle range of pitch? (2) Is it definite or indefinite, that is, can it be labelled exactly or approximately as a pitch in a given octave on the piano (C,D,E,F#, ...), or is it impossible to identify a specific pitch?
  - b. *Timbre*: This can be described in several ways: (1) ring, tinkle, click, scrape, thud, boom, etc. (2) Metallic, dry, resonant, hollow, dark, etc.
  - c. *Loudness*: Two aspects should be considered: (1) The natural sound itself is soft, very loud or moderately loud. (2) The loudness resulting from how the material is manipulated, i.e. it may sound loud if struck or scraped with force, or it may sound very soft if tapped gently.
  - d. *Duration*: Two aspects can be considered. (1) The decay of the sound (the natural dying away of the sound - it can be rapid or slow), (2) The prolongation of the sound by repeated tapping or shaking (duration will now depend upon the action of the player).
  - e. *Effective quality*: Does the sound arouse associative feelings? For example, "it sounds like walking through leaves in the forest", or "a clock ticking at night".
- Have someone drop an unidentified object on an unidentified surface out of sight. The children must describe:
    - the properties of the object dropped (i.e. its size, weight, shape, and physical composition);
    - the conditions under which it was dropped (i.e. pitch, loudness, timbre, duration) (Swanson 1981:34).
  - Can the children find any part of the school that echoes? They could also listen to sounds in places like churches or swimming pools (Gilbert 1981:89). Discuss the sounds and try imitating them.

- Near or far? Identify outdoor sounds with eyes closed and tell if they are near or far (Van Witsen 1973:32).

### 5.2.5 Music corner activities

Young children should be granted enough opportunities to experiment with sound. The preprimary teacher should see to it that an interesting music corner is set up. This corner must invite the children to participate. During free play the young child should be able to experiment with percussion or melodic instruments as he wishes. This corner will enable every child to participate at his own level and at his own pace.

Where should the music corner be sited? Some schools have a central area like a hall, or a small room or annex; others use shared corridors, which is more suitable for older children. Gilbert (1981:94) thinks the disadvantage in both cases is that the teacher cannot hear what is going on unless she frequently leaves the classroom. Wherever the instruments are, there should be adequate supervision of their use and control of their safety. "The permanence, size and content of the music corner will depend on the available area, apparatus, and on the resourcefulness of the teacher" (Grobler 1990:47). With younger children the best place is in or very near to their own classroom or working area. The siting of the corner is very much a personal choice and determined to some extent by the physical structure of the building. It is a good idea, according to Gilbert (1981:94) to have some form of screening to encourage concentration and protect the class from some of the sound. It also needs to be as far away as possible from the most common areas of movement.

The teacher must limit the number of pupils who can use the corner at a specific time, and sound makers like small shakers, little bells and sandblocks must be provided. The activities must arise out of what the teacher have been doing with the children. Give them specific assignments to do and take an interest in what is going on. Gilbert (1981:95) reminds the teacher that very young children need plenty of time to repeat their activities. Encourage the children to remember what they have done or discovered by "... playing back a little tune or rhythm is not only good for them but encourages the others".

Essential equipment for the music corner involves a variety of melodic instruments (e.g. xylophone, glockenspiel, metallophone, etc.) and non-melodic instruments (e.g. shakers, tambourines, maracas, guiro, claves, bongos, large cymbal, tambour, two-tone woodblocks, drum, etc.). When musical games are played by two or three children, this corner provides a secluded spot for them (Batcheller 1975:45; Garretson 1976:19). The music corner can reflect other areas of the curriculum and will probably house things like shells, water chimes, puppets, sorting trays and so on from time to time. The percussion instruments may hang from hooks against the wall with pictures of the different instruments at their respective places. This way the child will be able to see where the triangle, drum and bells are hung. Melodic instruments are arranged according to the pentatonic scale (doh, re, mi, soh and lah), this enables the child to accompany himself while singing a known song. The pentatonic scale should sometimes be substituted by the diatomic scale (Gilbert 1981:95; Grobler 1990:48).

The music corner may also include the following: Pictures of instruments, illustrations for songs which the children already know (Batcheller 1975:44; Grobler 1990:48) and homemade sound apparatus, e.g. bottles or glasses of the same size which can be filled to different levels. "Different water levels will cause sounds at varying pitches to be produced when the bottles are tapped with a spoon or wooden stick" (Grobler 1990:48). Hanging water drums can be made from a few tins of different sizes. A small amount of water is placed in every tin before it is closed. The tins can be attached to hooks in a wooden frame by means of elasticised bands. When the tins are tapped with a metal or wooden stick different sounds are produced. Grobler (1990:49) includes fantasy clothes such as skirts, scarfs, head-dresses and old ballet costumes on her list as apparatus for the music corner. These clothes will invite the children to embark on fantasy play which incorporates music.

Andress (1980:13) describes a sound box or house into which young children can crawl in order to experiment with sound apparatus. The sound box consists of a large wooden or cardboard box with a removable roof and moveable windows. The sound box has a lid, floor and four sides each. On the inside of the wall, which slides in and out in a groove, strings of different thickness are, for example, strung up. A wooden wedge which serves as a bridge can be placed on different parts of the string. A sound board or soundscreen, also moveable, enables the teacher to place different types of sound apparatus against the board where the children will be able

to experiment freely (Grobler 1990:50). Andress (1980:13) stresses the importance of a sound box in the classroom when she says: "... a sound box may become one of the permanent music centres in the room." Sound explorations involve assimilation of such sounds as buzzing, thudding or ringing and the use of such different sound starters as mallets, beaters and fingers.

The music corner should be designed in such a way that the intimate and restful atmosphere invites the child to participate. A carpet and soft cushions, which the children use for lying down or sitting on while listening, are important features (Grobler 1990:56).

Only a certain number of children can be accommodated in the music corner at one time. Grobler (1990:56) suggests that four hats must be hung up near the entrance of the corner. Any child who wishes to enter should wear a hat. The children can then see whether all the hats have been taken or whether there is any room left in the music corner.

#### 5.2.5.1 SOUND EXPERIMENTS AND GAMES IN THE MUSIC CORNER

- Musical mobiles: These can be made from different materials, threaded on strong cotton or string, and suspended so that they touch one another as they move. Encourage the children to create different sound effects as they handle them (Gilbert 1981:99; Grobler 1990:51).
- A nail chime: Make holes approximately 2 cm apart in the bottom part of a clothes hanger. Cut string or rope into eight different lengths. Attach eight nails of different lengths to the pieces of string, by tying the largest nail to the longest string, the shortest nail to the shortest string, etc. Use a blunt nail for playing. On the chime the child can now improvise his own melodies, or can try and imitate known songs (Grobler 1990:51).
- Chimebars: Leave out a set of chimes for the children to arrange in scale or "ladder" order, e.g. leave the first and last chime and let the children complete the scale. The teacher must show them how to start (Gilbert 1981:98).

- Flowerpot chimes: Paint small flowerpots of different sizes and suspend them on a stick on the music table. Tap with a wooden beater (Gilbert 1981:98).
- Sandpaper wall: Cover a wall with sandpaper textures (coarse and fine). Cover two car-shaped blocks with coarse sandpaper and two small blocks with fine sandpaper, and provide two small blocks that have no sandpaper covering. Given an opportunity to interact in the environment; the child will produce and discover a variety of sounds and grow in awareness of similarities and differences in sounds. The child will manipulate such sound starters as blocks shaped like cars, trucks or in various geometric patterns. The child will use sounds expressively. The teacher can ask the following questions:
  - Can you make a different sound with your car? (choose a different texture)
  - Point to a place on the sandpaper wall: Make a soft sound here, make a long sound here.
  - The house is on fire. Make the "shhhh" sound of the water as it puts out the fire.
  - Make a soft sound while you sing a lullaby (Andress 1980:91-94).
- Sandpaper puzzle: Prepare a matching puzzle in which textures of sandpaper are placed on top of the puzzle pieces with similar pieces to be fitted below. The texture pieces in the top row are the control pieces of the puzzle and should be placed on blocks of one colour. Manipulatable working pieces are on a contrasting colour. Textures include two coarse sandpaper, two fine sandpaper and two plain pieces representing the least sound of all. Given an opportunity to manipulate puzzle pieces using visual and auditory clues, the child will be able to match similar pieces. The puzzle board is placed on the work table with the control pieces inserted and the manipulatable working pieces scattered on the table. The teacher invites the children to find a piece that looks and sounds the same as one to which she points. The child uses a sound starter to test if the two pieces sound

the same before completing another part of the puzzle. Before each game, the teacher changes the order of the control pieces and mixes up the working pieces (Andress 1980:94-95).

- Sound pairing: Use six or eight identical non-transparent shakers, two of each have the same content. The children must shake the containers to be able to group the shakers with the same contents together. Use the same idea with the chimebars, glockenspiel or xylophone (Gilbert 1981:96).
- Sound guessing: Put different fillings into several identical transparent containers and completely cover one half of each container. Working with a partner, the children guess what the filling is (Gilbert 1981:96).
- Sound shakers: Provide the child with a game sheet. On the game sheet three faces are drawn, two similar faces and one different face. By using the sound shakers (two soft shakers and one loud shaker), the child must determine which sounds are the same or different by shaking the containers. They will then demonstrate understanding by placing the two soft containers on the similar faces and the very loud container on the different face.
  - Extension: Use two soft and two very loud containers. The game sheet will now include two faces with small ears and two faces with large ears and open eyes. Do the same exercise and ask: Which sounds are the same? Shake the sounds to find out. Can you put the softest sounds on the sleepy face? The very loud sounds on the wide-awake faces? The children must place the two soft shakers on the faces with the small ears, and the very loud shakers on the faces with two large ears and open eyes.
  - Extension: The child will determine which sounds are soft, loud and very loud. Shake the containers. Listen to the sounds. Which of the sounds is new? Place this new sound on the face in the middle of the game sheet. Where could you place the softest sound? Very loudest sound? The child must place the shakers on the appropriate faces.

- Extension: Use six sound shakers: Two soft, three loud, two very loud. The child will determine which sounds are soft, loud and very loud. They will find two that are the same in each category and place them on the appropriate faces on the game sheet (Andress 1981:96-99).
- Using sounds expressively: Use three sound shakers: Soft, loud and very loud. Ask the children to listen to the following songs and then choose an appropriate sound shaker to accompany each song. The teacher then sings a lullaby, e.g. "rock-a-bye, baby". The child chooses a soft sound to play. The teacher sings a clackety train song. The child chooses a very loud sound for accompaniment. The teacher sings any nursery rhyme where medium loud is appropriate, e.g. "hickory, dickory, dock" or "humpty dumpty". The child chooses a medium loud sound for accompaniment (Andress 1980:100-101).
- Matching sounds: Prepare two sets of sound makers and provide a large carton or screen. The children copy one another aurally, without looking: Making single sounds; making a sequence of sounds; making different sounds on one instrument (Gilbert 1981:99).
- Timbre matching game: Create and place individual sound boards on a table with several wooden-headed mallets. Make two each. Teacher keeps one set of sounds, while the children are given the working set. The control set is placed in a row on the table. The teacher taps one sound and asks a child to find the same sound in the working set. The child matches both visually and aurally (Andress 1980:108-109).
  - Extension: Place the control set out of view of the child. The child matches using only auditory clues.
  - Extension: Use rhythm patterns when matching sounds. The child matches the rhythm pattern of the teacher. (The same game can be undertaken using small percussion instruments from the rhythm set, e.g. use two each of bells, drums, maracas, wooden blocks, rhythm sticks, etc.).

- Sound discrimination: Provide the following: Shaker, sandblock, cup, drum, triangle, bell clapper. Ask a child: Which has the loudest sound? Which has the quietest sound? Which has the highest/lowest sound? Which has the shortest/longest sound? (Gilbert 1981:97).
- Resonator bells: Create a bell wall by cutting spaces in a board and slipping resonator bells into them. Arrange the bells from low to high: CDE GA (pentatonic scale). Place the bell wall in the sound box, or music corner. The child initially plays<sup>4</sup> by freely exploring sounds of bells. No reference is made to scale arrangement. Another day, pictures may be added that indicate ideas of "up" and "down". Sound stories and songs like "Jack and the Beanstalk" or "Hickory, Dickory, Dock" may be used. One child tells the story by referring to characters, while another plays the sounds to help express the ideas (Andress 1980:111-113).

### 5.2.6 Using tape recordings

There are many ways in which the tape recorder can complement and extend listening games, but unless the recorder is a good one, some distortion of the actual sound is bound to occur on the recording. According to Gilbert (1981:12) it is best to "... delay the use of the recorder for listening until the children have had plenty of experience listening to and focussing upon non-recorded sounds". When these are ready and if the recorder is suitable, the following activities can be used:

- The teacher records sounds from the environment on tape, e.g. bird-song,, a dog barking, a large or a small dog, the frontdoor bell, a washing machine, a phone ringing, a typewriter, etc. The children must identify the sound source (Lerner 1981:234).
- The voices of different children in the group are recorded and the children guess whose voice is being replayed (Gilbert 1981:12; Grobler 1990:46).

- Contrast the sounds and the pictures for each of the following: A woodwind and a brass, or a string and a percussion - to teach that such instruments have different sounds (Grobler 1990:60).
- Use a cassette tape recorder to capture sounds of familiar events, e.g. water running down a drain, a repeated door slam, verbal mumbling, a person walking on a creaky floor. Ask the children to describe in terms of loudness, duration, pitch and tone quality, the sounds heard on the tape (Swanson 1980:35).
- Make a recording of a conversation with a known group (some people and children that you all know). Can the children recognize their friends and the grown-ups? (Gilbert 1981:12).
- Record some sounds at home and play them for the children to identify. Let the children bring in their own sound tapes for the others to identify (Gilbert 1981:12).
- Sound lotto: The children each have a card with assorted pictures of the recorded sounds. They cover each picture when they hear the corresponding sound on their card. Who is the first to finish? (Gilbert 1981:13).
- Record children's creative sound stories (discussed in 5.1.7) and play them back so that they can hear the expressive qualities they created. Discuss the completed work: How does the composition reflect the title or topic chosen? Are there any long sounds in the piece? Why is a long sound used? Why are some sounds repeated? Was the same number of sounds used throughout the piece? Was the sound thicker or thinner at some points? Louder or softer? Why? (Swanson 1980:33).
- Record a spoken sound poem (discussed in 5.1.7), and the sound effects (created by the children), then discuss the qualities of the production. "Which is the most interesting sound created for the composition? Can you tell why? Which sounds are high? Which are low? Is any sound longer than the others? Can you think of any sound effect you would like to add? How do the voices help to make the composi-

tion effective? Could the voices be used in more imaginative ways to create greater expressive effect?" (Swanson 1980:32).

- The teacher must encourage the children to record the sounds of machines at home. Bring the tape to class for a guessing game. Find sound words and sound makers to match each machine (Gilbert 1981:81):
  - Typewriter:       ticker, ticker, ticker, ch!  
trill a "clamped" triangle and "ping" it
  - Telephone:       br-br...br-br...br-br...  
corrugated tin, bottle or guiro
  - Egg whisk:       whirrrr, whirrr, whirrr ...  
rolled shaker or a whisk itself
  - Lawnmower:      errrr-rr, errrr-rr ...  
washboard.
- Let the children try recording their own little stories with sound effects (Gilbert 1981:112).
- Name that tune: The class is divided into two teams. Familiar tunes are recorded at home and a problem is given to a member of the first team. If he responds correctly, he earns a point for his team and a new problem is given to a member of the opposite team. If the first player responds incorrectly the same question is repeated for a member of the opposite team. The problem is always whether the child can name the tune. The winning team is the one who has the most points at the end of the game (Athey & Hotchkiss 1975:113).
- When listening to music that is at times clearly loud and at times clearly soft, establish the beat or a rhythm pattern and ask children to stamp their feet when the music is loud and tiptoe when it is soft, reflecting either the beat or the pattern as desired. Tape their perfor-

mance and ask them to evaluate how well they had listened to loud and soft in the music (Nye 1979:58).

### 5.2.6.1 MUSIC LISTENING

Developing good listening habits through games, singing and activities involving the children's own music making, will help them when it comes to listening to recorded music. "Nothing can replace the thrill and impact of an actual performance" (Gilbert 1981:13). According to Gilbert (1981:13) and Dobbs and Firth (1969:150), listening to friends, brothers or sisters, parents, or to a visiting group of musicians will delight young children. This should be one of their first and continuing experiences of listening to music.

Recorded music is obviously an important part of everyday living. Children learn to sing songs they hear repeated on recordings or on radio and television, and teachers use them in the classroom. Many parents provide young children with durable, simple tape players, and an important part for these children is to place their favourite tapes on their machines, listen to them repeatedly and dance and sing to the music. There are many recordings made specially for young children. A list of some of these recordings will be given at the end of this section.

When asking children to listen to recorded music, we often have to take into account the fact that, for many of them, this kind of sound is being fed into their lives all the time through radio, television, cassettes and CD players, in supermarkets, cafes and other public places as background sound. It is good therefore to relate a specific piece of recorded music to the children's own activities. Use the music in movement sessions and listen again afterwards; link it with a suitable story; use it to stimulate art work; introduce a relevant excerpt when the children have been making their own sound pictures. Later on the children will be ready to listen more purposefully to recorded music.

Keep the listening times short - only 40 seconds is long enough. This may be extended to a little over a minute later on (Dobbs & Firth 1969:150; Gilbert 1981:14). Ask the children to listen out for some specific feature of the music they are going to hear, e.g. "Can you hear Peter's tune?" (From "Peter and the wolf" by Prokofiev). Do

let the children listen often enough to get to know the music really well: "There is great joy in recognizing something that is already familiar" (Gilbert 1981:14).

Listening to music is not an activity to be treated in complete isolation or limited to specific times. Children should be encouraged to develop an attitude of concentrated listening. "Without such an attitude any real musical growth or true discrimination and appreciation is impossible" (Dobbs & Firth 1969:149). The listening to music will not be chosen only for its use in teaching children those elements which are sometimes considered fundamental in appreciation - elements of form, orchestral colour, and modes of expression, or because of its place in the development of a style or in an historical framework. The duty and privilege of the teacher is to open the ears of the children to beauty in sound, to help them to enjoy listening to music.

In the earliest stages, where a class consists of quite young children of kindergarten age, the music would be of an entirely recreative nature, such as merry nursery tunes, and the aim should merely be the awakening of the child's imagination and his rhythmic sense by means of an attractive musical stimulus, to which he should be allowed to give himself up in unrestrained enjoyment. By degrees he should begin to realize such fundamental matters as "regularity of pulse, the trend of the phrase, and the periodical recurrence of musical ideas" (MacPherson s.a.:38). Afterwards comes the more intellectual process of knowing what happens. The child now becomes acquainted with differences of pitch and of time, always by means of observing what takes place in the music to which he listens. He gradually learns how things are expressed in notation, and his own creative powers are aroused and encouraged. Thus it is aimed that the power to originate may develop in the child, and so afford him another and most valuable means of self-expression.

When the ear is trained to observe and to apprehend at an early age, the possibilities of development along these lines are almost endless. Where, however, a child's ear has been neglected, and he reaches 15, 16 or 17 years of age without any attention having been paid to its cultivation, it is not to be wondered at that, whatever sensitiveness of aural perception there may originally have been becomes dulled, and the teacher cannot hope to accomplish so much as in the case of other children discussed (MacPherson s.a.:28-19).

## 5.2.6.2 WHAT MUSIC SHALL WE CHOOSE?

The correct choice of music is very important when developing good listening skills. The teacher must make sure that the music he/she chooses is in line with the children's abilities and interests. For all these activities she needs to know the sort of music to which young children are attracted and to which they can "... be expected to listen; music in various moods and styles, music which will stimulate movement, and music which can be listened to at rest" (Dobbs & Firth 1969:10).

Young children respond more favourably when the music presents a feature that they can hear rather easily: The second movement of Haydn's "Clock" symphony, Stravinsky's "Circus Polka", Bach's "Sheep may safely graze" from the "Birthday Cantata", and similar works (Hoffer & Hoffer 1982:150). It is important that the teacher himself should like the music that is to be played. An orchestra playing a march with crisp, precise rhythm, or a waltz, will arrest the attention of almost any child; but not so the more impressionistic type of music. According to Dobbs and Firth (1969:152), it is well for children to realize that music "need not always be associated with a story, dramatic happening, or natural scene". Hoffer and Hoffer (1982:150) confirm this by saying that the children need to realize that instrumental music cannot truly tell a story. Only words, which can be sung in a song, have the capability to relate a specific message. Instrumental music can offer only general impressions. If programmatic music is played for the class, the teacher might present it with an explanation similar to this one: "Today we're going to hear a short piece called 'Circus Polka'. This piece written by Stravinsky, is not trying to tell us any details about the clowns and animals and trapeze artists. Instead, Stravinsky is giving us his impression of a circus. The piece may remind you of a circus, but you won't be able to say, 'now he is telling us about the lion trainer', or 'there's the music about cotton candy'. Let's listen to the meter of the music. Is it in two's or three's?" (Hoffer & Hoffer 1982:149). The teacher has encouraged the children to listen to the music for its musical qualities, and now they won't become preoccupied with attempting to identify certain events in the music with the story or program.

Using orchestral music in which one instrument with an easily recognizable tone quality dominates, not only focuses the interest and concentration of the child, but introduces him to features of the orchestral texture he will hear when he grows older. It stimulates a child's interest if he can be shown a picture of the instrument being played (Dobbs & Firth 1969:152; Gray & Percival 1969:53).

After the music has been selected, the teacher must listen to it until he knows it well. He should know the melody well enough to hum it. He should know the rhythm, the harmony, the form, the instrumentation, the dynamics, and the effects of pitch. He should know which of these constituents predominates. According to Timmerman (1958:119) and Evenson *et al.* (1967:160), the teacher should do some research about the music and the composer. It is not necessary that he gives the pupils a long history of the composer, but he must know more than the pupils. Any facts pertaining to the specific composition to be played may be briefly relayed to pupils - if such facts contribute to understanding the music. After the facts have been assembled, the teacher should replay the music and connect the facts with the music.

Roughly, the overall lesson planning should be as follows: First of all the teacher must select the specific learning outcomes (Hoffer & Hoffer 1982:148; Timmerman 1958:121). Direct children to listen for something specific in the music. Asking youngsters simply to "listen" is too vague a request. They should know ahead of time what features they are expected to notice, e.g. "Listen to the music and at the end be ready to tell how fast you'd say the music is". Limit the number of features that the children are expected to notice in a single hearing. It is better to select fewer aspects and examine them more thoroughly. According to Hoffer and Hoffer (1982:149), kindergarten children may be able to attend to only one feature at a time. It is good to present the music again and ask the youngsters to notice one or two additional characteristics. Play a particular work enough times so that the children become familiar with it.

Secondly, the teacher must choose the activity by which the pupils will accomplish the outcomes selected. Will the pupils respond rhythmically, with instruments, by singing, or will they discuss the music? For what should they listen? Then the teacher must decide what will be his role in stimulating, motivating, and directing pupil activities. What can he do which will cause the children to accomplish what he has decided they should accomplish? (Timmerman 1958:119).

Experiences with rhythm, pitch, timbre and dynamic level, as well as with the skills of performing and listening to music, are all necessary if young children are to establish a solid foundation for further education in music. "The quality and amount of music instruction in the primary grades are extremely important ... unless they re-

ceive a comprehensive introduction to these understandings and skills, their musical future is limited in both breadth and depth" (Hoffer & Hoffer 1982:150).

### 5.2.6.3 SUITABLE MUSIC

- Music with a strong story line (Bennett 1977:1; Dobbs & Firth 1969: 163-165; Gilbert 1981:117-119; Gray & Percival 1969:54; Visser 1985: 5-7):
  - "The sorcerer's apprentice" by Dukas
  - "Clock symphony 101" by Haydn
  - "Peter and the Wolf" by Prokofiev
  - "Coppelia" by Delibes
  - "Hansel and Gretel" by Humperdinck
  - "The nutcracker suite" by Tchaikovsky
  - "Petrushka" by Stravinsky
  - "Peer Gynt suite" by Grieg
  - "The fire bird" by Stravinsky
  - "The three bears" by Eric Coates
  - "Cinderella" by Eric Coates
  - "Dance Macabre" by Saint-Saens
  - "Till Eulenspiegels lustige Streiche" by R. Strauss
  - "Sjeherazade" by Rimski-Korsakov
- Music for use with classroom themes (Bennett 1977:1; Dobbs & Firth 1969:163-165; Gilbert 1981:117-119; Hoffer & Hoffer 1982:150; Visser 1985:5-6):
  - "The clock symphony" by Haydn

- "Circus Polka" by Stravinsky
- "Pictures at an exhibition" by Mussorgsky
- "Mother Goose" by Ravel
- "The sleeping princess" by Tchaikovsky
- "The fantastic toyshop" by Rossini
- "The little train of the Caipira" by Villa-Lobos
- "The toy symphony" by Haydn
- "Golliwog's cakewalk" from "Children's corner suite" by Debussy
- "Knight of the hobby horse" from "Scenes of childhood" by Schumann
- "The Radetsky march" by Strauss
- "Circus of the tumblers" by Rimsky-Korsakov
- "Dance of the tumblers" by Rimsky-Korsakov
- "Symphony 101: The clock" by Haydn
- "The planet's suite" by Holst
- "The rite of spring" by Stravinsky
- "Night on the bare mountain" by Mussorgsky
- "Pastoral symphony" by Beethoven
- "The four seasons" by Vivaldi
- "The storm" from "William tell" by Rossini
- "A midsummer night's dream" by Mendelssohn
- "Carnival of the animals" by Saint-Saens
- "Le cou-cou" by Daquin
- "Flight of the bumble-bee" by Rimsky-Korsakov

- "La mer" by Debussy
- "Tritsch-tratsch polka" by Strauss
- "Grand canyon suite" by Grofe
- "Vltava (Moldau)" by Smetana
- "Ride of the Valkyries" by Wagner
- "Eine kleine Nachtmusik" by Mozart
- "Finlandia" by Sibelius
- "Aufforderung zum Tanz" by Von Weber
- "The swan of Tuonela" by Sibelius

To Grobler (1990:55), the choice of music available to the child should include a large variety of familiar as well as unfamiliar music; classical as well as light contemporary music, e.g.

- Vocal music: Popular light music to which young children are exposed, and any such music suitable for singing along. Choose a variety of male, female and choral music.
- Folk music: Music particular to the child and the culture of his country, for instance, a Swazi song, the "Click song", "Ipi tombi", etc.
- Children's records: e.g. Nursery songs and well-known songs "to which children enjoy listening over and over again" (Grobler 1990:55).

### 5.2.7 Selecting sound effects

Group exploration of sound can be an outgrowth of selecting suitable instruments and sound effects to use with songs, rhythmic activities, poems and stories. Instruments as well as body sounds can be used to create sound effects. The children must experiment to find out when and how the instruments should be played with the song or poem to give a satisfying effect. Thus, the most important aspect of this project for children is the process - exploring sound effects and choosing those that

seem appropriate. The teacher must not be concerned if the product - the sounds selected - are different from those she might have chosen.

Help the children to be discriminating in their choice of sound to represent the words. Burnett (1973:32) provides a list of sound words: Bang, boom, buzz, bristle, brush, click-clack-cluck, clash, clip-clap, clang, crisp, drum, humm, knock, lump, moo, nick-nack, pitter-patter, push, pop, rock, rap, ring, rivet, slippery, slimey, slushey, snip, snap, squash, squish, stick, stone, swirl, tumble, tick-tock, tumba, this-tle, ugh, whistle, whisper, zoom.

### 5.2.7.1 SOUND POEMS

- The purpose of this exercise is to let children explore the many different ways they can provide the sounds in the poem (Burnett 1973:25):

"Slowly ticks the big clock,  
tick-tick-tick-tock  
But the cuckoo clock ticks double quick  
Ticka-tock-ticka-tock, ticka-tock-tic..."

Accompany this chant in as many ways as possible. Here are a few:

- Mouth and tongue sounds
  - With loud and slow, soft and fast clapping
  - With body movements: Arms for the big clock, head for the small clock
  - With appropriate rhythm instruments.
- Ask the children to find a way to produce the special sounds found in this poem (Burnett 1973:28-29):

"Take some bubbles, pour them in ...  
Stirrrrrrrrrrr in the water back and forth ...  
Watch the bubbles growing ... growing ...  
Watch the bubbles going ... going ...  
pop pop pop  
Popping here ..... popping there



small group create a sound-effects accompaniment for the poem (Swanson 1980:31-32).

<p>"Wind is a cat That prowls at night - Now in a valley, Now on a height, Pouncing on houses till folks in their beds Draw all the covers over their heads. It sings to the moon It scratches on doors;</p>	<p>it lashes its tail around chimneys and roars. It claws at the clouds till it fringes their silk, then laps up the dawn like a saucer of milk. Then, chasing the stars To the tops of the firs, curls down for a nap and purrs and purrs."</p>
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Enhance the creative effort by using verse-choir techniques, e.g. solo voices versus group, and high-, medium- or low-pitched voices on different lines of the poem.

- Read the poem aloud several times and then provide sound makers. The children must create sound effects to accompany the poem.

"Someone" (Gilbert 1981:72)

Someone came knocking  
at my wee, small door;

Someone came knocking,  
I'm sure - sure - sure;

I listened, I opened,  
I looked to left and right,  
But nought there was a-stirring  
In the still dark night;

Only the busy beetle  
Tap-tapping in the wall,  
Only from the forest  
The screech owl's call;

Only the cricket whistling  
 While the dewdrops fall,  
 So I know not who came  
     knocking  
 At all, at all, at all.  
 (Walter de la Mare).

Gilbert (1981:72) suggests the following sound effects: Quiet clappers or a "clamped" triangle may be used for the knocking sound. In the second verse a gentle rasp or guiro can accompany the words. A wood-block or rhythmstick can suggest the "tap-tapping" sound, and for the "owl's cry" use a muted voice as if the owl is a long way away. A voice can imitate the "cricket whistling" and the "dewdrops" can be imitated by a gentle chime or glockenspiel. These are just suggested sound effects, the exercise is for the children to create their own special effects.

- Use instruments to express the poem (Andress 1980:123):

There is music in the country ...  
 Rustling trees  
 Rivers,  
 Flowers,  
 Sky!  
 And those who listen,  
     here it in their hearts.

The following sound effects may be used:

Rustling trees: tambourine

Rivers: glissando on glockenspiels

Flowers: finger cymbals

Sky: metallophone

Hearts: drum imitating a heart beat.

- Use nursery rhymes and ask the children to select special effects to go with the words, e.g. "Wee Willie Winkie".

Wee Willie Winkie  
 Runs through the town.  
 Up-stairs and down-stairs  
 In his night gown.  
 Tapping at the window  
 Crying through the lock,  
 "Are the children in their beds?  
 Now it's eight o'clock".  
 (Herrold 1984:12)

Suggestions:

Runs: wooden block imitating running steps

Up-stairs: glissando upwards on the glockenspiel

Down-stairs: glissando downwards on the xylophone

Tapping: knock against a table or use rhythm sticks

Crying: a child can imitate the soft crying

Eight o'clock: 8 chimes on the triangle.

- Ask children to select specific percussion instruments for certain song accompaniments and explain reasons for their choices (Garretson 1976:188).

#### 5.2.7.2 SOUND STORIES

Young children like to add sound effects to stories. This helps to increase their consciousness of sounds and timbre. Hoffer and Hoffer (1982:114) give the following example by using the story "Jack and the Beanstalk". The story could be "orchestrated" in the following way:

Jack climbing up: ascending pattern on bell

Jack climbing down: descending pattern on bells

Giant: large drum or low notes on piano

Hen cackling: castanet

Harp: autoharp

Chopping beanstalk: woodblock

Beanstalk falling: cymbals and drums

As the children gain experience in associating effects with a story, the teacher can move on to more sophisticated music. Many compositions feature timbres by associating them with a story, e.g. "Peter and the Wolf" by Prokofiev. Various instruments play tunes specifically associated with the characters: Peter, grandfather, a duck, a cat, a bird, some hunters and the wolf. At first the children must concentrate on the story, because on the first hearing they will be interested in the outcome. On subsequent hearings they should concentrate on the tonal qualities of the instruments that are associated with the characters.

To create a sound story, the theme would depend upon the kind of sound sources available, but topics such as "A spring trip through the woods", "A train ride through the country", "A visit to a haunted house", or "An afternoon thunderstorm" could provide a basic idea for such creative work (Swanson 1980:32). Start out by creating sound effects that might be related to the topic: "What would we hear on a spring trip through the woods? How could we make a sound of rustling leaves? What could make the sound of a twig breaking, a squirrel scampering, a bird chirping?" Sounds used in such a composition could be vocal sounds (such as humming, clicking, speaking syllables), body sounds (clapping, clicking the fingers, rubbing hands or feet on different surfaces, etc.), or mechanical sounds (e.g. rumpling paper, or rubbing, striking, or tapping metal or wood). The children must work with the sound until they discover in which order the sounds should occur, and what amount of repetition or contrast is needed. To make a diagram or picture showing the sequence of sound events will be helpful (Swanson 1980:33).

Gilbert (1981:69) provides the following subjects that lend themselves to interpretation in sound:

Weather: rain, hail, snow, mist, fog, a thunderstorm

Machines: a clock shop, a factory, robots, vehicles

Water: under the sea, fish, an aquarium, the seaside

Air: birds, butterflies, insects, a space journey

Events: a fair, a circus, a train journey, a busy station

Impressions: night, day, moods, feelings, fantasy creatures and fantasy worlds.

Stories, songs, radio and television programmes will provide many suitable starting points. The important thing is to recognize opportunities when they present themselves.

A music curriculum designed for early childhood should provide opportunities for such spontaneous music-making by having a good variety of sound makers available to children. As Swanson (1980:33) wrote, by planning appealing group explorations of sound, the teacher can "help children develop sensitivity to different qualities in sound. When pitch, tone colour, dynamics and duration of tone are demonstrated and labelled, the children will begin to use language in thinking about the different dimensions of sound."

- The teacher makes up a story of a day in a child's life. Using percussion instruments and other sound sources, sounds heard around the home in the morning or at other times are illustrated. Gradually, have the children learn to produce these sound effects. Vary the story to encourage careful listening when a child makes his sound (Nye 1979:60).
- Form a group of three or four pupils, each having a simple percussion instrument or using a "found" sound. The group must improvise briefly, exploring the combined effects possible from these sound makers. Gradually shape a composition about one minute long that uses single as well as group sounds in the context of a particular mood, feeling, or expressive idea (Swanson 1980:35).
- Read a story to the children, and then divide them into small groups. The groups must now select sound effects to accompany the story, e.g. choose a specific instrument to portray a specific character, and use sound makers to create atmosphere. Record the creative compositions, and play it back so that the performers can hear the expressive qualities they have created and evaluate them objectively.

- The story of "The ark" (Gilbert 1981:79) is a rich source of ideas for work in exploring sound and dramatic effect. It is a long narrative and it is best to divide it into parts so that musical interest can be sustained through the more detailed ideas that can be encouraged this way.

*Part 1: Noah and his family build the ark:*

Chopping trees: clappers or wood banged with a stick

Sawing wood: a guiro or wooden washboard with a stick

Hammering: clappers or claves, drum or tambour

Sandpapering: sandpaper blocks

Painting: soft brush on drum or tambour head

People talking: children whispering in a group making up "mini" conversations, occasionally a laugh directed at Noah.

*Part 2: The animals arrive:*

Snakes, worms and crawling creatures: sandpaper blocks, rustled or crumpled paper of differing textures

Birds, butterflies and flying creatures: bells, jingles, random notes on the glockenspiel or chimebars

Rabbits, kangaroos and creatures that hop: clappers, beat on a tambour or drum in a hopping rhythm

Elephants and big lumbering animals: a drum or bass xylophone

Horses, ponies, donkeys, zebras and trotting animals: clappers or wooden blocks making trotting rhythms

*Part 3: The rain comes:*

Light rain: xylophone, trapped triangle

Heavy rain: shakers, bells

Thunder: a roll on a big drum or several rubber drums are effective played with chimebar beaters

Lightning: a cymbal with a padded beater

The rain gradually eases off: rain sounds quieten gradually, finish with the triangle

The raven and the dove are sent out of the ark.

*Part 4: Noah, his family and all the animals come out of the ark:*

Repeat the animal music from part 2 and add a whispering group to represent the humans.

The rainbow: a peal of slow notes on glockenspiel, chimebars or metallophone.

- Refer to p. 105.

### 5.3 LISTENING GAMES AND ACTIVITIES

- Shut eyes, open ears: Two resonator bells - pitched more than an octave apart - are given to two players who are assigned to stand about 3 m apart. The other players stand in the middle between them. The teacher tells the children to shut their eyes, open their ears, and walk to the high (or low) sound. All the players in the middle do as directed while both bells are playing continuously. The game continues with a new command.

*Extension:* The teacher may spot children who make mistakes and ask them to drop out of the game, continuing until only one player remains (Athey & Hotchkiss 1975:108).

- "Where is it?" One child sits in front of the room with his eyes closed. The leader strikes a percussion instrument and the child must tell where the sound is such as, "over my head", "under my chair", "in front of me", "in back of me", or "beside me". After two or three turns,

another child is chosen and the game continues (Athey & Hotchkiss 1975:111).

- Three-note problems: This game is for the children who sit at the end of each row. In each round, the player is asked to identify a song by hearing only the first three or four notes. As each child is called upon, he may keep his seat by responding correctly, or he may lose it by responding incorrectly. If he misses, his neighbour takes his place and all the children on the row move one chair so that the first player can sit at the other end of the row. The players at the end of the rows, when the game is over, are the winners (Athey & Hotchkiss 1975:114).
- Being a note: Three or four children participate in each round. Each player is assigned a certain line or space on the floor staff. The teacher plays the matching pitch for those lines or spaces. The teacher, at the piano, plays a pattern, using only three or four designated tones. Each child stands up when he hears his tone (Athey & Hotchkiss 1975:114).
- Being soh-mi: Two children participate in each round. Use the floor staff and assign one child to the "soh" spot (second line), the other is assigned to the "mi" spot (first line). The teacher plays a pattern on the piano or recorder using only these two tones. Each child stands up when he hears his tone (Athey & Hotchkiss 1975:115).
- Going up or down: The class is divided into two teams. Each child recites individually and attempts to earn a point for his team by correctly identifying a melodic pattern as moving "up" or "down" (Athey & Hotchkiss 1975:115).
- Thumbs up: The teacher and class stand in a single circle. The teacher shows a melody card and sings a pattern. The children show "thumbs-up" if the teacher has sung it correctly. They show "thumbs-down" if the teacher has sung it incorrectly. When the teacher catches a child in a mistake, that person must be seated. The one who stands the longest is the winner (Athey & Hotchkiss 1975:117).

- Interval hopscotch: Players are divided into two teams. Each player, taking turns, stands on the floor staff at middle C. The teacher plays an interval on the piano beginning on middle C. The child jumps from the middle C to the second note that was played. A correct move earns a point for the team. The team with the most points is the winner (Athey & Hotchkiss 1975:117).
- Passing through major-minor: Resonator bells are arranged in a major scale and a minor scale in the same key. Both of the scales and mallets should be set up in some hidden corner. A child enters the hidden area. He chooses one of the scales and plays it. Then he must say, "I'm passing through major (or minor)". If he has named his scale correctly he may pass to the other side. If he misses, he must return to the end of the line and await another turn (Athey & Hotchkiss 1975:117-118).
- "Johnny one-note": The children stand in space where they cannot see the teacher's hands. Play middle C and sing to it "Johnny one-note" with the children echoing to confirm the tonality. Now play the tone and sing on middle C, "Johnny one-note says", following it by a spoken direction: "Raise your arms", "turn around", "stamp your foot". The teacher must warn the children that if "Johnny one-note's song" sounds different they must not obey him. While using the original pitch most frequently, the teacher sings the chant on another pitch much different from the original one. The game may be speeded up and more than one "wrong song" added, nearer in pitch to "Johnny's" original one, as skill and quick responses grow (Haines & Gerber 1980:143).
- "Which are the same?": The teacher prepares numerous pairs of identically-sized containers by placing pebbles, seeds, beads, rice or marbles in them. The game is to shake them, listen to the sound, and find the pairs that sound alike (Nye 1979:58).

#### 5.4 AUDITORY AWARENESS

Auditory awareness is the ability to recognize the presence of sound. "Games in which the young child recognizes the difference between music and silence are utilised to promote auditory awareness" (Grobler 1990:45). The objective of these activities is that the child indicates that he recognises sound by means of movement or by any reaction as suggested by the teacher.

- Musical chairs: A well-known game which is based on the differentiation between sound and silence (Grobler 1990:45; Willson 1977:9).
- A single cymbal is held in one hand and the teacher strikes it loudly with a stick. The children listen with eyes closed and are asked to put up their hands when they can no longer hear the sound dying away (Grobler 1990:45).
- The children move in a certain direction while the music plays. As soon as the music stops, they all stand still and when it starts again, they start moving in a different direction (Grobler 1990:45).
- The children move around in the classroom. When the music stops, they must freeze like a statue. When the music starts again, they start moving around again.
- The children walk to the beat of the drum. When it stops, they clap their hands and change direction.
- The children clap rhythmically to the music. When the music stops, they must sit down. The last one to sit is out. The game continues and ends with one player left as the winner.
- Moving out of their own space. The teacher asks the children to move forward while she plays on the skin side of the drum. They should listen for the silent part in order to stop promptly. Vary the tempo and the patterns. Start with a walk and a slow walk. Add the run, the gallop, then a run and leap (Burnett 1973:13).
- Musical bumps: While the music plays, the children prance and dance about. As soon as it stops, they must bump down to the ground. The

last one down is out. The last remaining child is the winner (Willson 1977:9).

- Musical mats: The children circle the room, singly or in twos, jumping over a mat on their way, while the music plays. When the music stops, the last person to have jumped over the mat is out (Willson 1977:10). X

## 5.5 DEVELOPING AN AURAL MEMORY AND AUDITORY SEQUENCE

The child starts imitating noises and sounds from an early age. The ability to reproduce a few sounds or notes in a specific order occurs when the young child manages to sing a simple tune which he may have picked up from an adult or other children. "Every song learnt is proof of a memory exercise" (Grobler 1990:46).

Pattern echoing is an important musical skill involving sequence memorization (Haines & Gerber 1980:145). Grobler (1990:47) underlines this fact by saying that "apart from songs and singing, echo games or 'follow-the-leader' games also provide the young child with an opportunity to employ auditory memory". Children enjoy dictating patterns to other individuals or the whole group, thus the teacher must provide opportunities for the children to be the initiator.

### 5.5.1 ACTIVITIES

- Start by "giving out" simple clapping patterns based on children's names, and use them for echo clapping (Haines & Gerber 1980:145), e.g. Ray-mond, Pe-ter and Beth; E-lizabeth Ann.
- Use familiar phrases for echo clapping, e.g. "Please tidy up", "time for gym", "see you tomorrow" (Haines & Gerber 1980:145).
- Patch, stamp, jump and snap other short patterns without words. *Extension:* Distribute instruments such as sticks, wooden blocks, drums and single resonator bells and develop the activity further (Haines & Gerber 1980:145).
- Three to five children are selected to participate in front of the class. Participating children are asked to stand side by side facing the

teacher. The children take turns listening as the teacher plays two short melodic patterns. The child's task is to tell whether the two patterns are "same" or "different" (Athey & Hotchkiss 1975:116).

- Which one is different? (Athey & Hotchkiss 1975:119): Using the wood block, the teacher plays three rhythm patterns for each child. Two of the patterns should be the same, one should be different. It is the child's problem to tell which pattern was different.
- The teacher sings a short melodic pattern to the children and they must sing it to her. *Extension:* Make the melodic pattern longer.
- Give young children two activities to remember, e.g. "While I play the drum, march around inside the circle. When you hear the bells, go back to your place and sit down." Do many of these activities, changing the actions as well as the sound clues. Build these skills, extending the challenge according to different children's competencies, e.g. "Esther, when you hear the maracas, walk to the door. When you hear the drum, skip around the room. When you hear your name, run here to me" (Haines & Gerber 1980:145). Sequences can be used with groups or children as well as individuals.
- Clapping a steady beat, sing the following words to the familiar tune "Are you sleeping?" (Haines & Gerber 1980:144):
  - "Can you copy? (Can you copy?)
  - One, two, three. (One, two, three.)
  - Copy what I show you, (Copy what I show you,)
  - Just like me! (Just like me!)

Repeat asking the children to echo each phrase exactly with hands, voices, or both, according to ability. Change the actions often, and give the children the leadership role.

- Seat the children cross-legged in a circle, near enough to reach a neighbour's knee on both sides. Teach simple patterns using clap, snap, and patch, shoulder and head taps done with one, both or alternate hands. Choose two patterns and choose sound clues for them

(Haines & Gerber 1980:145-146), e.g. patch, clap, patch, clap ...; tap head, tap shoulders, tap head, tap shoulders ...

The group repeats the activities, switching from one to the other as the teacher (or a child) plays the sound clue. Quick response to aural clues is developed in this activity.

- The teacher may clap a short phrase and then ask the children to repeat the phrase (Grobler 1990:47), e.g. -'

— — — — —

or

— — — — —

- After children have learned several songs and know them well, the teacher claps or plays a percussion instrument in the melody-rhythm of one of them. The exercise is to listen to the rhythm, hear the melody silently, and identify the song by its rhythm (Nye 1979:59).
- The teacher claps or plays a rhythm pattern. Children listen, then imitate on signal, with soft sounds. The children play the pattern on all of the percussion instruments (Nye 1979:61).
- The teacher sings a short melodic pattern on sulfa. The children must listen and then echo the same pattern on sulfa.
- The teacher makes several different sounds using parts of your body. The children must copy in the correct sequence. The teacher then hides behind a screen and repeats (Gilbert 1981:11).
- Children sit in a circle and start the game by making a sound. Everyone repeats that sound and the next player adds another different sound. Everyone copies those two sounds and the next player adds a third different sound and so on (Gilbert 1981:11-12).
- Prepare two sets of sound makers (Gilbert 1981:12). Sit in a listening circle with one set in the middle. The teacher makes a number of sounds on her set and chooses a child to copy those sounds in the correct sequence on the other set.

*Extension:* (1) Increase the number of sounds that they must copy; (2) Hide the set that the teacher plays.

- The teacher chooses four or more sounds and plays all but one. The children must decide which one was left out (Gilbert 1981:12).
- The teacher sings and claps a simple song that the children know well. Clap one part of the song with a distinctive rhythmic pattern. The children must identify the words (Gilbert 1981:12).
- Take the children outside for a short walk, and take a tape recorder. Can the children remember the sequence of sounds they heard? Play the recording to test their answers (Gilbert 1981:12).
- Try linking a sound signal with movement (Gilbert 1981:12), e.g. clappers mean run, tambourine means skip, drum means stop, cymbal means sit. Begin by using two signals only - run and stop; skip and stop. Now three signals - run, stop, sit; skip, stop, sit. Then mix all four - run, skip, stop, sit; run, stop, skip, sit ...

## 5.6 CONCLUSION

Most children are born with the ability to hear. The ability to listen, however, involves not only hearing, but focussing the mind on the sounds perceived. This ability to pay attention is not innate, but is a learned skill and the young child needs training and help in order to acquire it. "Such active listening is essential for him to make sense of the environment and to communicate within it" (Haines & Gerber 1980:4).

Active listening includes three fundamental skills: Auditory awareness, auditory discrimination and auditory sequencing and memory. The development of the active listening skill is fundamental to moving, singing, playing and musical creativity, and later to reading, writing and performing. By these means the young child grows in his ability to enjoy, appreciate, understand, and contribute to the aural art of music, which is part of the human environment.

To illustrate the importance of the active listening skill: The three week old baby reacts to sound by turning his head in the direction of the sound, and already shows awareness of sound (auditory awareness). The toddler can discriminate between the

sound of the doorbell and the ringing of the telephone (auditory discrimination). The preschooler can imitate the teacher clapping a pattern in the game of echo-clapping (auditory sequencing and memory). As the young child matures and encounters increasingly sophisticated and complex auditory stimuli in daily life, skills in these aspects of active listening are refined and developed (Haines & Gerber 1980:5). According to the authors primary school children rely on even more refined and discriminating listening abilities. "They create melodies, rhythmic and harmonic accompaniments, and orchestrations, choosing what they want to include or discard and noticing what the ear tells them is most pleasing or appropriate" (Haines & Gerber 1980:5).

Active listening is the means whereby the child adds to his understanding of and feeling about his environment from the sounds he hears in it. He also learns about himself by listening to the sounds he himself makes, with his own voice and body, and as he acts on objects around him. Attentive listening in musical activities gives rise to unique and innovative responses in moving, singing and playing.

The use of recorded compositions are important, as described in some of the activities, but this use is not paramount in developing aural skills and music appreciation in very young children. Recorded music, however, can be of value when they are related to the interests and abilities of the child and are carefully chosen and prepared. Haines and Gerber (1980:5) stress the importance of the teacher's role in actively nurturing the development of all the listening skills. "The provision of a rich sense of varied listening skills is vital for the young child, in order to foster his participation in and understanding of music" (Haines & Gerber 1980:5).

The activities explained in this chapter provide examples of exercises that class teachers can use to improve auditory perception in their pupils. Many of the exercises can be used with groups of children.

In chapter 6 the importance of music, listening and movement will be discussed. Listening activities will be performed by means of movement. Special attention will be given to the different concepts of music, such as dynamics, tempo, rhythm, etc.

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## Music, listening and movement

### 6.1 INTRODUCTION

"Music activities are fundamentally based on movement as movement and music are interrelated in the world of a young child" (Grobler 1990:57). Movement is a fundamental attribute to music and it is basic to young children's early learning processes. Music in all its forms seems inseparable from movement and we use music in the development of movement and movement in the development of music. The young child should learn about the art of "movement in sound" through his own mode of "movement in space", experiencing through his physical being music which reaches him initially through his listening ear (Chacksfield *et al.* 1975:85; Haines & Gerber 1990:137). Haines and Gerber (1980:137) believe that children need to develop accurate listening skills, minds which perceive what is heard, and bodies which respond to what is known and felt. "The child thus requires a store of listening and movement experiences and is soon able to use them as a basic repertoire, creating his own unique responses to the music which he hears" (Haines & Gerber 1990:137).

Movement concerns the whole child. It helps physical control and self discipline, encourages the development of the mind and spirit, and the control and use of the emotions and senses (Chacksfield *et al.* 1975:98). Movement is the language of the body, and it is as important to the child's communication as is verbal language. "Movement is the child's natural means of communicating, and finds an ultimate expression in his rhythmic movement to music" (Greenberg 1979:129). It is through listening and responding through bodily movement that the young child first gains his knowledge about music. MacPherson (s.a.:57-58) writes: "Not only are the ideas of pulse, time, the progressive nature of rhythm, and the principles of form or the earliest stages of all even more important - the child's perception of the character of much simple music may be stimulated, and his listening powers developed enormously by the aid of the unrestrained running, skipping, marching, or whatever it

may be, which is the result of his own initiative, and is suggested to his small mind by the music itself, being therefore his own response to its appeal."

A child experiences the basic concepts of music (which include rhythm, melody, form and texture) by means of body movement. According to Greenberg (1979:30) aspects of music which can be indicated by means of body movement include mood, dynamics, pitch, short and long notes, stress, beat and form.

In this chapter movement will be discussed - movement as a bodily response to listening is the basic approach. Moving to music is an activity that satisfies children's need for active participation in a music learning and listening situation. Movement is a basic response to music. It allows children to become totally involved and to express their feelings about and understanding of music in a physical, non-verbal manner. "Moving to music is a sensory experience through which the attainment of basic musical concepts may be accomplished" (Bergethon & Boardman 1986:229).

The element of listening should enter into every rhythmic exercise. Movements are not memorized and then set to a suitable piece of music. In every exercise there should be an opportunity for the children to listen to changes in the music. Gerdener (s.a.:1) writes: "With regard to the listening, it is important that the changes should not come at regular intervals. The children should never know when the changes are coming, or they will not listen." The teacher must always keep them on the alert.

Several types of physical movements that children may use in responding to music will also be discussed, e.g. basic movements (locomotor- and non-locomotor movements), patterned movements (action songs and folk dances), and creative movements. All the activities are directed toward developing in children the ability to listen accurately and attentively to music and sound, and to respond quickly and creatively.

## 6.2 WHAT IS MOVEMENT?

"Every movement has a time element, it takes place in space, and it has a weight element" (Gray & Percival 1969:2). Sheehy (1972:124) confirms this definition, and adds dynamics to the list of basic characteristics of movement. To explain this: If a child walks or marches, is his movement fast or slow; is he going in a straight line, or

horizontally or vertically; what dynamics are in use? A movement takes time. This can be short or long, depending on whether the child moves quickly or slowly. Children use space all round themselves at home, but have to be encouraged to move in the space all round them in the classroom. There are three levels of movement which make further divisions in space: High (up on the toes), medium (standing height), and low (near the floor). Space also includes direction - whether forward, backward, sideward, or a combination thereof. The quality of weight used in a movement is decided by the degree of tension used in the muscles (Gray & Percival 1969:2-9; Sheehy 1972:125). Murray (1953:165) defines weight as follows: "The expenditure and distribution of force in the performance of a movement which defines its dynamics and to a great extent determines the quality it portrays ... 'heavy' or 'light' is used to describe the type of contact with the floor." The four elements of time, space, weight and dynamics combine to produce movement qualities. The child can be taught to move quickly and slowly, strongly and lightly, in a straight and twisted fashion, loudly or softly. The child can learn how to move, where to move, and what parts of the body can move. "Body awareness should be a constant theme ... to encourage every child to move his whole body" (Gray & Percival 1969: 8-9).

Certain physical movements to music are easier than others for the young child to accomplish. In general, the easier movements should be experienced before the more difficult ones are tried. Examples of these movements are given by Greenberg (1979:132).

- Easier movements: Pounding, as when hitting a drum, using the entire arm; pounding, using the forearm; hitting the thighs with the hands; clapping one's hands; hitting one's body parts with the hands; moving the hands horizontally and vertically through space; walking in place; walking around the room.
- More difficult movements: Swinging the hands, swinging the body, making pushing motions with the body, moving the head rhythmically to music, moving on tiptoe, moving the fingers, marching, tapping the feet, bending the knees, running, hopping, jumping, galloping, skipping, walking or running and clapping at the same time.

According to Sheehy (1972:124), Bergethon and Boardman (1986:229) and Murray (1953:164), movement falls into two general types: Locomotor movement (getting from one place to another), e.g. running, walking, rolling, skipping, galloping, sliding and hopping; and nonlocomotor or axial movement (in which the body is the axis and movement takes place in relation to it), e.g. clapping, swinging, spinning, stretching, bending, twisting, reaching and turning. Cherry (1981:9) defines the two types of movement as follows: "Locomotor movements move the body from place to place and involve such basic skills as walking, running, jumping, leaping, hopping, crawling, creeping, sliding, rolling, climbing, skipping and galloping" and "whole body, nonlocomotor movements are done from a sitting or standing position and do not transport the body from place to place. Typical whole body movements include bending, stretching, wiggling, shaking, rocking, twisting, bouncing and gesturing".

How can the child show his feelings and his musical understandings through bodily movement? Greenberg (1979:130) lists the following concepts that can generally be shown through the child's movements:

- Mood: By moving happily, sadly, and in other ways to the feeling aroused in him by the music.
- Fast and slow and tempo change: By varying the speed of the movement.
- Loud and soft and dynamic change: By varying the size and energy of the movement.
- High and low pitch: By moving at different high and low levels, as appropriate.
- Long and short tones: By sustaining the movement or by making it short and jagged.
- Accent: By using an accented, strong bodily movement.
- Beat: By moving steadily to the music's pulse.

- Repetition and contrast (form): By repeating or varying certain physical movements or by resting on contrasting sections and moving only on the repeated sections.
- Any change in the music: By changing the style, direction or level of the movement.

### 6.3 BASIC MOVEMENT

A walk, a run, a jump and a hop are four ways of moving the body through space. These movements may be considered to be basic, because all movement which projects the body in space in any direction and in which the feet are used as a base, falls into one of these four basic categories or is a combination of them. In each of these movements a single unit of movement of the leg is made to transfer weight or to lift the body into the air. This is repeated successively when continuous progress through space is desired. In a basic movement, when starting from a standing level on one or both feet in any given place, a single unit of these movements makes only one contact with the area on which the movement is being made (Murray 1953:168).

Locomotor movements are those which move the whole body from one place to another. These movements are considered to be the most basic movements, although many children invent quite complex steps as they move about, e.g. somersaults and cartwheels (Grobler 1991:59-60; Haines & Gerber 1980:147-148). Schurr (1967:274) describes locomotor movements as "those that move the body in space in any direction: The feet are the moving base". The child's natural movements are incorporated in the presentation of movement activities. As Dalcroze (described in De Kock 1989:116) believed that rhythm is the fundamental force in all arts - especially in music - and that musical rhythms parallel the rhythms of life, use is made of the child's natural locomotor movements as the basis for the rhythmic movement of his method. The child learns to distinguish between and respond instantly to the characteristic rhythms of each of the locomotor movements (walking, running, marching, trotting, skipping, galloping, jumping, swaying, etc.) improvised on the piano by the teacher.

All children have their own pace for basic steps, but if they are to respond at all to the music being played, then their steps must be adjusted accordingly. According

to Dobbs and Firth (1969:77) with some children this will occur instinctively, but with others it will be "some time before their physical and aural senses are coordinated". The use of the most appropriate percussion instruments will be of the greatest help here. Dobbs and Firth (1969:78) suggest the following instruments:

- A drum or tambour for heavy, ponderous movement;
- A triangle or Indian bells for light steps;
- A tambourine for skipping;
- Rhythm sticks or castanets for trotting or galloping.

### 6.3.1 Activities: Listening and basic movement

#### 6.3.1.1 LOCOMOTOR MOVEMENTS

- Ask several children how they came to school today. Invite a child to show how he walked from home. Let those who wish to, join in the walking, and encourage the free use of the floor space rather than a circle with an unused area in the middle. Comment as the children walk: "David looks as if he is marching along. Can we march like he does?" or, "Ann is just strolling so easily. Let's stroll with her". As the teacher mentions the different speeds and styles, she should take a drum or woodblock and play on it evenly at the tempo of movement of the different children she mentions. This aural stimulus will help the group to find a common beat and to march briskly with David or stroll more slowly with Ann (Haines & Gerber 1980:148).
- Discuss other ways of coming to school, going to the store, etc. Let individual children show how they run and skip. Let the others join in the same way the individual child has demonstrated.
- Encourage children to discover other ways to move about. Soon all the basic locomotor movements will be encountered:
  - step-wait (minim notes)

- sliding, gliding or skating (in simple 3-time)
- galloping: An uneven movement like skipping, but with the same foot moving forward each time, rather than alternate feet (in compound 2-time)
- jumping with feet together or hopping on one foot (simple 4-time) (Haines & Gerber 1980:149).
- Activities with walking: The teacher invites the children to walk in different ways, e.g.
  - "Walk about as though you are tired."
  - "Walk as though you are very, very happy."
  - "Walk with long, giant strides."
  - "Walk with tiny steps."
  - "Carefully carry a dish of eggs around the room."
  - "Carry a birthday cake on a plate and show it to everyone as you go along" (Dobbs & Firth 1969:79).
- Other walking activities (Dobbs & Firth 1969:80):
  - Let the boys be trees with the girls walking amongst them; the girls sit down when the tambourine is tapped sharply.
  - Let the girls be toadstools and when the music stops the dormice (boys) go to sleep under the toadstools.

#### 6.3.1.2 NON-LOCOMOTOR MOVEMENTS

"Nonlocomotor or axial movements are those in which various parts of the body move in space, with one part of the body serving as an axis or base around which the other parts move" (Schurr 1967:275). The nonlocomotor movements are the swing, sway, stretch, bend, twist, turn, rock, push, pull and various combinations of these.

- The encounter: Sitting on the floor in a small group, the teacher plays a rattle. "How does it make you want to move? Wiggle!" she talks about wiggling. The children must then wiggle their fingers, heads, arms, toes, legs, shoulders, elbows (Andress *et al.* 1973:37).
- One spot (Andress *et al.* 1973:37): Standing glued to one spot, the teacher asks the children to move any part of their body while they hear the instrument. When it stops, they must freeze. Then have them change the parts they wiggle. Wiggle their whole selves.

#### 6.4 RHYTHMICAL MOVEMENT

Rhythm is a basic phenomenon of nature and exists all about us - in the sounds of nature, ocean waves, and the man-made sounds of the cities. "Beat" and "rhythm" are not synonyms. The "beat" is the recurrent throb or pulse that makes a listener want to clap or tap, while rhythm is a more inclusive term referring to orderly motion as music progresses in terms of time (Hoffer & Hoffer 1982:89-90). The Music Educators National Conference (1967:5) states that rhythm is an essential part of melody, for every melody must have its own rhythm. Rhythm, however, can exist independently of melody, or even of music. They also write: "The rhythm of music is created by the relative duration of pitches" (1967:5).

Activities involving bodily response to music provide children with a basis for the comprehension of pulse, duration, pitch, tempo, and dynamics as well as serving as a stimulus to the creative imagination (Garretson 1976:92). According to Batcheller (1975:7) young children and music go together. "To say that children like to become personally involved in a musical experience is an understatement ... they need to have opportunities with music that allow them to 'let go' and express their physical and emotional natures ... this involvement is best demonstrated by bodily responses to the element of rhythm." Grobler (1990:57) provides the aims of rhythmical movement activities, and these stress the importance of rhythm and movement:

- To provide the child with the opportunity of indicating by means of movement what he understands and feels when listening to the music.

- To provide the child with the opportunity of co-ordinating his movements with the regulating beat of the music.

According to Greenberg (1979:129) listening and rhythmic movement to music involve two basic skills:

- Being able to listen to and focus on the music and sense its feeling and mood.
- Being able to move parts of the body in coordination with the music.

These skills begin to be developed in infancy where the child "moves rhythmically to a song sung by his mother or to the lilt of a recorded waltz" (Greenberg 1979:129). They gradually become more refined as the child learns how to move his body in synchronization with the music's rhythmic flow. Greenberg (1979:129) states that by the age of 5, with previous experience, the child should be able to listen to a wide variety of music, think about and feel what he hears, and show this understanding through free rhythmic bodily movement.

Children are always moving and responding to repeated forms of rhythmical beats as in rope jumping, or just jumping up and down. Young children are highly receptive to the music they hear and are most responsive to rhythm, but merely moving the body is not enough to show the various qualities of the music. When the child moves to music, the teacher should guide him to move his body parts in several ways and in different combinations and to use space around him to express what he feels and understands in the music. His movements must show the music (Batcheller 1975:7; Garretson 1976:93; Greenberg 1979:129). The teacher should encourage children to explore different ways of moving to music and help them to determine the most appropriate bodily movements for particular songs and instrumental selections, e.g. marching, skipping, running, galloping. After varied experiences in walking, running and skipping, children should be able to recognize these rhythms when they are played on rhythm instruments. These are the primary rhythms (Timmerman 1958:12):

walking -- -- -- --

running - - - - -

skipping -- - - - -

When a child moves in response to music, three types of movement are possible (Greenberg 1979:141-149): Formal or structured rhythmic movement; informal rhythmic movement; and creative rhythmic movement. All three types of movement are important to the musical education of the child.

- Formal or structured rhythmic movement: The teacher models the movement patterns for the child, or gives specific directions for the movement, or defines it specifically in the title or words of a song. In formal rhythmic movement, the child's response may be made through imitation of the teacher's specific movement, or it may be made by following the teacher's specific verbal directions, e.g. "on the part of the game that goes 'all fall down', we must all fall to the floor like this ... " Since a young child learns a great deal from initiation, this type of movement experience is very important in eliciting the child's musical and movement response.
- Informal rhythmic movement: This type of movement allows the child to be creative within the limits suggested by the music or words. The teacher gives the child directions for the basic movement to be used, but allows him freedom to interpret within that context, e.g.
  - Finger plays, in which the child moves his fingers and hands to act out the stories in songs (e.g. "hickory dickory dock");
  - Action songs, in which the child responds by appropriate movements to the words of the songs, e.g. "this old man";
  - Impersonation and dramatization songs, in which the child acts out characters or stories in the songs, e.g. "Old Macdonald";
  - Singing games, in which the child moves and plays the appropriate game to the words of the songs, e.g. "London bridge";
  - Mimetic play or imitative movement, in which the child imitates things and objects that move with the movement in rhythm to the music;

- Free rhythmic activities using locomotor movements, in which music is played for walking and running, and the child is free to be creative within the prescribed movement patterns;
  - Playing rhythm instruments, in which the child creates rhythmic patterns on instruments within the overall framework of the music.
- Creative rhythmic movement: It involves having the child use his body to interpret his feelings and thoughts about the music in his own way. No one tells him how and when to move, he moves as an expression of what he feels and knows as he listens. The desired response is a free, creative movement, stimulated by the music alone. In one type of creative rhythmic movement, the music is played and the movement follows it. The title of the music is not given to the child, nor are any directions given. In another type of creative rhythmic movement, the child may be asked to express, through dramatic pantomime, an idea or story. As the child acts out the story, the teacher adds improvised music, usually with a drum, piano, or rhythm instrument. "The music and its rhythm are adjusted to the child's movements and serve to reinforce the child's creative rhythmic response" (Greenberg 1979:148).

Because rhythm is intertwined with the components of music, a music session cannot deal exclusively with rhythm, but it can highlight that aspect. Hoffer and Hoffer (1982:88) writes: "The challenge for the teacher is to help the children to sense rhythm as a driving force in music, and to produce rhythms precisely but not mechanically". According to Greenberg (1979:129-130) the teacher's role is to:

- provide musical experiences that invite the child to move to the music;
- help him move to the music in a variety of ways;
- help him to show through movement what he feels and understands about the music.

Not only is rhythm interrelated with other aspects of music; it is itself made up of different components: Beat, meter, tempo, etc. "Listening and rhythmic movement provide the foundations for musical growth

in the young child" (Greenberg 1979:129). Helping children to develop their auditory perception and to understand the musical components through experience is an important goal in teaching music (Hoffer & Hoffer 1982:88).

#### 6.4.1 Activities: Listening and rhythmic movement

- Beginning activities
  - Frequently hold the child and move rhythmically to the beat of the music (Greenberg 1979:165).
  - Rhythmically bounce the child on your lap or knees as the music plays (Greenberg 1979:165).
  - Hold the child's hands or feet and move them rhythmically to the music (Greenberg 1979:165).
  - Push the child on a swing or in a rocker as you sing a song, with the beat matching the child's movements (Greenberg 1979:165).
- Discuss ways of coming to school, going to the park, and so on. Let individual children show how they run and skip. The teacher picks up these rhythms on the drum, first matching her tempo to the child's and then giving it to the group. When these basic rhythms have been identified and experienced, the teacher then asks the children to identify them as she plays different ones on the drum. As she varies the tempo, they will soon be able to identify it too: "A fast run", "a slow skip", "a tiptoe walk", "a giant stride" (Haines & Gerber 1980:148-149).
- Encourage the children to discover other ways to move about. Identify the rhythms (Haines & Gerber 1980:149):
  - Step-wait: A slot walk with a pause after the step, on the second beat of the 2-beat note (2/2 time);
  - Sliding, gliding or skating: 3 stepnotes (crotchets) in a bar (3/4 time);

- Galloping: 6 running notes (quavers) in a bar (6/8 time). An uneven movement, like skipping, but with the same foot moving forward each time, rather than alternate feet;
- Jumping with feet together or hopping on one foot: 4 stepnotes (crotchets) in a bar (4/4 time). This is played steadily, as in walking, but with very short, detached, staccato taps on the drum or other instrument. As the children suggest and move in these rhythmic ways, the teacher must develop in them an awareness of the sound each one makes on a percussion instrument or the piano or resonator bells. Give them many opportunities both to move and to play these rhythms. "Encourage free use of space and remind the children to move in different directions, travelling backwards, sideways, or round and round. Suggest that they stretch up as they move, or crouch down low to the floor, exploring different levels and planes" (Haines & Gerber 1980:149).

The activity of following the music may be done with no verbal instruction. The changing rhythms, as played by the teacher or children, should elicit quick and increasing sensitive responses from the groups. Avoid using familiar tunes or set pieces for these activities, as the goal is for the children to respond to basic rhythms rather than to recognize a particular melody.

- The rhythm of the music may suggest ways of moving one's body. Bodily movement to music of varying rhythms can provide children with a basis for comprehending different durational patterns. The following are a few examples of instrumental music and activities in which the children may participate (Garretson 1976:101).
  - "Galloping horses": The music by Robert Schumann, "The wild horsemen" may be used. The class should be asked to listen to the music and see if they can tell the way in which the horses are moving. After it has been determined that the music sounds like the horses galloping, then several children may be selected to gallop like horses.

- "Toy soldiers": The music by Pierne, "March of the little lead soldiers" may be used. The teacher may introduce the music by asking the class to listen and decide how they think small toy (or lead) soldiers would march. After a class discussion of the topic, several children may be asked to demonstrate their own particular conceptions of how these soldiers would march.
- "Ballet dancing": The music by Hector Berlioz, "Ballet for the Sylphs" may be used. Girls especially enjoy imitating the graceful movements of ballet dancers. They may step, turn slowly, whirl, leap, run, or make other appropriate movements.
- To open children's ears to a variety of rhythm patterns and to develop more careful listening habits, the teacher may utilize a "rhythm conversation" (also known as 'rhythm talk' and 'echo clapping'). The teacher raps, taps, or claps a rhythmic pattern, or sings it on a neutral syllable, and the children then imitate it (Garretson 1976:110).
- A variation of "rhythm conversation" involves more of the question-and-answer response, in which the teacher claps or sings a pattern and a designated child responds with an answer, complimentary to, but rhythmically different from the "question" (Garretson 1976:111).
- Ask each child to chant his or her name over and over, and then to clap the rhythm while chanting. Next write the names in line notation (e.g. "Mar-i-lyn John-son" as "- - - — -") (Garretson 1976:112; Timmerman 1958:12). The notation should be written on the chalkboard for the entire class to see. "Activities such as this have unique value in that they give children a more personal experience with rhythm" (Garretson 1976:112).
- Once the children have become used to clapping and saying their own names and surnames as well as those of the others in the group in rhythm, the names can be combined to form a phrase (Grobler 1990:65; Murray 1953:267), e.g. "An-na Bella John-son / John-ny Brown" or "Ma-ry / Chris-to-pher / Jack Ga-ry / Scott".

*Variation:* Use names of different car models in the following way: "Mer-ce-des / Volks-wa-gen / Maz-da / Ford" (Grobler 1990:66).

- Well-known rhymes as well as rhymes created by the teacher or children can be used as speech patterns and accompanied by means of body percussion (Grobler 1990:66): "One two three four / who is knocking at the door" - clap hands; "Five six seven eight / look my friend is at the gate" - clap knees.

*Variation:* A simple song like a nursery rhyme is excellent for stepping out rhythmic patterns. Taking a 2-measure phrase at a time, the children can sing the whole song as they step out its rhythmic sequence. Pieces of music without words which have simple rhythmic patterns may also be used (Murray 1953:268).

- Several children join hands together with the teacher and swing rhythmically to the music (Greenberg 1979:165).
- Face the child, take his hands, and move them in a rowing motion to the music's rhythm (Greenberg 1979:165).
- Have some children form a line of "cars", join hands to the elbows and play "train" as their arms move together to the music (Greenberg 1979:165).
- The teacher asks a child to walk or hop. She adds a rhythm instrument accompaniment to his movement (Greenberg 1979:165).
- Use many pieces of music that are neither too fast nor too slow. The teacher adjusts the song that she sings to the child's rhythmic movements (Greenberg 1979:165).
- Echo game (Murray 1953:271): The teacher can play or clap a pattern and the children return it by clapping or stepping it.
- Guessing songs (Murray 1953:272): The class divides into groups and each group decides on a song which is relatively familiar to everyone. The rhythmic patterns of the songs are clapped or stepped out by the group and the others try to guess the title. The first group that guesses another group's song makes a score.

- Question and answer (Murray 1953:272): The teacher plays a one- or two-measure pattern. The class divides into groups and each group makes a pattern of the same length which extends the original pattern into a satisfying phrase, a sort of answer to the question in the first pattern.
- Stepping a rhythmic phrase (Murray 1953:272): The teacher plays a 4-measure phrase of several patterns and the children try to step it accurately after one hearing. The phrase is repeated without pause while the children continue to try to reproduce it. When a child is able to move correctly to the whole phrase, he drops out of the group. Success in the game depends upon being among the first to drop out or having successfully reproduced the rhythmic patterns after a certain number of repetitions of the phrase.

## 6.5 EXPERIENCING THE BEAT

Children usually require many experiences with the beat before they can sense it consistently and accurately. Because the concept of a beat is so basic, the teacher should involve the children in discovering it (Hoffer & Hoffer 1982:90), e.g. let the children feel their own heartbeats. Explain that it is even and steady, and that the beat in music is like that. It can even be called a pulse too.

How do you teach children to feel the beat in music? It is done basically through physical actions rather than through academic procedures. It seems to happen more easily in a group situation than in an individual lesson: "There is something captivating about a group of people clapping or dancing along with the music" (Hoffer & Hoffer 1982:90). Hoffer and Hoffer (1982:90) describe the following way in which a sensing of the beat can be encouraged: The teacher plays a recording of a march and claps the beat for the children. She then asks them to listen again and when they think that they're feeling the beat, they join in with her clapping to the beat.

When children begin to sense the beat, they need to be made aware of its steady nature. Much concentration is required to maintain a truly steady beat. There are several ways to impress the steadiness of the beat on young children (Hoffer & Hoffer 1982:91). It can be pointed out in the songs they sing and in the music to

which they listen. The teacher may also bring a metronome into the classroom (a wind-up model with a pendulum), because its movement can be seen. Clapping and chanting with the metronome will help children to maintain a steady beat. Chanting short phrases is a further step towards establishing a feel of regular beat, e.g. "hickory, dickory dock". Phrases for chanting can be derived from many sources: School cheers, rhymes, verses of songs, and lines made up by the teacher or the class. Some creative activity can be introduced by asking the children to make up their own chants and rhymes. Youngsters often devise their own rhymes when jumping rope or engaging in other play activity (Garretson 1976:99; Hoffer & Hoffer 1982:91).

Another method of introducing a steady beat to the children is described by Crews (1975:11). According to her it is easier for children if the teacher asks one child to "show me how you walk to school", or "let's see you skip home from school", and then makes her drum sound the way that the child's feet sounded on the floor. "In this way a more natural tempo for children may be established before all begin to move together" (Crews 1975:11). Another method is to encourage children to respond to the pulse of the music, either songs or instrumental selections, by clapping, swaying, or walking. Select several children to play a steady pulse on the drum, or other appropriate percussion instruments, while other children walk or march to the pulse of the music (Garretson 1976:99-100).

Ability to maintain a steady beat is prerequisite to developing skills in music, and it is important for the teacher to know whether or not a child can do this. Showing the beat through some kind of bodily movement is reinforcement to the teacher that the child is learning or is at least ready to feel, hear and respond to the steady beat of the music. Doing steady beats will be an enjoyable warm-up to all kinds of rhythmic movement. As children become secure, "echo" and "copycat" games may be played, using bodily movements. Snapping fingers, clapping hands, patches (slapping thighs) and stamping feet are standard body instruments for imitating rhythmic patterns (Crews 1975:11-12).

After a class has had experience in responding physically to pulse in a variety of ways, silent counting may be introduced. "Pupils march to the music and at a signal stop and count silently the 2, 3, 4 or more beats agreed upon and then take up their march exactly on time" (Garretson 1976:100). Garretson (1976:100-101) stresses that rhythm has strong and weak beats. According to him, children should also be

asked to listen for strong and weak beats and should then be encouraged to respond by clapping the loud and softer beats so as to correspond to the stresses in the music. They may then be asked to walk on the strong beats of a song and to pulse on the weaker beats.

Hoffer and Hoffer (1982:92) explain the importance of maintaining a steady beat in musical exercises: "A steady beat is necessary not only for the practical purpose of keeping the participants together, but-also for the rhythmical drive that is required if the music is to sound vital and attractive. This sense of vitality and intensity is achieved not through harshness and strain but through attention to the underlying rhythm."

### 6.5.1 Activities: Listening and moving to the beat

- Ask the children to select appropriate percussion instruments and to play rhythms that sound like walking, running, and skipping. Which rhythms sound even or uneven? Which instruments sound best on the even sounds? Have children walk with an even sound (quarter notes played on a drum or the piano). Ask them to listen to the music and to step with the beat. When the teacher plays an uneven sound they should stop and stand still. When the even sounds resume, they should start walking again (Garretson 1976:100).
- Ask the children to slap their knees on the strong beats and to clap on weaker beats. This helps to emphasize the grouping of beats into twos or threes. Ask the children to play selected percussion instruments on strong and weak beats. Which instrument sounds best on strong beats and which sounds better on the weaker beats? (Garretson 1976:101).
- Ask the children to chant short phrases to establish a feel of regular beat, e.g. (Hoffer & Hoffer 1982:91):

/	/	/	/
One potato,	two potato,	three potato,	four,
/	/	/	/
five potato,	six potato,	seven potato,	more

- By pressing hands on either side of the head between the eyes and ears (at the temples), one can feel a beat. It may also be felt in the neck, heart, and wrist. Have children find this beat in their body and respond to it by clapping (Crews 1975:11).
- Ask one child to start clapping, and ask the others to join in. They all join in clapping until someone's name is called. When the name of a child is called, ask all children to stop clapping, except the child named (Crews 1975:11).
- Bounce and catch (Abramson 1973:6): The teacher demonstrates that the child in the centre of a circle of standing children is to bounce the ball on the second beat and bounces it back to the centre on the third beat. The centre player catches on the fourth beat. The game continues in this manner, going around the circle. The teacher sets and maintains a moderate tempo on the drum. Bounces and catches must be on the beat. When the teacher stops playing, the children should stop the game as quickly as possible.
- Clapping the beat (Abramson 1973:7-8): The teacher sets a tempo by clapping the beat. At the verbal command "go" the children clap the same tempo the teacher has set. As soon as the teacher stops, all children must stop immediately. "This game should also be played with the students closing their eyes so that the signal is purely aural" (Abramson 1973:8).
- Which part moves? (Abramson 1973:11-12): The children stand in a circle in a good starting position, ready to move in a predetermined direction. The teacher sets and maintains a walking tempo on the drum or piano, or by repeating the word "walk". At the verbal command "go" the children begin to march and clap simultaneously, one step and one clap on each beat. At the verbal command "change", the children stop the forward marching movement but continue to clap on each beat. At the next command "change", the children begin to march and clap simultaneously. When the music stops the children freeze in a position of poise.

*Variation:* The game begins with the children standing in place in a circle, facing a predetermined direction. At the verbal command "go" the children begin clapping the beat that the teacher has established. At the verbal command "change", the children stop the clapping and begin walking, one step on each beat. At the next command "change", the children stop marching and resume clapping while standing in place.

- Self-accompaniment (Murray 1953:242): Half the class stands and claps walking, running, slow walking or skipping beats, as the other half performs them in movement. Then the process is reversed. A definite number of beats for each group should be decided upon beforehand or the teacher should give a signal for the change so that there is no pause when the two groups change activities. The object of the game, according to Murray (1953:242), is to keep accurate time to the clapping accompaniment and to make the change from moving to accompanying and vice versa quickly and smoothly.
- Follow the beats (Murray 1953:242): the teacher, and later a child leader, performs locomotor and nonlocomotor movements in a series of pulse beats with moderate time intervals. The children imitate her, changing when she changes, and keeping the same accurate time. Children should take turns as leaders.
- Move and stop (Murray 1953:243): The children walk a number of steps of moderate time. On a sound signal from the teacher or leader, the children stand still and silently count the signalled number with the same time interval as they used in the walk. Movement is resumed accurately with an accent on the first step after the signalled number is counted, e.g. if the teacher calls "eight", the children stop on the next step after the signal, counting that step as one or as the first of the 8 counts, and resume movement with an accent on what would be the ninth count. Series of counts at first may be even, such as 8, 6, 4, 2 and then uneven, such as 5, 7, 9, 3. Children who do not resume movement in accurate timing on the specific count are considered to have made a mistake.

- Direction game (Murray 1953:244): Several percussion instruments are assigned one of the following directions: Forward, backward, side-ward right and left, turning around, in place. Using a walk, the children respond to each instrument when it is played, by walking in the assigned direction and following the beat of the instrument. The children may play the instruments and the teacher or a child leader may direct them, indicating with a hand signal when each is to be played. According to Murray (1953:244), the object of the game is to maintain accurate response to the pulse beats all the time that the group is moving in different directions.

### 6.5.2 The accent

Rhythmic accents might be described as additional force placed on certain beats of a series (Murray 1953:231). According to Murray (1953:231-232) it is impossible to measure an interval of time without the existence of at least two pulse beats which define the start and finish of the interval.

In any grouping of beats, the first or starting beat receives the special emphasis of added force. Accent is bound to be present in the first of a series of two pulse beats; and if the series is repeated continuously, in every other first beat thereafter. When accents fall in a regular order, as on the first of every 2, 3 or 4 beats, they serve to arrange the beats into equal groups. When accents fall naturally at the beginning of each measure in a series of equal measures, they are said to be regular (Dobbs & Firth 1969:85; Murray 1953:232). When this regular order is temporarily interrupted and accents are placed on a normally unaccented or weaker part of the measure, these accents are called syncopated (Murray 1953:232). Syncopation is effective only in relation to a regular order of accents, so that the syncopated accents are felt against or in conflict with the regular accents. "In syncopation a strong beat is used in place of a weak beat within a rhythm pattern" (Lament 1976:164).

Dobbs and Firth (1969:84-85) describe two types of accents, the isolated accent and regular accent. According to them the latter is an invitation to perform some action on the strong accent, and will help to preserve the feeling of continuity in the music, but care must be taken to avoid "chopping the music into isolated bars ... the

teacher must not over-emphasize the accent, otherwise this will produce ugly movements from the children" (Dobbs & Firth 1969:85). An isolated accent is a logical approach to a regular accent in music. Both are found in the nursery rhyme, "Ring-a-ring of roses", where the final note on the word "down" is an exciting climax. The beginning of an accented note is abruptly loud, with an immediate decrease of loudness. "The effect is a quick 'jab' of sound" (Hoffer & Hoffer 1982:143).

In listening to the pulsation of music, children will discover that all the beats do not sound the same. When asked how they differ, a child will usually answer that some beats sound heavier than others. Garretson (1976:114) states that the teacher may at this point provide the children with words that more accurately describe this sound - accent or stress. The teacher may tell the class that most music swings in twos or threes. Ample listening experiences should be provided to clarify this concept. After the class has identified the way in which a particular selection swings, a few children may be asked to mark out the pulsation and the accents, e.g. > I > I > I > I. Activities such as these "help to develop the concept of accent through muscular response, as well as through a visual portrayal of strong and weak beats" (Garretson 1976:114-115).

#### 6.5.2.1 ACTIVITIES: LISTENING AND EXPERIENCING ACCENTS

- Passing the ball (Abramson 1973:4): The teacher sets and maintains a running tempo on the drum. At the verbal command "go" the children pass the ball around the circle on each accented beat in a predetermined direction. When the teacher stops playing, the children stop the game as quickly as possible. When the teacher begins to play again, the children resume the game.
- The class walks softly, when one stronger sound is heard, the class turns with a jump and walks in the opposite direction (De Kock 1989:118).

*Variation* (Abramson 1973:26): The game can be played with a song, poem or rhyme. The teacher sets a tempo on the drum. At the verbal command "go", the children begin walking to the teacher's beat, singing a song or speaking a rhyme. When the teacher's voice and

drum produce a sudden accent, the children jump and turn in the air, and resume marching to the song or rhyme in the new direction.

- Statues (Abramson 1973:22): The children sit, stand or lie on the floor with enough space to move their bodies. After playing several unaccented beats in a moderate tempo on the drum or piano, the teacher suddenly inserts a loud, heavily accented beat, simultaneously calling out the word "accent". The children are instructed to make a new statue each time they hear an accented beat. They should freeze in the position of the statue until the next accented beat. At first the accented beats should come at regular intervals, but when the children are familiar with the game, the teacher should play the accents at irregular intervals. As proficiency increases, any child who moves on an unaccented beat is declared "out". The game continues until one player is declared the winner.
- Round and straight (Abramson 1973:23): The children lie on the floor, scattered throughout the room. The teacher demonstrates how to curl the body into a small round ball. She then demonstrates a long, straight body position on the floor. The children should imitate both positions. The teacher decides which shape (round or straight) will begin the game, and all children assume that shape. The teacher plays unaccented beats in a moderate tempo. The children are instructed to change body shape and freeze the movement only when they hear a sudden loud accent being played.

*Variation:* Have the children express the accent using various parts of the body (e.g. feet, knees, elbows, hands, shoulders, etc.) and various combinations of body parts.

- Jump the puddle (Abramson 1973:25): The children decide on one type of jump. The teacher plays unaccented beats in a moderate tempo. At the verbal command "go" the children begin to move around the circle, taking one step on each beat. When the teacher plays an accented beat, the children react quickly by pretending to jump over a puddle of water. If accented beats occur in succession, the children jump on each accent. When the teacher resumes playing un-

accented beats, the children return to their marching steps. When the music stops, the children freeze their positions.

- Ringing the bells (Abramson 1973:28): The teacher demonstrates and the children imitate the movements of pulling up and down on a bell-chord. The teacher plays unaccented beats in a slow tempo on the drum or piano. At the verbal command "go", the children begin to "pull the bell-chord" up and down, using one pull on each beat. When the teacher plays an accented beat, the children respond with a quick, sudden, short pull downward, and a slow release.
- Listen to the accompaniment in rather slow tempo, recognizing accents and feeling their procession and their relation to the pulse beats (Murray 1953:250-251):
  - Walk forward with a long step on the accent and short steps on the other beats;
  - Walk in place or forward, stepping on the whole foot for the accent and on tiptoe for the other beats;
  - Walk forward on each beat, making a strong hand or arm movement on the accent only;
  - Step or jump on the accent only, clapping on the other beats;
  - Jump in place, with a big jump on the first beat and little jumps on the other beats;
  - Perform any sequence of movements in place, such as a strong lunge, a bend, twist, or push, on the accent, and clapping hands, sides, knees, or using similar small movements for the other beats;
  - Step forward on the accent and backward on the other beats, or vice versa.
- Square (Murray 1953:253): Using four beat groups and starting with an accent on the right foot, the children walk forward on the first 4 beats, then face sharply right and walk in that direction for the second 4. The latter right turn is repeated twice more until the square is

completed. The first step on each side of the square should be accented. The tempo of the walk may be increased to that of a run.

- Zigzag (Murray 1953:235): Using 3-beat groups and starting with an accent on the right foot, the children walk diagonally forward on the first 3 beats. Then they face diagonally left and walk in that direction for the second 3 beats, with an accent on the first step of the new direction. The zigzag pattern continues to the right and the left. The first step in the new direction should always be accented. The tempo can be increased to that of a run (3/4 run).
- Follow the accents (Murray 1953:253-254): The teacher, and later a child, performs a nonlocomotor movement on the accent of a group of 4 beats. The children imitate the movement on the next accent. She then performs another movement on the third accent and they imitate it on the fourth. Children should take turns as leaders.
- Partners (Murray 1953:254): The class works in twos, moving in opposition to a partner, with one child moving on the first accent and the other one moving on the second. Such movements as striking, dodging, knee bending, pulling, pushing, etc. may be used. Partners may either imitate or react appropriately to each other's accented movement.
- The children stretch away from the body on the accent, and come gradually nearer to the body on the weak beats. The position of the accent need not be straight out in front, but in any position away from the body (Gell 1953:57).

## 6.6 LISTENING AND MOVING TO MUSICAL ELEMENTS

### 6.6.1 The phrase

There is a unit of thought in music which is called the phrase, just as spoken language has units of meaning which are called sentences, exclamations, questions, and phrases. Melodies acquire meaning for us as we hear them in segments, rather

than in one continuous flow of sound. Phrasing is characteristic of all melodies and is what makes them intelligible to people. Phrases may be long or short, equal or unequal (Haines & Gerber 1980:150). According to Gell (1953:82) and Hoffer and Hoffer (1982:126), the phrase in music should be presented as the parallel to the sentence in speech. "As the exercises proceed, the use of the phrase in music being a part of a whole, that is, its function in building the shape of music, must be clearly conveyed" (Gell 1953:82). Children rarely seem to be aware of the real meaning of the phrase, or its importance to the progression of the whole. An introduction to musical phrase might be the listening to the clocks in the "toy store" or in "Peter and the wolf", listening to the "... lilting phrase that represents Peter or the ones that introduce the duck, the cat, the bird, and the wolf" (Landreth 1972:113).

The end of a phrase may be marked by a longer tone, as in many children's songs and nursery rhymes, but this is not always the case with phrase endings (Haines & Gerber 1980:150-151). The ending of a phrase may also be indicated by a slight pause, a rest, or by a breath mark. "The phrase-ending is the point at which the music 'breathes' or finally comes to rest" (Gerdener s.a.:8). Breath marks are large commas placed above the music. Occasionally a long curve is placed above the music included in a phrase. "In a well-written song, the word phrases and the musical phrases correspond" (Timmerman 1958:23).

Songs with definite phrases should be used in activities when phrasing is introduced. The song should be familiar to the children. The teacher sings the entire song, being careful to breathe only at the ends of phrases. She then asks the children to alternate singing phrases with her. This may be followed by the teacher singing an unfamiliar song that contains definite phrase endings. This time the children close their eyes and indicate the phrases with their arms. "Each motion of the arms should start simultaneously with the phrase and continue until it ends" (Timmerman 1958:24). Closing their eyes encourages children to think for themselves, rather than to imitate others. The teacher may then encourage the children to think of other ways to show phrases.

Children should be conscious of phrases both in singing and in playing instruments. As the child becomes more experienced, music with less obvious phrases may be used. The children may step the rhythmic pattern of the melodies of songs, instrumental music or recordings, indicating the ends of phrases. Some possibilities include change of direction, bows, curtseys and whirls.

6.6.1.1 *ACTIVITIES: LISTENING AND DISCOVERING PHRASES*

- Beginning experiences:
  - Sing to the child as you hold him. At the start of each phrase, slightly shift his position (Greenberg 1979:275).
  - Sing to the child as you hold and walk with him. At the start of each phrase, shift direction (Greenberg 1979:275).
  - Play recordings for the child that have distinct phrases. Hold the child on the lap and move with him in different directions as each phrase is heard (Greenberg 1979:275).
  - Have the child watch as you move your hands and/or body in "rainbow-shaped arcs" to the musical phrase (Greenberg 1979:275).
  - Children stand and listen to a nursery rhyme or national song; when they distinguish a pause, or resting place, they take a step; if they feel the final stop has come, they could kneel or lie down (Gell 1953:83).
  - The children join hands in circles. They walk in one direction until a phrase-end is heard, then change direction (Gell 1953:83).
- Show phrases through bodily movement, e.g. sit on one phrase and stand on the next, or change the direction of movement for each phrase (Greenberg 1979:275).
- Show the child how to move his hands in semi-circles to the phrases. After many experiences in imitating the teacher, have the child move to the phrases by himself (Greenberg 1979:276).
- Have the children clap to the first beat of each phrase (Greenberg 1979:276).
- Leading phrases (Murray 1953:275): The leader (teacher) faces the children standing in one group. A simple means of locomotion is decided upon (walking, running, skipping, or sliding) and the music is played. The leader signals a change of direction for the group on each

phrase. Simple signals are pointing for sideward right or left, pushing for backward, beckoning for forward, pushing downward for movement in place, circling hand a few times for turning around. The leader may use any direction pattern he chooses and gives the new signal just before the beginning of the new phrase.

- Follow the leader (Murray 1953:275): The leader performs a locomotor, nonlocomotor, or a combination of the 2 kinds of movement to the first phrase of a piece of music that has phrases of equal length. The children imitate the movement in the second phrase. This is continued, the leader changing his movement each time. "The best music to use is that in which the first 2 phrases are identical or almost identical, and the second 2 the same" (Murray 1953:275).
- Copy cat (Murray 1953:276): The class divides into twos, the partners facing each other. One partner makes a series of movements to the first phrase of the music. The other partner imitates these movements on the second phrase while the first one watches to check accuracy. The first partner makes a new series of movements on the third phrase and his partner imitates them on the fourth phrase. Suitable music for this game should have "some repetition of melody or rhythmic pattern in alternate phrases" (Murray 1953:276).
- Answer me (Murray 1953:276): The class divides into twos. The partners face one another. The first partner makes a series of movements on the first phrase, but instead of imitating his partner, the second person invents new movements of his own to answer his partner's movement phrase. Phrases are alternated between partners. Murray (1953:276) suggests that the music should have a different melody or rhythmic pattern on alternate phrases.
- Choose a suitable nursery rhyme, e.g. "baa baa black sheep" and let the children step. At the phrase-ends the children make an actual "comma" with their figures (in their own way) and a full-stop at the end (Gell 1953:83).
- The children kneel wherever they like in the room, while one or two, depending on the class, skip or walk between them. When the music

breathes, they touch the children nearest them, who gets up and follow the leader in a line (Gerdener s.a.:8).

- The children stand in 2 lines, holding hands, the lines close together. One line moves on a phrase, the other on the next, the second line trying to catch up with the first each time (Gerdener s.a.:8).

### 6.6.2 Tempo

When children can feel the beat and recognize its regular nature, they are ready to listen for the musical factor called tempo, "which is the speed at which the beats recur one after another" (Hoffer & Hoffer 1982:93). According to Lament (1976:211) tempo is the speed of movement, or the speed experienced by children while they are involved in listening, singing, playing, creating and dancing. Tempo is "relative rather than absolute" (Lament 1976:211). Judgement about tempo depends partly on how the listener perceives the music. In many songs, either a fast or a slow beat seems to fit.

Hoffer and Hoffer (1982:94) describe two procedures that can be employed to direct the children's attention to the speed of the beats. One is to sing the same song at different tempos, and the other is for the class to listen to works of music that have different tempos. When the children are secure in their ability to recognize a steady beat, they can be introduced to music in which the tempos change noticeably during the course of one song or work.

In introducing the graduation of speed (*accelerando* and *ritardando*) to children, attention may be drawn to those example with which the child is familiar, such as a train leaving a station, an aeroplane leaving the ground. According to Gell (1953:46) a child gathers speed too suddenly. For adequate help, it is better to let him try first a simple movement with the arm which begins very slowly. "It is important to show that with the increase of speed, the movement becomes smaller and vice versa" (Gell 1953:46). Clapping involves a clear aural attention on each sound, and should be tried next. If the clapping is fairly accurate, then the child is ready for stepping.

In the basic locomotor movements, attention has been paid to fast and slow movements in response to rhythmic patterns, melodies and instrumental music. The teacher must now extend this awareness and must focus attention on different tem-

pos and on changing speeds by using activities (Haines & Gerber 1980:153). Imitations of animals help to teach these concepts. As the teacher plays a percussion instrument in the tempo and rhythm of a slow rabbit hop, the children are to hop in time with the sound if they can. When this is mastered, the instrument is played faster to describe the rabbit running away, and the children imitate this. There could be a slow elephant walk, a bird walking and many other kinds of animals, suggesting degrees of fast and slow and heavy and light (Nye 1979:74).

#### 6.6.2.1 ACTIVITIES: LISTENING AND RESPONSES TO TEMPO

- Beginning experiences:
  - Swing or rock the child slowly or fast to correspond with music that is slow or fast moving (Greenberg 1979:260).
  - Move to the tempo of the music, using fast movements for fast music and slow music for slow music. Have the child observe, and/or carry him as you move (Greenberg 1979:261).
- Play a rhythm instrument at various tempi, and have the child move fast or slowly, as appropriate (Greenberg 1979:261).
- The teacher moves slowly and fast, and ask the child to add a rhythm instrument accompaniment to her movements (Greenberg 1979:261).
- Imitate animals and people and how they move at different speeds. Ask the child to move like a turtle, a lizard, a crocodile, a galloping horse, a train, an old man, or like anything else that is familiar to the child (Greenberg 1979:261).
- Play a fast piece, a slow piece. Ask the child to move as appropriate. Compare the tempo of the two pieces (Greenberg 1979:261).
- Play a rhythm instrument, and gradually change its tempo. Have the child move, as appropriate, to the tempo (Greenberg 1979:261).
- Relate tempo to feelings and mood, e.g. fast tempo is often happier in feeling than slower tempo. Ask the child to show the movements "of a

happy and sad tiger, or a happy and sad little child" (Greenberg 1979:262), etc.

- Play a recording or sing a song for the child. Ask him to raise his hands when the tempo changes (Greenberg 1979:262).
- Passing the ball (Abramson 1973:3-6): The teacher demonstrates that the ball is to be passed from child to child in a clockwise direction on each beat of a moderate tempo. The teacher then sets and maintains the tempo (walking speed) on the drum. At the teacher's verbal command "go", the children begin the game. At the command "stop", the children and the teacher stop all activity.

*Variation 1:* The children listen to the teacher's drum beat. At the verbal command "go", they begin the ball-passing game. When the teacher stops playing, the children stop the game as quickly as possible. When the teacher begins to play again, the children resume the game.

*Variation 2:* The children listen to the teacher's drum beat. At the verbal command "go", they begin the ball-passing game. At the teacher's command "change", the children change the direction of the ball-passing activity.

*Variation 3:* The same as variation 2, but the command "change" is now indicated by playing a sound on the rim of the drum. The children must now respond to the verbal signal "go", the musical signal "stop" (indicated by stopping the drumming), and the command "change" (indicated by a different quality of sound from the drum).

- These activities can be repeated in different tempi: Fast tempo, slow tempo, *accelerando* (getting faster) and *ritardando* (getting slower).
- Swinging the beat (Abramson 1973:8): The purpose of this exercise is to use more of the body in the perception and realization of tempo. The children explore various ways of swinging the arms, keeping the torso and knees free and loose. Swings of different sizes and different directions can be used. The teacher sets a tempo - on drum, piano, or by saying the word: "swing, swing, swing". At the verbal command "go",

the children try to find the size of swing which will fit comfortably with the tempo the teacher has set. The game should be played in all tempi.

### 6.6.3 Dynamics

"Dynamics is the musical term which describes the volume of sound - loudness and softness, and gradual changes from one to the other" (Haines & Gerber 1980:155). Thus, degrees of loudness and softness in music are its "dynamics". The Music Educators National Conference (1967:6) writes: "It is as basic a characteristic of tone as tone is of music. There simply can't be a musical tone without some degree of volume, either in its actual production or in the mind's ear." Since loudness relates directly to the amount of energy or force needed to produce the tone, it is one of the first musical concepts that children develop (Greenberg 1979:83; Nye 1979:24). "The difference between loud and soft music is perhaps the element most easily recognized by children in the primary grades" (Hoffer & Hoffer 1982:138). Children may have trouble sensing the beat or discerning differences among pitches, but seldom do they find it difficult to distinguish between contrasting dynamic levels, but the more they notice changes in dynamic level, the more they will understand and enjoy music.

Some of the basic understandings of dynamics include (Greenberg 1979:83):

- A piece of music may be relatively loud or soft;
- the relative loudness or softness of a piece may change, i.e. a piece may become louder or softer;
- changes in the dynamic level of a piece can occur gradually or suddenly;
- loudness levels affect the mood of music;
- sudden loudness (accents) often causes an unsettling, jerky, or startling feeling and mood in our reaction to music.

Young children's attention can be directed to this element of music. Contrasts are important to begin with. The teacher should choose extremes. Gell (1953:35) describes the actual procedure and exercises like this:

- How strong is a lion?
- How big is an elephant?
- How hard is this rock?
- How strong is your father?

Any of these questions can produce an attempt on the part of the child to show or answer the question by a physical response. Next play a passage of music with corresponding dynamic strength. Ear-tests should follow, such as: "Feel as strong as a horse; if the music grows tired, go softly to sleep."

The youngsters can also perform simple rhythm patterns at different dynamic levels. The children might be told to clap four of them loudly, four softly and four loudly again. To ensure that differences in dynamic level are achieved, the children can be asked to use the entire hand for loud clapping and one finger against the palm of the other hand for soft clapping. As they become more adept in their ability to switch levels, the youngsters can change from loud to soft more frequently: two loud and two soft, then one loud and one soft (Hoffer & Hoffer 1982:139).

Gradual change in dynamic level (gradually louder and gradually softer) can certainly be introduced when the musical experience and ability of the class determine the proper time. Children can learn to accomplish such gradations effectively. Children should be able to express dynamic change in a variety of ways. The tendency for many people is to think of big and/or high movements as expressing loudness and small, low motions as meaning softness (Haines & Gerber 1980:157; Hoffer & Hoffer 1982:141). "The teacher should avoid teaching this stereotyped and inaccurate notion. It is the quality of the movement - its relative strength or weakness, its firmness or gentleness - which equates more appropriately with the dynamic range from loud (*forte*) to soft (*piano*)" (Haines & Gerber 1980:157).

Dynamic changes should not always sound across a wide range. Sometimes the gradations should be subtle ones; from soft to almost inaudible, or loud to very loud

(Greenberg 1979:83; Haines & Gerber 1980:158). Similarly, they should not always be gradual, but sometimes sudden and dramatic: "A burst of sound following a softer passage such as raindrops following a clap of thunder" (Haines & Gerber 1980:158). Emile Jaques-Dalcroze (as reported in Haines & Gerber 1980:158) has contributed much to the teaching of movement to music. Dictation was always included in his classes in some form, to develop accurate listening and sensitive responding, e.g. dictate by clapping very short, simple patterns at different dynamic levels. Each pattern is echoed once by the group.

Songs pertaining to modes of transportation are ideal examples for applying dynamics. Children can dramatize the intensity of sound as a vehicle gradually comes closer and then gradually moves away (Lament 1976:228). If the teacher is a sensitive player, then already the children will have developed some feeling for the contrasting qualities to be found in music. To further this awareness, strong contrasts should be made at first, with the children suggesting the appropriate movements. No music should be used to begin with. The children might decide which would be the most suitable percussion instrument to use. Finally, the teacher could play some keyboard music to their movement. There are also numerous examples of gradual changes in dynamic level in recorded instrumental music that can be played for the class (Dobbs & Firth 1969:81).

The following Italian terms will be used in the description of the listening activities. The meanings of the terms are as follow:

- Piano - soft
- Pianissimo - very soft
- Forte - loud
- Fortissimo - very loud
- Mezzo piano - moderately soft
- Mezzo forte - moderately loud
- Crescendo - gradually louder
- Decrescendo - gradually softer

#### 6.6.3.1 *ACTIVITIES: LISTENING AND RESPONDING TO DYNAMICS*

- Beginning experience: Swing or rock the young child gently when the music is soft and vigorously when the music is loud (Greenberg 1979:258).

- Move to the music: Using large movements for loud music and smaller movements when the music becomes softer (Greenberg 1979:259).
- Ask the children to clap and use other body rhythms (patting or tapping) to highlight the music's dynamics (Greenberg 1979:259).
- Ask the child to use big movements for loud music and small movements for soft music (Greenberg 1979:260). Ask questions: "Can you get smaller when the music gets softer?", "Can you get bigger when the music becomes louder?"
- Imitate the movements of a large, heavy elephant or a small, agile bird. Ask the children to add a rhythm instrument accompaniment (loud or soft, as appropriate) to show how the animal moves (Greenberg 1979:260).
- For soft sounds hide away in cracks and corners; but for loud sounds come out and fill the room with "big" people (Gell 1953:36).
- For loud sounds stand still and strong as the walls - "be" the walls; but for soft sounds turn into tired people walking about (Gell 1953:36).
- Swinging (Abramson 1973:14-15): The teacher should help the children experiment with various ways of swinging their arms and with various sizes of arm swings. The teacher sets and maintains a moderate tempo on the drum at a moderate dynamic level. At the verbal command "go", the children try to match the dynamic level of the teacher's playing by swinging their arms from side to side to each beat of the music. When the music stops, the children stop all activity.

*Variation:* The teacher sets a regular tempo, but varies the dynamic level of her playing. The children attempt to match the size and energy of their arm swings to the level of dynamics played by the teacher. When the teacher plays forte (loudly), the children should take bigger swings, using more of the body. When the teacher plays piano (softly), the students take small, light swings using very little space and very small movements.

- Trees in the wind (Abramson 1973:15-16): The purpose of this exercise is to realize dynamic changes with proper orchestration of body parts. Have the children form an interesting forest of tree shapes, using fingers for leaves, forearms and upper arms for branches, and legs and trunk for the trunk of the tree. The teacher demonstrates and helps the children to discover various ways of expressing dynamic intensity: Fingers move very quietly, expressing a pianissimo (very soft) level. Various combinations of other body parts, such as wrist motion, forearms, upper arms, torso, legs, knees and the entire body can express greater dynamic intensity. After this exploration, the teacher plays, speaks or sings at various dynamic levels. Pretending to be trees in the wind, the children attempt to realize quickly and efficiently the changes of dynamic level by using different parts of the body. When the music stops, the children should freeze their position.
  
- Paws on the floor (Abramson 1973:16): The children sit on the floor and the teacher helps the children to explore the use of finger tips, wrists, and easy arm motion, using the floor as a drum. First use the hands as if they were the paws of a small animal, expressing softness by light, darting movements (piano) with fast rebound from the floor (piano). Then press the palms of the hands and the fingers more heavily against the floor (mezzo forte). Finally, add the forearms and upper arms, always rebounding quickly from the floor (forte). The teacher begins to play at a moderate tempo and at a moderate dynamic level. At the verbal command "go", the children try to express any changes in dynamic level which the teacher makes, using the hands in parallel motion.

*Variation 1:* Beginning with the right hand, the children try to express the dynamic level which they hear the teacher play. At the verbal command "change", the children continue the game using the left hand.

*Variation 2:* Children play the game using the hands alternately or together, depending on the teacher's verbal commands: "Left hand", "right hand", "both hands".

- The 5 steps (Abramson 1973:16-17): The teacher demonstrates and the children imitate various sizes of steps.

Step no 1: A tiny walking step on half-toe;  
 Step no 2: About the size of one's own foot;  
 Step no 3: A regular walking step;  
 Step no 4: A little larger;  
 Step no 5: A leap.

The game begins with the teacher playing pianissimo (very softly) at a moderate tempo on the drum or piano. At the verbal command "go", the children begin to move around the circle, using step no. 1 on each beat. When the teacher calls out, "step no. 2", and changes the level of her playing to piano (soft), the children change to step no. 2. When the teacher changes to mezzo forte (medium loud) and gives the command "step no. 3", the children change to step no. 3. The same applies to the other steps. Step no. 4 is used when the playing is forte (loud) and step no. 5 when the music is fortissimo (very loud). When the music stops, the children freeze their position.

*Variation 1:* The teacher calls out any number from 1 to 5 at random, adjusting the dynamic level of her playing to correspond. The children respond with the proper size steps. The tempo of playing should remain constant.

*Variation 2:* The same game can be played by using hand clapping. Various ways of clapping can be introduced, using more and more space between the hands and arms to indicate a greater dynamic level.

*Variation 3:* Without verbal commands the children respond to changes in the dynamics of the teacher's playing. In this game the children use their own judgement about the size of the steps and/or claps.

- Swinging the circle (Abramson 1973:20-21): The children stand in a very large circle holding hands, arms stretched open. The teacher joins the children in the circle and demonstrates how to pull from left to right, shifting body weight from leg to leg in a swinging movement. The children practise pulling from side to side, using a minimum of

space and movement at first and increasing their activity until they are leaping in the air. The game begins when the teacher sets and maintains a moderate tempo for swinging on the drum or the piano. At the verbal command "go", the children begin to pull and swing in rhythm from left to right. As the teacher changes the dynamic level of playing, the children respond with stronger pulls (corresponding to the dynamic levels forte and fortissimo) or weaker pulls (corresponding to the dynamic levels piano and pianissimo). The children stop when the music stops, and freeze in position until the teacher gives the verbal command "rest".

- Other ideas on natural subjects (Gell 1953:40): Tell the children to lie down fast asleep, slowly wake up, or fall asleep as the music tells them.
- Flowers in a vase: The children stand like drooping flowers in a vase without water. They must show the effect of growing stronger (Gell 1953:40). They must react and grow with the music.
- A group of children form a "rising or setting" sun, when listening to the music. A melting iceberg is a good idea for decrescendo (gradually softer) (Gell 1953:41).
- They can form a group in a corner of the room opposite the piano. When the music is loud, they walk towards the piano; when it is soft, they turn and walk back to their corner (Gerdener s.a.:11).

#### 6.6.4 Pitch

"Pitch is the impression the hearer has about the relative highness or lowness of a sound" (Hoffer & Hoffer 1982:117). Pitch is extremely important in music. While there can be musical works without recognizable pitch levels, almost all music does involve pitch differences. "This aspect of music forms the basis of melody and harmony" (Hoffer & Hoffer 1982:117). The semantics of high and low, up and down, make it difficult for the teacher to teach the children the concept of musical pitch. They already have connotations for these terms which relate to position and place. In order to add to these words a new set of meanings relating to pitch, "it is helpful

to work with what is already known" (Haines & Gerber 1980:160), e.g. songs already learned.

High and low music are arbitrary terms, and children have to learn that tones are high or low in relation to a given note (Sheehy 1972:93). Repeated experiences in playing or singing a middle tone and then a higher or lower one, letting the child decide which each is, will help him to understand this. When the child has a clear understanding of this, he will be interested in using only his ears in deciding whether the second tone played is higher or lower than the first, and it is important to use wide differences at first. Some children have very acute ears, and it is not long before they can distinguish even a half tone of difference.

Another game that increases awareness of pitch is singing a tone and then finding the same tone on the piano. Several children can enjoy this together, each one taking a turn singing and the others helping to decide when the piano tone matches. In using movement as a way of experiencing pitch levels, children may use their entire bodies or their hands, moving up and down to show pitch levels (Greenberg 1979:272; Sheehy 1972:93).

#### 6.6.4.1 ACTIVITIES: LISTENING AND EXPERIENCING PITCH

- Swinging (Greenberg 1979:271): Push a child on a swing. Sing "up" and "down" using high and low pitches as he swings. Also do this as the child moves on a seesaw.
- As the child walks up stairs or walks up on the steps of a slide, sing ascending tones to match his upward movement. Sing lower tones as he descends (Greenberg 1979:271).
- The children imagine that they are dusting high shelves when they hear music in the treble; and then sweeping the floor to music in the bass (Gerdener s.a.:12).
- Play familiar tunes and tonal patterns on the step bells or on a vertically held xylophone as the child observes the up-and-down movements. Let the child play and discover the different pitch levels.

- Use the entire body or the hands moving up and down to show pitch levels. The child can imitate the teacher as she plays the high-low pitches on an instrument (Greenberg 1979:272).
- The children skip anywhere; if they hear the sounds climb up, they should stand and climb also (Gell 1953:92).
- The children climb a tree; they wait in the tree (played on one sound continuously); and fall down when the music does (Gell 1953:92).
- The children walk forward when the music goes up; and walk backwards if it goes down. They should mark time if it stays on one sound (Gell 1953:92).
- Skip with a partner: If a "mountain" is played, make a mountain. If a "valley" is played, they should make a valley (Gell 1953:92).
- The children clap the floor when the music is in the bass, in front of them when it is in the middle of the piano, and above their heads when it is in the treble (Gerdener s.a.:13).
- They can walk or skip or run round the room, pointing to the ceiling when the music is in the treble, straight ahead when it is in the middle of the piano, and to the floor when it is in the bass (Gerdener s.a.:13).

## 6.7 FREE (CREATIVE) MOVEMENT

Creative movement is movement "that reflects the natural developmental progress of normal children as they grow physically, and movement that gives expression to their feelings and thoughts as they grow emotionally and cognitively" (Cherry 1981:9). The term "free movement" or "creative movement" basically implies freedom to express oneself through some body movement or gesture. "Freedom to express oneself through some body movement as an initial reaction to the music ... is in direct contrast to following specific directions in performing a square dance or a national folk dance" (Lament 1976:107). A composition may be played and the children encouraged to interpret freely what they hear. They may become fairies, goblins, airplanes or elephants. They may just move as they wish, without being anything in particular. They create designs on the floor, and they may act out entire stories

(Timmerman 1958:150). Murray (1953:25) writes that "the greatest value of dance in the education of children comes from the experience of making their own forms to express, to communicate, to enjoy".

Creative movement to music is a skill that can be developed from infancy. It begins when a mother moves creatively to music with the baby in her arms or when the infant observes how his mother moves creatively to recorded music. It continues as the parents encourage the baby to move creatively and with freedom to the songs and recordings he hears. By the time the child is 2 or 3 years of age, he should have had many such experiences (Greenberg 1979:148). "Free movement is only possible if the children have already experienced the possibilities and variations which rhythmical movement offers" (Grobler 1990:68). A framework for reference should first be established before the children will be able to display original thinking in their interpretation.

Hoffer and Hoffer (1982:75-76) discuss creativity and list creative movement as a way to encourage creativity: "Another way to encourage creativity is to have the children engage in interpretive bodily movement or interpretive dancing. The children try to express with their bodies what they think the music is 'saying'" (Hoffer & Hoffer 1982:76).

Free movement is more than just marching or keeping time with the music. After careful listening, the children make motions and adopt physical attitudes that to them reflect the music. Such bodily expression is an individual matter, not subject to a group decision-making process. In general, there is some need for adult direction in developing creative movement skills in the child. However, there is a fine line between facilitating the child's own unique responses to the music and molding the responses into patterns that are the teacher's and not the child's interpretations (Greenberg 1979:148; Hoffer & Hoffer 1982:76). Initially, for children between one and a half and four years of age and for older children who are inhibited, or who lack movement experience, the teacher should encourage lots of child-initiated movement, whereby the child moves and the teacher improvises an accompaniment to fit the movements. Then use songs and singing games, whereby the child creates movement to fit the words and mood of the song. The teacher may also use various percussion instruments to play rhythms; then invites the child to move to these rhythms in any way he sees fit (Greenberg 1979:148-149).

To help the child move creatively to music, the teacher can use stories or events that stimulate the child's imagination, e.g. ask the child to be a snowflake, or a circus clown, or a galloping horse. Also ask him to show in movement how "Red Riding Hood" walked through the woods, or how the "Big Billy Goat Gruff" crossed the dangerous bridge on his way to the pasture. After many experiences with moving to music as a guide, Greenberg (1979:149) suggests it is then best to play music in which the child imagines his own story, based upon the mood and character of the music.

Timmerman (1958:150-152) provides the following creative rhythmic activities:

- Creative rhythmic interpretation of music - a composition is played and the children interpret freely what they hear. The children should be encouraged to tell what in the music made them think certain things were happening.
- Creative dance - children may analyse the music by phrases and create their own dances, or they may create their dances spontaneously as they listen to the music.
- Creative rhythms - in this activity the children develop bodily sequence to interpret what they see, feel or think. This is done independently of any music.

Free rhythmic movement is generally more successful in a small group in which the teacher can observe the children easily. Available space must be estimated realistically, so that the activity does not turn into chaos with children bumping and pushing one another. Hoffer and Hoffer (1982:76) provide solutions where the floor space is limited: "... one solution is to have only a few children engage in free activity while the others sing, chant words, or clap. Another aid is to give the children 'space-saving' ideas such as walking in place instead of moving around the room."

Experience with expressive movement can be extended by involving more parts of the body than just the arms, by letting the children move about the room, and by providing music of contrasting character. Children also enjoy impersonating animals and their actions (Hoffer & Hoffer 1982:76-77). The teacher's role in facilitating creative movement to music can be achieved by knowing how and when to ask

certain questions. Each question should serve to help the child discover more about his own movement skills and how he can express his feelings and thoughts about the music through movement, e.g. (Greenberg 1979:149): "Can you move your hands in another way? Can you only move your head? ... Can you lie on your stomach and move your hands to the music? ... Can you walk to the music? Can you move your head (or your hands) to the music as you walk? How can you show that the music is getting louder? ... How small can you be when the music is soft? ... How would a beautiful fairy princess move to the music?", etc.

Bergethon and Boardman (1986:230) provide the following teaching procedure for free interpretive movements:

- Teachers must motivate the children to listen attentively to the music. Children cannot move expressively to music they have not heard previously.
- Children must be invited to move freely to the music. They may respond with an appropriate fundamental movement or with creative movement.
- The teacher must discuss the various responses, encouraging the children to tell why they feel their movements are appropriate and to make suggestions for other movements that would be even more exact. "The degree of exactness will depend on the age and previous musical experiences of the children" (Bergethon & Boardman 1986:230).
- Ask the children to move to the music once more, this time attempting new movements or improving on previous ones.
- The children must be guided to concentrate their responses on such specific aspects of the music as meter, rhythmic pattern, melodic contour, phrase, repetition and contrast, or changes in tempo and dynamics.
- Provide adequate space, which is essential for effective physical movement.

The choice of music is very important when free movement activities are presented. Initially familiar music which was used during a listening activity may be utilised. Happy, cheerful music is usually appreciated and if the composition comprises contrasting sections which provide possibilities for fast and slow movements, interesting variations can be improvised by the children (Grobler 1990:69). Greenberg (1979:150) suggests that the teacher provide opportunities to listen quietly before asking the child to move. "Never ask him to move immediately during the first hearing" (Greenberg 1979:150). Frequently ask the child to close his eye, listen to the music, and imagine what the music is trying to say. The teacher must ask the child if he can hear where the music gets faster or slower, where it gets louder or softer, where it climbs up or slides down, and where it repeats or stops. If the music is very long, only play and move to one short section at a time (Greenberg 1979:150). The teacher should look for appropriate music amongst classical works, compiled classical work collections, folk music, contemporary music, etc. Examples of such music are (Grobler 1990:69; Hoffer & Hoffer 1982:76; Lament 1976:109-113; Timmerman 1958:153): "Carnival of the animals" by Saint-Saens, "Norwegian Dance no. 2" by Grieg, "Waltz" from "Swan Lake" by Tchaikowsky, "Hoe down" from "Rodeo" by Copland, "Pavane for a dead princess" by Ravel, sections from "Ipi Tombi", fanfare section from "Thus sprach Zarathustra" by Richard Strauss, "Rite of spring" by Igor Stravinsky, "Grand Canyon Suite" by Ferde Grofe, "Pictures at an exhibition" by Moussorgsky, etc.

The ability to encourage children to listen, think and respond creatively while exploring a musical concept is a valued skill that reflects the creative talent of the teacher. Discovering and exploring music can be exciting experiences for children, especially if they are encouraged to make up their own dances and songs, and to initiate their own ideas about how to listen to music, and to respond freely to music. Each child is unique in his individualism and in his environment. He must be given his chance to say what he is, how he feels, what his world means to him. According to Murray (1953:26) participation in creative dance "is every child's due and depends in great part upon the teacher's ability to free children for creative endeavor".

The development of creativity is one of the major objectives of education. Schurr (1969:278) writes: "Creativity reflects one's concepts and perceptions, or to generalize, one's experiences." To conclude, children should be encouraged to move spontaneously to music and respond to the sounds in whatever way they wish. "This

activity should not only encourage concentration and listening skills, but also make children aware that we can communicate our feelings and ideas in ways other than language" (Curtis 1989:77).

## 6.8 ACTION SONGS AND FOLK DANCES

### 6.8.1 Folk dances

When children are involved in learning traditional folk or period dances, emphasis must be placed on mastering the basic steps required, e.g. the children may combine one big step and two smaller steps into a pattern to match the waltz meter or combine toe and heel steps into an Indian dance (Bergethon & Boardman 1986:230).

When selecting a folk dance for children, the following questions must be considered (Murray 1953:114-115):

- Can the children perform the basic step used in the dance in time to the music?
- Can the dance be learned quickly, so that its whole configuration can be grasped by the children at one time? A too difficult dance that requires several dance lessons to learn, can result into a feeling of boredom.
- Are the successive parts short, so that movements must be continually changed, or are they long enough so that there is time to remember what comes next?
- Does the dance allow free, vigorous and informal movement; or is it constrained and overprecise, employing small, controlled foot patterns and complicated hand-foot-coordinations?
- Is the dance understandable, childlike and apt to hold the interest of the group performing it; or does it have more adult significance or far-fetched cultural symbolism?

### 6.8.2 Action songs

Action songs and folk dances involve rhythmic movement. After the children have become acquainted with the rhythmic interpretation of music phrases by means of speech and body percussion, the binary (ab) form and the tertiary (aba) form could be presented (Grobler 1990:68). Possible formations (single or double line, circle, square) and a sequence of movement patterns that reflects the structure of the music should be discussed (Bergethon & Boardman 1976:230). To illustrate this procedure, Grobler (1990:68) uses the well-known song "Jingle bells" and suggests that it could be performed in the following way:

- A Dashing through the snow ..... (children run)
- B Jingle bells, jingle bells ..... (knee slapping)

In tertiary form (aba) the first and third movement are the same.

For both younger and older children one of the easiest and most popular ways to make a dance is from a song approach. The quality of the movement and the sequential form of the dance must follow that of the music; and the idea or meaning of the dance must approximate to a certain degree the words of the song (Murray 1953:60). When composing dances to songs, it is unnecessary to attempt a too literal interpretation of the words. As Murray (1953:61) writes: "The 'spirit' rather than the 'letter' of the words should be maintained." When song words describe a long sequence of activities in 2 or 3 lines, it is not essential to produce faithfully each happening noted. "The ones most important to the meaning, the ones which lend themselves to rhythmic movement of some dimension, are the ones to include in the dance sequence" (Murray 1953:61).

How do you choose the "right" song? The songs appropriate for young children are usually quite short and demand little in the way of sequential analysis. Abstract ideas are difficult to express in dance language. When such ideas occur in an usable song, they can be passed over, or locomotor or nonlocomotor movements which have no particular meaning in the total sequence can be used. Songs with nonsense syllables, e.g. "Tra-la-la", "Fol-de-rol", "Hi-ya-he", can be used best for dance, because these parts of the song lend themselves readily to any kind of music (Murray 1953:61). "Appropriate choices should be based on knowledge of the music and of the style of dances typical of specific cultures or periods" (Bergethon & Boardman

1986:230). If the song chosen is not familiar to all the children, it must be taught to them.

## 6.9 CONCLUSION

The ability to move is evident in the first moments of the newborn's life. Every movement of the young child is an assertion of his vital existence and an expression of his selfhood.

Much of the child's movement is rhythmic. In infancy, rhythm is largely unconscious, coming from within. As the child grows, he begins to make rhythmic body movements in response to strongly accented vocal sounds or music. When new ways of moving are explored, such as skipping or hopping, "they may at first be random and arhythmic" (Haines & Gerber 1980:6). As control over the new movement is acquired, inner rhythm takes over and is later complemented by the ability to skip or hop in rhythm with music. This is the beginning of creative movement to music, of later learning of dance steps and patterns, and of the playing of musical instruments in middle and early childhood.

Guidance will help them become aware of how the body moves in space, to differentiate movements in terms of levels (high, medium, low body positions), directions (forward, backward, sideward), dimension (large or small motions), and range (use of large or small floor area) (Bergethon & Boardman 1986:229). Movement plays an important role in the acquisition of musical concepts by the young child. He uses his whole body to express changes in tempo, dynamics, pitch or the line of a phrase. "These kinesthetic actions seem to go directly from the muscles and the senses to the brain to implant lasting learnings which lie beyond verbalization. Such internalized experiences become the unique property of the child and are readily observed in his ensuing responses when he comes into direct contact with appropriate music" (Haines & Gerber 1980:6).

All musical experiences involve listening to music. The young child's feelings and understandings about the music he listens to are shown primarily through physical movement. It is the task of the teacher and parent to give the infant and preschooler many opportunities to make and listen to sounds within the environment and to listen to both live and recorded music. Provide activities to foster each child's ability to

move rhythmically or freely to this music. Pay attention to movement skills and how the child uses his body to express what he hears. According to Gerdener (s.a.:1) the teacher must also learn to exercise patience. In the beginning stages particularly, the children will not be quick to hear. "The temptation to tell them what to do must at all costs be resisted. She must rather exhort them to listen again, and let the music do the telling."

The careful planning and specific teaching procedures as discussed, are important for fostering each child's ability to listen and move to a wide variety of music. "By assisting each child in reaching his potential for listening and responding rhythmically to music, you will be making significant headway in helping the child achieve aesthetic satisfaction and growth in musical experiences" (Greenberg 1979:166).

Chapter 7 is the concluding chapter. The importance of the home in the auditory perceptual development of the child will be investigated. Practical implementations, such as the teaching plan, materials, and the classroom setting will be discussed. Recommendations will also be provided.

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## Practical implementation and recommendations

### 7.1 INTRODUCTION

Listening has been neglected. Irwin, Ball, Kay, Stillman and Rossen (1985:614) confirm this by saying that auditory perception is "... a development that has hitherto been largely neglected". Although special concern for the instruction of speaking and reading is common, the child is typically expected to acquire the ability to listen without special instruction. The fact is that many children do not acquire functional skills in listening by themselves. Lerner (1981:268) reports that according to medical ear specialists, "... over half the cases referred to them for suspected deafness do not have any defect in hearing acuity or any organic pathology causing their seeming deafness." It seems that the child's ability to listen has been taken for granted. Lerner (1981:268) writes that listening is a basic skill that can be improved through teaching and practice. This is where music can play a very important role.

Children of today are so bombarded with constant sound that many have actually learned to "tune out" what they do not wish to hear, and many children have become skilful at not listening. It is primarily the task of the teacher to help those who have learned not to listen to become auditorily perceptive and to "tune in".

Listening is the foundation of all language growth, and the child with a deficit in listening skills has a handicap in all the communication skills. "One of the common symptoms of deficits in auditory perception is misunderstanding; the child misperceives what he hears" (Johnson & Myklebust 1967:38). When grossly debilitated and when comprehension is limited, the child may shut out sound and behave as though it is non-existent. Unless he is given proper training in his pre-school years, such a child may relinquish all auditory awareness, making it necessary to educate him as a

deaf child even though he has normal hearing acuity (Johnson & Myklebust 1967:38).

Music, being an aural art, can only be understood if the ability to listen perceptively has been developed. "The importance of music in developing discriminative listening - which is linked to achievement in language and reading, is therefore obvious" (McDonald in De Kock 1989:68). Greenberg (1979:73) writes that "music is an aural art; i.e. all our feelings, understandings and responses to music are derived from what we perceive through our ears".

This chapter deals with practical hints and methods to develop the child's auditory perception through musical experiences. "The intimate relation between music and the sound and movement experienced by the young child provides a basis for musical understanding and fulfillment of individual potential" (Gerber in Haines & Gerber 1980:17).

"Every time we engage in a musical experience, we listen. Every musical experience, then, is a listening experience" (Greenberg 1979:73). Listening is the basis of all experience in music.

## 7.2 THE PLACE OF MUSIC AT HOME AND IN THE SCHOOL

The education of children takes place both in the home and in the classroom. Swanston (1981:17) feels that "since much significant learning occurs in the first two or three years of life, parents bear unique responsibilities for providing environment and stimulation that will lead to the child's optimum musical growth simultaneously with other kinds of growth". The family will have its greatest influence over the child's music preferences in the earliest years of the child's life. "From the baby's first days home, the family will control the music that the baby hears" (Peery *et al.* 1987:146).

The young child responds to musical sounds at birth and even earlier. He listens to all kinds of sounds in his immediate environment. He gradually differentiates between them. As he matures, he gains more skills in his musical responses as he moves to the music, plays instruments, creates musical patterns and tunes, and identifies different musical qualities and sounds. He listens intently to sounds made by others in his environment and to his own sounds. He hears new intonations and new

patterns of sound. He imitates these, he varies them, and he develops a new repertoire of vocalized sound. He reproduces the intonation and sound patterns of what he hears long before he can formulate sounds to convey meanings through words.

Many children and adults hear music rather than listen to it. Hearing involves receiving the music's sound stimulus through the ear, but not responding aesthetically to the music. "Listening involves hearing the music, paying attention to it, feeling its impact, and thinking about its tonal and rhythmic qualities" (Greenberg 1979:73).

Many children come from homes which do not listen to good music at all. Their background is probably one of continuous vague sounds that nothing stands out clearly for anyone to hear. Dobbs and Firth (1967:2) write: "Since the atmosphere of an unsympathetic home not only fails to develop the musical interests of the child in its preschool days, but also rapidly nullifies much promising work commenced in school, it is essential that every infant teacher should try to understand her children's background and see what can be done to improve it." Nye (1979:200) confirms this by saying that in order to know the children they teach and to teach each child at his experience level, teachers must know the home, and parents must know the school. Because of this variety in home background, the teacher's preliminary work must be of a twofold nature: They must introduce many children to sounds they have never met before, and they must extend and enrich the experience of others who have been more fortunate (Dobbs & Firth 1967:2).

Grobler (1990:3) stresses the important role of the home, "the education of the young child begins in the primary education situation in the home and since the preprimary school constitutes an extension of the activities which already start in the home, it is important that cognizance is taken of the child's experiences in the home when subject-matter aims are established." When music is presented, it is therefore necessary to take note of the music experience to which the young child has been exposed in his home.

If the child has not had the opportunity of spontaneously taking part in music with his parents, the teacher should be aware of the fact that the child might hesitate to take part and that he might even initially refuse to do so. The child who is allowed to sing, listen to music and to identify sounds from an early age, takes part in the music activities in the preprimary school with greater confidence, as he already has a background to the basic subject-matter of music (Greenberg 1979:98). Nye

(1979:17) writes: "If children are sung to, encouraged to sing, and brought to listen to a variety of types of music emanating from recordings, tapes, radio and television, they will be more likely to participate in the music activities of the classroom." Likewise if they have been encouraged at home to listen to and imitate sounds heard in the home and community environment, they will go to school better equipped to react to such stimuli in the classroom. Some children have been deprived of these types of experiences. Nye (1979:17) claims that it is the task of the teacher to influence this type of home to provide an environment more conducive to learning music and listening to music. Nye suggests that one of the most effective ways to initiate this, is to invite mothers and fathers to observe their child in the classroom music and listening activities. "They may observe the teacher accompanying the child's movements, or singing with or for the child the song he has created. Or perhaps they will observe the teacher encouraging the child to try to make his body do what the instrument tells him to do with it. They may further notice that the teacher capitalizes on every feasible opportunity to assist the child to develop his concepts of rhythm, tempo, dynamics, and pitch" (Nye 1979:17). According to Nye (1979:17) and Swanson (1981:18) a home that has many sound-producing objects that children are allowed to experiment with in making sounds and rhythms will contribute substantially to children's development of basic musical concepts, even before they enter kindergarten.

Shelton (in Swanson 1981:17-18) reports that the following factors show a close relationship to musical response of first grade children:

- Frequent opportunities for the child to hear singing in the home;
- frequent opportunities to sing with other members of the family;
- frequent opportunities to hear records played in the home;
- ability of mother and father to sing and to learn new songs.

The nature and frequency of listening and movement experiences that parents provide for the child from infancy through one and a half or two are very important to his musical and language growth (Greenberg 1979:151). Many of these experiences should occur often throughout each day. These experiences should include:

- Listening to and experimenting with many different types of sounds in the environment;
- listening to various human voices as they speak, hum, chant and sing;
- listening to a wide variety of recorded and live music;
- moving to music.

Nye (1979:17) suggests that parent groups should be encouraged to learn how to play simple instruments and to share their musical knowledge with the children and other parents. "Parents can be assisted in constructing or selecting simple instruments for the child's use in the home" (Nye 1979:17). According to Nye among the most important help are: Teaching parents how to relate to their children in positive and stimulating ways; how much guidance to give; how to select and use many available materials and situations in their everyday environment in creative ways; how to learn to appreciate and to understand the music of the child, and how to comprehend the music skills and concepts expected of children of a specific age. "Children who come from communities where music is an integral part of the social environment will tend to acquire and reflect similar musical interests" (Nye 1979:17).

Teachers must satisfy themselves that growth is taking place by guiding the children quietly through experiences which gradually involve greater sensitivity, deeper understanding, longer concentration and greater listening skills. It is the responsibility of the parents and teachers to create "... an atmosphere of beauty in which children can grow up musically; to encourage discrimination between sounds of various kinds, textures, pitches and dynamics; to foster music-making through singing and simple instrumental work; to stimulate and control movement by means of music; and to provide a repertoire of worthy music which can be listened to at leisure ..." (Dobbs & Firth 1969:3).

De Kock (1989:69) feels that it is important that the young child be exposed to a wide variety of music, not only to allow the continuum of music learning to take place, but because the young child is naturally attracted to the rhythm and timbre of music. "Although many children enter the preschool classroom with an interest in colourful sounds, few young children have listened to so many examples of one type of music that they have developed a preference for it" (De Kock 1989:69). Parents and teachers must expose the child to a variety of music, he then will become

aquainted with a large heritage of music appropriate for his level of exposure and suited to his musical capacities. According to Smith (in De Kock 1989:69) young children will then become more sensitive to the expressive qualities in music, they will develop their ability to interpret music through singing, moving and playing; they will improve their ability to hear, analyse and to understand the many elements that are combined in a single composition, thus functioning at the higher level of musical learning.

Hildebrand (1971:254) feels that teachers should keep parents informed about what children are doing in music at school. "Since experiences are planned with children's developmental level in mind, the teacher should be able to provide helpful suggestions for parents" (Hildebrand 1971:254). Teachers may also encourage parents' enjoyment of music with their own children.

### 7.3 THE TEACHING PROCESS

One of the most important skills a young child needs to develop is that of listening. It is absolutely vital if he/she is to benefit from any of the learning situations the teacher and parents provide for him, and the child's musical abilities cannot be developed until he can really listen. "In developing his auditory discrimination we are tackling one of the key factors involved in the basic literacy skills" (Gilbert 1981:9).

Techniques of observing, recording and using the clues found in the child's behaviour are important throughout the early years. The teacher's role in providing activities and materials for musical and auditory learning grows with the child's developing intellect, body skills and enthusiasm for increasingly purposeful activities.

According to Andress (1980:4) an intensive program of seeing, hearing and doing in children's early years will significantly affect their later ability to use abstract symbols. The music program must establish a solid experimental base so that any symbols, like language or music notation, are imposed only after the child has encountered and perceived that which is to be labelled. When learning about music, Andress (1980:4) claims that the child will act in these ways:

- Explore by playing at random with sounds;

- play by manipulating more organized soundmaking and musical materials;
- formulate ideas about sounds (discriminating tasks);
- develop simple concepts about sounds and their relationships;
- define sounds by words and symbols.

"Implementation of this approach places responsibility upon the teacher and parent to create musical learning environments that arouse the child's curiosity" (Andress 1980:4).

The teacher's positive attitude and approach to musical and auditory experiences are crucial factors in the young child's success in music (Haines & Gerber 1980:19). Interest in and enthusiasm about music are the most important teacher attributes. Nye (1979:3) claims that the major task involved in the teaching of music to young children is first to provide sufficient experiences to develop the child's perceptual background "... as a prerequisite to learning musical concepts, giving the children ample time and space to experiment with and explore all types of sounds - to listen to and interpret sounds with their bodies, voices and instruments".

Music activities in nursery school and kindergarten are more closely related and interwoven with every part of the curriculum than they are at any other period of a child's educational experience. "At this age, music greatly stimulates and enhances the intellectual, physical, effective and social growth" (Nye 1979:2).

#### 7.4 CHILD-INITIATED MUSIC

The child has an inborn passion for discovery which creative teachers nourish. They motivate the child to recombine what he learns in ways of his own and motivate him to discover sounds all by himself, but with the necessary teacher guidance. Logan and Logan (1974:141) report that teachers assist the natural thrust of creativity in the children they teach in two important ways:

- By selecting strategies and materials which are relevant and challenging to the child; and

- by arousing enthusiasm for the learning activities for which the child is ready.

Haines and Gerber (1980:19) write: "Child-initiated musical activities occur more frequently among pre-school children than among older ones, partly because of the young child's greater spontaneity and lack of inhibition and communication." Opportunities for children to begin musical activities on their own are enhanced by the informal, physical environment of the pre-school and the attitude of the teacher toward it. If the teacher shows acceptance and appreciation of the young child's spontaneous songs, expressive movements, and purposeful experimentation with the sounds of the environment, these activities will increase. To this end Robinson and Schwartz (1972:2) write: "Individualizing the curriculum includes the need to simplify or to introduce complexity as the situation warrants and to let the child take the lead in demonstrating his preference for materials, activities and play content."

The teacher must provide adequate space for free movement, indoors and out; setting out intriguing sound-making materials, including percussion and melody instruments for experimental use; being willing and unselfconscious enough to enter into singing, dancing and playing when given the opportunity to do so. Listening is basic to all music-making. As children sing and play instruments, they listen. As they interpret music through body-movement, they listen. All these activities help children in the important project of learning to listen. Much music listening can be shared by a group but "... children should also have opportunities - and facilities - to listen and learn about music individually" (Swanson 1981:17).

A degree of spontaneous music making continues to occur in the primary grades. According to Haines and Gerber (1980:20) the teacher's responsibilities are the same, with increasing emphasis on identifying and reinforcing concepts at the conscious level. "This teaching, though incidental, is not unplanned" (Haines & Gerber 1980:21). Logan and Logan (1974:140) confirm this by saying: "Creative learning in no way relieves the teachers of the responsibility for making decisions or guiding the child's learning experiences." According to Swanson (1981:15) adults too often impose their standards on children. "They demand that children develop skills before they have a chance to discover that they can express something from within themselves through their own simple music." Teachers must plan new and challenging activities, correct a child's misconceptions and provide alternative ways of exploring, experimenting and creating.

Logan and Logan (1974:141) claim that the teachers assist the natural thrust of creativity in the children they teach in two important ways:

- By selecting strategies and materials which are relevant and challenging to the child; and
- by arousing enthusiasm for the learning activities for which the child is ready.

According to the authors it is the task of the teacher "... to supplement the child's innate urge to inquire, discover and create whenever this urge temporarily recedes" (Logan & Logan 1974:141).

### 7.5 TEACHER-INITIATED MUSIC

"The presentation of music is one of the so-called organised or adult-guided activities which comprise part of the daily programme" (Grobler 1990:7). The teacher takes the lead, chooses the content and often assumes that music can only be transmitted in an autocratic manner without considering the child's interest and level of ability. Hildebrand (1971:233) stresses that planning requires assessing children's developmental levels (physical, mental, emotional, social and creative), then relating these findings to music. "The teacher must discover what the children know and how they feel about music" (Hildebrand 1971:233). Landis and Carder (1972:9) refer to Dalcroze's questioning of the traditional method of presentation. According to Dalcroze undue emphasis is placed on factual content and skill exercises, whereas perceptual observation and emotional involvement are neglected.

Teachers need clearly articulated musical goals, with consideration for individual differences. Hildebrand (1971:250) writes: "Planning is required if children are to enjoy music, have a medium for expressing their thoughts and feelings, and lead richer lives because of their introduction to music." According to her, achieving goals requires meaningful music experiences that will not result from "... haphazard teaching". In line with these goals, materials and activities are chosen and teaching strategies planned.

The clarity of the teacher's goals gives validity and focus to music and listening activities throughout the child's school program. "This eliminates 'noise making',

that is banging on percussion instruments, indiscriminate use of recordings and 'running around' in the name of movement" (Haines & Gerber 1980:21). The teacher may utilize musical sounds to stimulate interest, curiosity, imagination and to arouse feelings. According to Nye (1979:2) suggestions such as, "Show me how you feel when you listen to this music", are essential in helping children grow through music. "Responding to and producing music are and always have been a vital part of human experience; it is entirely logical, therefore, that music should have an essential place in early childhood education" (Nye 1979:2).

Good music and listening programs for children should include experiences which are carefully integrated with other classroom activities as well as planned listening lessons. Instruments may be used to accompany the children or to work out interesting representations of the sounds heard. Children may be given records of appropriate music for independent listening. "Planning requires sitting down regularly to evaluate what is being done and to decide on new experiences to provide in the future" (Hildebrand 1971:233). Young children enjoy listening to and making music and there is, according to Curtis (1989:111), no doubt that the most influential ingredient in developing musical awareness skills is "... the teacher's own sensitivity to sound as well as to other interesting and beautiful events around her".

Ellison (in Crain 1974:35) provides the important conclusion: "Music is within people, the primary role of the teacher is to release the music within children."

## 7.6 PLANNING THE MUSICAL EXPERIENCE

Raebeck and Wheeler (in Crain 1974:35) believe that planned musical experiences will hasten and encourage a child's expansion of self-knowledge and self-expression and cause him to come to a better acceptance of himself.

In 1970 Smith (in De Kock 1989:70) listed the following reasons for the use of a structured listening programme for young children:

- For the child to be able to sing more or play instruments, he must be able to listen attentively;

- while the young child is to some extent limited musically by his capacities and maturation level, he is not limited or hampered by his level of maturation as he participates in listening activities.

When the teacher plans to initiate a lesson, the first step, according to Haines and Gerber (1980:22) is, to decide on the concept to be taught, experienced or applied. It should be one which is based on the child's previous learning, lies within his competence and challenges his intellect. When this concept is identified, the best teaching vehicle for it must be chosen (i.e. singing, moving, playing) and its introduction and application planned. This requires the choosing of suitable materials, activities, and equipment. The teacher's plan usually begins with familiar music, leads into the new concept or skill, and concludes with reinforcing activities. Nye (1979:2) writes: "Numerous researchers have emphasized the importance of planning experiences to encourage musical growth of young children." According to him, studies have indicated that pre-school children possess the potential to advance in their control of music skills such as matching pitch, keeping time with the beat, imitating rhythmic patterns and singing accurately on pitch songs of limited range. "Writers in the field of music education conclude that early musical experiences must develop musical percepts in order that musical concepts can be acquired" (Nye 1979:2).

To make it possible for children to get the most out of their encounters with music, music education for preschool and primary children must be designed to develop children's ability:

- To perceive (to make conscious contact with the tonal and rhythmic patterns that comprise music); and
- to respond to music (not merely as a physical phenomenon, but as an experience with personal meaning).

To achieve these ends, according to Swanson (1981:12), "... you must help children develop musical skills and build concepts that will let them interact with music at increasingly more mature levels". Robinson and Schwartz (1972:2) remind us that the teacher is expected to be sensitive to individual children's developmental and unique needs, and to be flexible in planning to meet these needs.

The auditory perceptual activities discussed in chapters 4 and 5 can be used to construct a lesson around selected activities (i.e. the music story), or they can be applied as parts of other lessons. Many of the materials and procedures suggested in chapters 4 and 5 can be adapted for home use if teachers will share the information with parents and encourage them to create a home environment that fosters musical and auditory perceptual development.

## 7.7 THE SETTING FOR MUSICAL ACTIVITIES

The physical setting in which musical learning and perceptual development take place, is important, as is the quality of equipment and materials.

Because preschool children need ample room for large muscle movement, access to a large area of clear space is important. In a small room, Haines and Gerber (1980:25) suggest that furniture may be moved back or the children may be taken outside or to a large hall. If the facility is oversized, it may be necessary to define the space with furniture or even chalk marks on the floor. In a basic classroom Haines and Gerber (1980:25) recommend "... that the basic floor plan include a permanent meeting and moving space". According to Dobbs and Firth (1969:79) many schools possess a very limited amount of space in which the children may move freely. Too often, indeed, the movement lesson has to take place in a crowded classroom with desks piled on top of one another. Given the opportunity to move about freely in a large hall, small children then hesitate to do so and "... tend to 'bunch together' in the middle or at one end of the hall" (Dobbs & Firth 1969:79). The small children appear to be intimidated by so much space and need constant encouragement before they will make use of it freely.

The same large space is needed in the primary grades. "Any supposed decrease in space needed because of the increased large muscle and fine motor control in the children is offset by their increase in size" (Haines & Gerber 1980:25). The use of outdoor space, a hall, a gymnasium or other available area can help, but the teacher is urged to have the arrangement of classroom furniture as flexible as possible. Nye (1979:18) confirms this by saying that what "... children need for a musical environment results from arranging the facilities of the classroom to include concrete and manipulative objects, props and space". By means of these children can show their experiences through creative play, rhythm, song and story.

The classroom must be made attractive and must contain materials, space and media for developing the child's sensory and perceptual acuity and for the enhancement of his self-image. This planned environment includes various materials which are easily accessible to children (Nye 1979:18).

Every classroom should have a music corner or music learning station. The music corner is one effective way to individualize the learning of aspects of music "... in both the creative-exploratory and skills areas, making provision for differences in interest, abilities, speed of learning, and a child's way of learning" (Nye 1979:24). Music corners that are designed for creative-exploratory learning are more open-ended or less structured. The child is free to pursue his own interests and concerns in unique ways. "Here the interested child can experiment with the sounds made by the instruments, or look at the pictures in the books kept there" (Dobbs & Firth 1969:3). Music corners are fully discussed in chapter 5 (*cf.* 5.2.5).

## 7.8 MUSIC MATERIALS

Musical equipment includes percussion instruments and tuned instruments, records and record player, tape recorder, head sets and piano. These should all be of the best quality possible, so that the child hears good musical sound, "... allowing her ear and listening skills to become more sensitive and discriminating" (Haines & Gerber 1980:25). Tuned instruments and pianos should be kept in good tune and repair; record players should have good needles and be regularly serviced. This maintenance should be regarded as part of the teacher's ongoing responsibility for high quality musical experiences (Haines & Gerber 1980:25).

In the music corner as many and as varied a selection of instruments possible will be displayed: A set of chime bars, a xylophone, tubular bells, percussion instruments and sound makers. There can be unconventional sound producers such as aluminium pan lids, bottles filled with sand or beans, stainless steel mixing bowls, and other kitchen implements that produce tones of good quality; a music box; a one-stringed monochord with a movable bridge by which the experimenting child can change the pitch; sand blocks of varying textures; various sound starters such as a mallet, a drumstick, a metal striker for the triangle, drum brushes; and small percussion instruments such as triangles, cymbals and maracas (Dobbs & Firth 1969:3; Haines & Gerber 1980:25; Nye 1979:25). Conventional instruments like pianos,

drums, triangles, tambourines, cymbals and xylophones have an unimportant part to play in developing musical awareness, but "actual home-made sound instruments like jars containing different amounts of water and drums made of different depth and diameter may be more useful in helping children to understand the effects of tone and pitch (Curtis 1989:110).

If possible the music corner may even provide a tape recorder or record player together with pictures of the instruments which can be heard on the tapes or records. Curtis (1989:110) confirms that awareness can be created by providing opportunities during the course of the day for children to listen to music whenever they wish. "A growing awareness of various types of music, of likes and dislikes will not be fostered in an environment in which music is only provided at specific times by the teacher" (Curtis 1989:110). She suggests that all nurseries should be provided with earphones and tape-recorders so that children can sit quietly and listen to music selected according to their mood.

In the line of music materials anything will be welcome which will stimulate the child's curiosity about sound and lead him on to discover more about its wonders himself.

## 7.9 SUGGESTED TECHNIQUES IN DIAGNOSTIC TEACHING

It is important that all teachers should know where to start implementing the listening activities. Valuable information to the teacher before she can start using listening activities as a remedial help, is:

- What can/can't the child hear?
- Where are the child's problem areas in listening? When she has her answers she can start the remedial process to develop or improve the child's auditory perception. In 1968 Carrow (in Myers & Hammill 1976:72-75) has developed a sequence of procedures which directs the teacher's attention to the assessment of the child's responses in the auditory areas.

### 7.9.1 Awareness

Is the child aware of sound; does he respond to sound? He may turn when he hears a sound in an attempt to localize the sound; he may change his facial expression; or he may attempt to imitate the sound. All responses would indicate that he has heard and is aware of the sound being produced.

### 7.9.2 Recognition

The teacher must determine whether the child can recognize a specific sound; evaluation may consist of presenting a sound stimulus and having the child match or select from a series of sounds the one he has heard. The question of stimulus closure must be investigated: Can the child recognize a sound when it is not completely represented or when it is distorted?

### 7.9.3 Identification

Can the child select the source of a sound that has been presented? In order to select a sound source, the child must have adequate figure-ground discrimination, and therefore the teacher must determine whether he can identify the sound when it is surrounded by background noise?

### 7.9.4 Discrimination

Is the child able to discriminate between sounds of varying pitch, loudness, direction, or distance? Can he discriminate speech sounds as opposed to environmental sounds or can he differentiate between different speech sounds, e.g. "b" and "p"? Can he make these kinds of distinctions in the presence of competing background noise?

### 7.9.5 Recall

Can the child recognize the sequence as given in a stimulus? Can he recall a sequence of gross sounds or patterns of loudness or rhythm? Can he recall a sequence of speech sounds or a sequence of words?

### 7.9.6 Generalization

Can the child generalize sounds? Can he perceive categories into which sounds should be classified? Can he recognize that a series of bell sounds can be grouped together and a series of horn sounds can form another group? Can he select the best classification for a particular sound?

### 7.9.7 Imitation

Can the child imitate the sound produced by the teacher? Such imitation may involve simultaneous production, i.e. having the child begin clapping his hands at the same time the teacher begins.

### 7.9.8 Recall and reproduction

Can the child repeat an auditory pattern after it has been presented? How adequate is his short term memory for auditory sequences? Can he repeat a clapping pattern, a drumbeat pattern, or a series of object names? One would wish to know if the child can repeat the content of a story in sequence. Investigation should also include changes in response behaviour when there is a delay between the stimulus presentation and the child's response, and how accurately the child can respond with increasing delay.

Other procedures that are named, are: Comprehension, formulation and feedback. These procedures use language as starting point, and are therefore not discussed in detail. The teacher will need to decide at what point to investigate the child's performance. He will investigate when "... the child is having particular difficulty with some task" (Myers & Hammill 1976:75), e.g. if the child does not seem to be able to follow directions in the form of commands, the teacher will attempt to de-

termine at what level the child is unable to perform - does he comprehend, can he remember one command but not two, etc.

Listening activities discussed in chapters 4 and 5 can be applied to develop auditory skills in the areas needed. Teachers should know the abilities and disabilities of the children in their classes. They should also know what could be expected of children of a certain age group, before they put the activities into practice. Crain (1974:36) writes: "The ability to listen develops as a child participates in musical activities. By participating in rhythmic and graphic interpretation, listening can be an exciting experience. Different musical sounds are useful for developing auditory discrimination."

## 7.10 CONCLUSION AND RECOMMENDATIONS

Listening isn't always easy. Our lives are permeated with artificial sounds from traffic, household appliances, radio and television sets, telephones, factories, trains and aircraft. For self-protection, children and many adults, learn to turn off much of what they hear. This "turning off" may cause perceptual difficulty in differentiating between primary and background sounds.

The importance of auditory perceptual development has been discussed throughout the study. The child's ability to listen, influences his total existence and development. "For a child to be able to communicate effectively she must be able to listen attentively so that she can hear differences in sounds and words" (Curtis 1989:66). Without the ability to really listen accurately, the child will have difficulty in developing language, thus influencing his communication with other people. The connection between music and listening has also been motivated. It is clear that music can be applied as a medium to enhance children's listening abilities.

The activities provided needn't be used just by the music teacher. The classroom teacher can also make use of these activities. Even parents can apply these music experiences to make the children aware of sounds in their environment starting from an early age. "When the ear is thus trained to observe and to apprehend at an early age, the possibilities of development along these lines are almost endless - that is, in the case of children of average intelligence, possessing no obvious physical disability

with regard to their hearing sense" (MacPherson s.a.:28). Through the regular use of listening activities, auditory perception can be developed or improved.

It has also been explained that listening differs from hearing, which is a physiological process that does not involve interpretation. "One can hear a foreign language with good auditory acuity but be unable to listen to what is being said" (Lerner 1981:268). Children must be made aware of sounds and the meaning of them. They must be able to listen and to interpret what is being said. This can only happen when the child's auditory perception has been developed. "Verbal communication requires both the ability to speak and the ability to listen" (Lindberg & Swedlow 1985:146).

The teacher and parents must develop an ear that really hears. They must cultivate an ear which becomes greedy for more and more music and develops with increased listening an increased sensitivity to all the sounds which it receives. "A child can be forced to sit still, but he cannot be forced to listen; listening requires internal motivation" (Lindberg & Swedlow 1985:148). In reference to the research hypothesis (*cf.* chapter 1, 1.5) it is therefore clear that music can indeed play an important role in the auditory perceptual development of children from birth to ten years of age.

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## Opsomming

Gedurende hierdie studie is daar gekonsentreer op 'n belangrike deel van ontwikkeling, naamlik ouditiewe persepsie. Deur persoonlike ondervinding het dit vir die navorser duidelik geword dat kinders probleme ondervind om inligting wat gehoor is, te verstaan of korrek te interpreteer. Nie alle leerlinge het probleme met beskadigde gehoor nie, maar omdat kinders nie effektief luister nie, ondervind hulle kommunikasieprobleme. Op een of ander wyse het kinders self geleer om "af te skakel" van omgewingsgeluide. Die probleem ontstaan nou dat leerlinge probleme ondervind om klanke en taal te verstaan, want daar is nie aandag bestee aan hul vermoë om effektief te luister nie. Gevolglik word die belangrikheid van ouditiewe persepsie en effektiewe luistervaardighede in hierdie verhandeling ondersoek.

Die belangrikste doelstellings is:

- Om die belangrikheid van ouditiewe persepsie en die rol van musiek in die ouditiewe perseptuele ontwikkelingsproses vas te stel;
- om aktiwiteite te verskaf vir die ontwikkeling of verbetering van ouditiewe persepsie.

Daar is 'n definitiewe verband tussen ouditiewe persepsie en musiek. Die navorser beklemtoon deurgaans die belangrike rol van musiek in die ouditiewe perseptuele proses. Gevolglik is musiek gebruik as 'n medium waardeur ouditiewe persepsie ontwikkel of verbeter kan word.

In hoofstuk 2 beskryf die navorser die gehoorproses, omdat dit die oorsprong van die hoor van klank is. Die binne-, middel- en buite-oor (as die struktuur van die menslike oor), sowel as die begrip "klank" word bespreek.

In hoofstuk 3 word terminologie soos ouditiewe skerpheid, ouditiewe persepsie en ouditiewe verwerking gehanteer. Ouditiewe probleme word bespreek, sowel as die invloed van ouditiewe perseptuele probleme op musikale ervarings.

Om in staat te wees om die kind te help, moet onderwysers bewus wees van die algemene ontwikkeling en vermoëns van 'n kind op 'n sekere ouderdom. In hoofstuk 4 bespreek die navorser die luistervermoë, musikale ervaring en motoriese ontwikkeling van kinders vanaf voorgeboorte tot tienjarige ouderdom.

Luisteraktiwiteite moet op gereelde basis gebruik word om die kind se ouditiewe persepsie te ontwikkel of te verbeter. Met behulp van hierdie aktiwiteite word die kind bewus van klank en leer hy om te diskrimineer tussen verskillende klanke. Die kind se luistervaardigheid kan verbeter word deur die gebruik van musiekaktiwiteite en speletjies. Hierdie aktiwiteite word in hoofstuk 5 beskryf.

Luister, musiek en beweging kan nie geskei word nie. Dit is natuurlik vir 'n kind om ritmies op die maat van musiek te beweeg, of om liggaamlik te reageer wanneer musiek gehoor word. Om in staat te wees om op die musiek te reageer, word die kind gedwing om effektief daarna te luister. In hoofstuk 6 word liggaamlike beweging as reaksie op luister gebruik as uitgangspunt.

In die slothoofstuk word die belangrike rol van die ouerhuis in die kind se ouditiewe perseptuele ontwikkeling bespreek. Praktiese toepassings word gegee en aanbevelings word gemaak.

Die gevolgtrekking wat na afloop van die studie gemaak word, is dat musiek 'n baie belangrike rol speel in ouditiewe perseptuele ontwikkeling. Die belangrikheid van effektiewe luister word vasgestel en die uiters belangrike rol van die ouers word bewys.

Aanbevelings gemaak deur die navorser, onderwysers en ouers, behoort kinders vanaf 'n vroeë ouderdom bewus te maak van klank. Hoe vroeër hulle begin, hoe makliker sal die taak wees om kinders effektiewe luistergewoontes aan te leer. Ouditiewe perseptuele oefeninge behoort op 'n gereelde basis en onder gunstige omstandighede gedoen te word.

## Summary

This study concentrated on an important developmental fact, namely auditory perception. Through personal experience it became clear to the researcher that children have a problem understanding or interpreting information that has been heard. Not all children have hearing impairment problems, but because children don't listen accurately, they experience difficulty in communicating. Somehow children teach themselves "to switch off" against environmental sounds. The problem is that children now have difficulty in understanding sounds and language, because they have never been taught to listen accurately. Therefore the importance of auditory perception and the listening skill is investigated in this study.

The main goals of this study were:

- to determine the importance of auditory perception and the role of music in the auditory developmental process; and
- to provide activities through which auditory perception can be developed or improved.

There is a definite link between auditory perception and music. The researcher stresses the important role that music plays in the auditory perception process. Therefore music is used as a medium through which auditory perception can be improved and developed.

In chapter 2 the researcher describes the hearing process, because that is the origin of hearing a sound. The inner, middle and outer ear (as the structure of the human ear), as well as "sound" are discussed.

Chapter 3 deals with terminology, such as auditory acuity, auditory perception and auditory processing. Auditory perceptual problems are discussed, as well as the impact that auditory perceptual problems have on music experiences.

To be able to help the child, teachers must be aware of the general development and abilities of a child of a certain age. In chapter 4 the researcher discusses the listening abilities, musical experiences and motor development of children from the prenatal stage to children, 10 years of age.

In order to help the child develop or improve his/her auditory perception, listening activities must be used on a regular basis. Through these activities the child becomes aware of sound and learns to discriminate between various sounds. The child's listening skill can be improved by using music activities and games. These listening activities are described in chapter 5.

Listening, music and movement cannot be separated. When a child listens to music, it is natural for him/her to move rhythmically to the beat of the music, or to respond through bodily movement. In order to respond to the music, the child is forced to listen accurately. In chapter 6 movement as a bodily response to listening is the basic approach. Activities that involve music, listening and movement are discussed.

In the concluding chapter the important role of the home in the auditory perceptual development process is discussed. Practical implementations are given and recommendations are made.

The conclusion arrived at in this study is that music can play a very important role in the development of auditory perception. The importance of accurate listening is stipulated, and the crucial part played by the parents in the auditory process are proved.

Recommendations made by the researcher, teachers and parents ought to encourage them to start make children conscious of sounds at a very early age. The sooner they start, the easier the task will be - to teach children to listen accurately. Auditory perceptual exercises should be done on a regular basis in the right conditions.