THE INFLUENCE OF MUSIC IN THE DEVELOPMENT OF READING IN FOUNDATION PHASE LEARNERS: A SOCIO-CULTURAL CASE STUDY OF A SOUTH AFRICAN PRIMARY SCHOOL

Samantha Kriger
WLTSAM002

A minor dissertation in partial fulfilment of the requirements for the Master of Education degree at the University of Cape Town

Faculty of Humanities
University of Cape Town

COMPULSORY DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been acknowledged, and has been cited and referenced.

Signature:_____ Date:_____

Acknowledgements

This journey has been incredible – thank you, Lord.

To my husband, Angelo Kriger, words cannot sum up how supportive you have been. I am blessed to have you and our sons in my life. Thank you.

To my two sons, Seth and Noah, thank you for the music in our home and for understanding that mom couldn't come to ALL your sport matches.

To my Sister Cyrill, thank you for ALL those articles, advice, love, encouragement and support.

To my running friends, you know who you are. Thank you for joining me on the journey and for being my therapy during those long runs.

Finally, a large debt is owed to my parents, who instilled the love of music, and provided encouragement and support throughout my life.

Abstract

As a music educator actively involved in teaching learners from ages five to seventeen years over the past nineteen years, the researcher has noted the reading abilities of the learners drop over the years. This could be due to various factors such as large class sizes, changes in curriculum, teacher inadequacy and parents' lack of involvement due to work commitments. It is for this reason that it is important for the educator to be able to use various methods to help with reading development, especially in the young learner.

Growing research has indicated that music activities may be beneficial for other academic studies and in this study the focus will be on the reading development of the Foundation Phase learner. There is a relationship between music skills and reading, and studies have proved that increased learning in one area may increase outcomes in another.

This study will evaluate whether the learner involved in various music activities has shown an improvement in reading scores from Grade One through to Grade Three.

Abbreviations

WCED	Western Cape Education Department
RNCS	Revised National Curriculum Statement
CAPS	Curriculum and Assessment Policy Statements
ZPD	Zone of Proximal Development
CHAT	Cultural-Historical Activity Theory
ELL	English Language Learning
FP	Foundation Phase
TA	Teacher Aid
NAEYC	National Association for the Education of Young Children

List of tables

List of figures

Table of contents

CHAPTER ONE: OUTLINE OF THE RESEARCH TOPIC

1.1 INTRODUCTION

This study investigates the influence that music has on the development of reading in Foundation Phase learners. The study uses Vygotsky's Socio-Cultural or Cultural-Historical Activity Theory (CHAT) to understand how music learning could possibly impact on the acquisition of reading competency. Vygotsky's theory could enable us to understand how learning in one discipline could influence learning in another. The theory explored what is common about learning in school (Ivic, 1994). Muthivhi (2008) states that thinking, or cognitive activity, is conceived as being inextricably interwoven with the context of its manifestation. That is, an understanding of the circumstances and/or context of the activity is essential for the purpose of developing an adequate theory of cognitive development and functioning. With this view in mind, Muthivhi (2008) states that the context could be viewed as comprising both the physical and the conceptual structure of the problem. To explain psychological processes in a learner, one's analytical focus must begin with the analysis of the social and cultural setting within which individual psychological development and functioning occurs. For example, to comprehend the ways in which learners make sense of and use concepts that they learn in school, we need to analyse the teaching and learning activity of schooling. In this sense, the use of music in the development of reading needs to be integrated into the social context of the school and home environment.

Hargreaves, Marshal and North (2003) state that most musical activity is carried out with and for other people – it is fundamentally social – and so it can play an important part in promoting interpersonal skills, teamwork and co-operation. Vygotsky's theory (Alpay, 2003; Burch, 2007) shows us how, within a particular setting, individuals serve as each other's monitors, supporters and guides.

Various studies (Harrison, Asmus & Serpe, 1994; Hallam, 2010; Kouri & Telander, 2008) have examined the effects of music tuition on children's abilities in various disciplines. Many studies (Wallace, 1994) have explored the effects of *listening* to music on *adults'* spatial abilities.

1.2 AIM OF THE STUDY

The aim of the study is to examine the relationship between learning music and the development of reading abilities in the Foundation Phase learner. Music education in this context refers to learners who receive instruction, play musical instruments, sing in the choir or engage in class music at school. The research therefore explores the possible influence of instruction in music on learners' reading development. The study aims to investigate the effects of an integrated reading and music instructional

approach on Foundation Phase learners' reading achievement, to establish whether the integrated approach to music instruction increased reading achievement in learners. The purpose of this research study is to explore music instruction's effects on children's reading abilities. This study will therefore examine whether increased time spent on music activities for the Foundation Phase learner improved reading and overall language outcomes.

1.3 RATIONALE

In today's society, one would have a difficult time functioning without developed literacy skills and it is for this reason that emphasis is placed on literacy in the classroom. The Curriculum and Assessment Policy Statement (CAPS) document of the South African Department of Basic Education (WCED 2011:8) states that the Languages programme in schools should be integrated into all other subject areas. Language is used across the curriculum in all oral work, reading and writing in the Foundation Phase. Many of the Listening and Speaking Language skills will be developed within Mathematics and Life Skills, the latter being made up of many subjects such as Creative Arts and Beginning Knowledge and includes Personal and Social Well-being; Natural Sciences and Technology; and the Social Sciences. Themes. Topics can be selected from these subject areas to provide contexts for the teaching of language skills.

Music, on the other hand, is seen as an extracurricular activity or a place where learners can go to have fun or possibly give their regular teachers a break for a while. However, music has much value and can teach learners a range of skills that could be beneficial for well-rounded development. Value can be found in music for music's sake, but it can also enhance other learning areas. Teachers can use music to deepen the learning environment in a literacy classroom. Many commonalities exist between music and literacy, especially in the Foundation Phase of learning, therefore music education can be viewed as a vital element in children's literary development.

With music playing such a key role in the learning process -- and especially in the wake of the Western Cape Education Department's (WCED) recommendation in 2011 that education should be grounded in an integrated, collaborative, inquiry-based activity -- it is logical to turn to using music as a facilitating means whereby the learner is able to learn to read in the classroom.

In the researcher's role as a music educator, there appears to be an increase in the number of learners having difficulty with reading; this motivates her to want to do research on the relationship between music teaching and learning and children's learning of reading skills in early learning in the primary school. While children come into the school environment ready to decode sounds and words, music

education could help enhance these natural abilities which would help the reading process in the Foundation Phase learner. Findings from this research will aid the class teacher to facilitate an active response from the learner to reading development. It will create an environment of 'fun' while learning to read.

Many of the skills involved in literacy can also be found in music and, in turn, music education is able to help students' literacy development. Literacy is much larger than just reading and writing; it also includes listening, speaking and social skills that are relevant to communication.

Within the classroom environment, teachers should seek to heighten students' auditory and visual decoding processes. These literacy elements are also found in music and can be reinforced through music education. Other elements of rhyme and vocabulary development also exist both in literacy and music, and students can have enriching experiences in these areas within the classroom. Because literacy is a social skill, this aspect of music is also key to a student's literacy learning. Musical-literary experiences can occur within and outside a music classroom, and teachers can find many ways to incorporate music into their regular schedules. Music has a value in its own right and is not just a tool for literacy education; it can be used to greatly enrich literacy learning experiences for all students.

1.4 RESEARCH QUESTION

The question is asked whether boys who play a musical instrument and/or are involved in music-based activities show an improvement in their reading abilities.

This research question is: How does music instruction, within an integrated instructional approach, influence learners' acquisition of reading ability?

1.5 CONCLUSION

Although there have been studies that have attempted to show the relationship between music and intelligence (Kemmerer, 2003), this study aims to look at Foundation Phase learners and whether being involved in music activities has increased their reading ability from Grade One through to Grade Three, which is the last year of the Foundation Phase.

The following chapter will focus on the literature available which contributes to the fact that the active use of music in the classroom can influence the reading ability of the learners. It can, in fact, also improve the level of reading ability and allow for a quicker acquisition of reading and phonemic awareness.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

In the previous chapter it was noted that the skills involved in literacy development can also be found in music. The suggestion is therefore made that the possibility that music involvement can facilitate learning to read in the Foundation Phase learner is very possible.

In this chapter the researcher will look at the literature which addresses the relationship between music instruction and reading performance. One obvious feature of music education is that it has become increasingly interdisciplinary, drawing on theory and methods from various other specialists' areas. While our focus will be on the relationship between music instruction and reading development, Hallam (2010) and Overy (2000, 2003) have highlighted the influence of music on various other disciplines. Hallam (2010) focuses on the influence of music on numeracy, creativity, social and personal development, and intellectual development. Overy (2000, 2003) focusses on the influence and role that music plays as an early learning aid for dyslexic children. Hansen and Berstoff (2002:18) state that learning in music and the arts opens doors to a vast array of enlightening influences and life-changing experiences that can contribute to reading skills. Bolduc and Fleuret (2009) support this when they confirm that research shows that learning programmes that combine music and literacy have a positive effect.

2.2 MUSIC AND READING

Numerous studies have reported on the use of music as a means of improving reading ability and comprehension by having learners read while singing (Overy, 2000; 2003; Anvari et al., 2002; Butzlaff, 2000; Gromko, 2005; Hallam, 2010; Wallace, 1994; Patel & Laud, 2007). Meanwhile, research suggests that phonemic awareness, that is, the ability to identify that a spoken word consists of separate sounds or phonemes, may be the mechanism that explains the relationship between music instruction and reading ability (Hansen & Bernstorf, 2002:18). The ability for phonemic awareness does require access to the phonological structure of words as well as an understanding that the written word is basically a way of classifying the sound properties of the vocalised word. Anvari et al. (2002) has proposed that some auditory analysis skills used in the processing of language, such as blending and segmenting sounds, are similar to the skills necessary for music perception, such as rhythmic, melodic and harmonic discrimination (Lamb & Gregory, 1993). Gromko (2005) proposes that the

relationship between phonological awareness and music perception suggests that they may share some of the same auditory mechanisms.

Phonological awareness in reading requires that the listener is able to divide speech into its component sounds (Hansen & Bernstorf, 2002). The perception of music also requires the listener to be able to segment the stream of tones into relevant units (Kolb, 1996). It should therefore be the case that when learners are able to separate differences between tonal and rhythmic patterns and to associate their perceptions with visual symbols, they will benefit in skills related to the processing of sound which is shown to be essential for reading.

Whereas most references to literacy refer to children's reading of print and writing of letters, words and sentences, it has been discovered that very young children represent what they know with gesture, shapes, colours, whole body movements and facial expressions long before they are reading in the generally understood sense of the concept (Gromko & Smith, 1998). Since studies have indicated that the development of phonemic awareness could be improved by fluency across symbol systems, it can be anticipated that music education that enables learners to examine a simple tune and be able to put it into patterns would improve the child's ability to divide words into phonemes.

Kindermusik is a music activity programme for the classroom, which helps teachers engage young children in language- and literacy-rich musical activities that include playful instruction in foundational music skills and instrument exploration. A research study in support of Kindermusik, which provides a strong support for including music and musical instruction in the early childhood classroom, has found that children who participate in music instruction tend to score higher on tests of reading comprehension than children who do not participate in musical instruction. Research suggests that engaging young children in these types of musical activities is correlated with later success in reading comprehension (Lamb & Gregory, 1993).

Several studies have examined the effects of music instruction on learner’s abilities in other disciplines (Hargreaves et al., 2003; Hallam, 2010). These studies have often been cited by music educators to support the importance of music education in the school curriculum. Findings from the few studies on the effects of music instruction on reading skills are highly variable.

Not surprisingly, Lamb and Gregory (1993) found that children's scores on a test of auditory discrimination of pitch were related to their scores on a test of phonemic awareness (Gromko: 2005).

Phonemic awareness allows for an understanding and identification of the smallest units of sound (letters and notes) (Hansen & Bernstorf, 2009).

Bolduc and Fleuret (2009) state that research confirms the experience of many educators: they say that when we integrate music into classroom practice, we help young learners improve their auditory perception and phonological memory, as well as develop their metacognitive and metalinguistic skills. This is of particular importance as we need to ensure that young children have a strong foundation for reading development. Research shows that learning programmes that combine music and literacy have a positive effect on learners. Standley and Hughes (1997) delivered a fifteen week music programme with a small group of four- and five-year-olds, which involved activities that included word recognition, children's literature and spontaneous writing. They noted that their programme promoted the development of reading and writing skills. There was, however, no significant gain recorded in their control group (with no music) taking part in the school's regular activities, This study was then replicated with a larger group where the difference was that the control group took part in a music therapy programme. It is interesting as the findings of this study reveal that both musical programmes improved the reading and writing skills of the children in both groups. However, the music programme developed by Standley and Hughes (1997) does appear to be more effective in relation to greater phonological awareness.

Bolduc and Fleuret (2009), in a larger experimental study, also surveyed the impact of a music programme on the development of reading and writing skills of young kindergarten children. Bolduc had six classes participating in the research, three in the experimental group and three in the control group. For fifteen weeks, the classes in the experimental group took part in a French adaptation of the programme (which was with music) developed by Standley and Hughes (1997), while the classes in the control group took part in a music education programme run by the Quebec Ministry of Education. Analysis of the data revealed that both programmes developed music skills in the students. However, the experimental music programme was more effective in developing writing skills, facilitating the students' use of syllables and phonemes, word recognition and spelling. These studies therefore indicate an impact, not only from the standpoint of phonological awareness, but also from the standpoint of word recognition, word decoding and writing strategies.

Gromko and Poorman (1998) found that a sound-to-symbol approach to music instruction caused significant improvements in pre-schoolers' performance on spatial-temporal reasoning tasks. The theoretical basis for their study was near-transfer theory which allowed them to theorise that children's

experiences of forming musical sound spatially and temporally developed many of the same cognitive processes that were needed to perform the spatial-temporal reasoning tasks.

Eaton (2006) states that Harp (1988) and Kolb (1996) maintain that the interest that learners show toward rhythm and melody makes music a great tool through which literacy skills may be taught. Therefore, using songs to teach reading is consistent with the nature and purpose of language, puts readers in touch with satisfying meanings and provides a source for interacting with others.

It is believed that music greatly affects and improves learning. Several reports attest to the link between music and academic achievement. Music can be used to facilitate recall and create more focused learning which aids in absorbing reading material and facilitating writing (Brewer, 1995). Music can be seen as an excellent way for early readers to learn the concept of sequence contained in narrative texts. Several songs may specifically reinforce sequence and new vocabulary (O'Bruba, 1987). Basic spelling patterns may also be taught through the use of word-sort activities using familiar songs (Fisher, McDonald & Strickland, 2001).

Music activities that support literacy development and learning to read often support several instructional goals as well. Eaton (2006:15) makes these goals clear and states that these goals may include:

(a) Learning concepts of print
(b) Story and sequence
(c) Phonemic awareness and phonics
(d) Background knowledge and vocabulary
(e) Spelling patterns
(f) Writing activities.

Eaton makes the correlation that these above-mentioned concepts provide the foundation for literacy development, similar to melody, harmony, rhythm, meter, form and dynamics, which are considered the essential concepts or building blocks of music (Eaton 2006:15).

Eaton (2006) stresses that music can be a source of support in reading development in the young learner, where basic decoding skills such as phonological awareness, sight identification, orthographic awareness, cueing systems and fluency find parallel activities in music reading. He suggests that since phonological awareness relates to the ability to discriminate between sounds, learners may echo-clap rhythmic patterns or identify pairs of rhyming words. Phonemes may be illustrated by singing pitches

of a song using rhythm syllables, while sight identification may be demonstrated by connecting sounds with musical notation (Eaton 2006:16).

Towell (1999) recommends using various rhythmic instruments with raps and singing along with picture books made from songs. Music and verse motivate and encourage struggling readers. This can also benefit students who have difficulty learning through traditional methods in the classroom. Combining rhyme, rhythm, rap and repetition exposes children to music and literature and can be the essential tool to aid in reading development (Eaton, 2006:17).

Besides providing enjoyment, it has been universally accepted that music can play an important role in language and literacy development. Strong social bonds are encouraged through music and songs, beginning in the pre-school years of children. Young children can be encouraged to experiment with grammatical rules and various rhyming patterns in songs and other written text. This could be seen as a possible link between music and reading. To understand how music education might benefit reading, we need a brief review of how children usually learn to read after they can understand a language (Hallam, 2010; Gromko, 2005).

Lamb and Gregory (1993:19) describe reading as a very complex process. It is a process where two different mental procedures which allow the child to read a word successfully are present. The first is *word* recognition which involves a direct correspondence between the complete series of letters in a word and its spoken form. The second procedure is *phoneme* recognition which uses the immediate step of learning the groups of letters corresponding to phonemes and constructing words from these. Gromko (2005) states that the Foundation Phase classroom traditionally emphasises grapheme recognition, an understanding of the English language alphabet and the alphabetic principle. He also states that the ability to read and write with understanding enhances children's interpersonal communication to expand their worlds, and leads to independence in learning.

According to Frith (1985) there are three stages in which children develop their reading skills, the first stage being the visual recognition of words. The second stage consists of learning the correspondence between visual parts of words ('graphemes') and their spoken sounds ('phonemes'). Researchers (Hallam, 2010; Gromko, 2005; Hansen & Bernstorf, 2002; Lamb & Gregory, 1993) had determined that phonemic awareness (i.e. the ability to recognise that a spoken word consists of individual sounds or phonemes) is one of the best predictors of how well children will learn to read. Gromko (2005), in a review of the literature on the role of phonemic awareness in beginning reading, suggested a progressive sequence for phonemic awareness that begins with an awareness of the word as the unit of

analysis and ends with awareness of the single phonemes that make up a word. Phonemic awareness is about the structure of words, and not about their meaning. Gromko (2005) states that this level of analysis is required for awareness at the phoneme level, originating with auditory discrimination of similarities and differences in sounds. Finally, the third stage involves achieving visual recognition of words without going through the earlier stages. It is the critical second or 'phonemic' stage that is of interest here. We are all familiar with children 'sounding-out' syllables and words while they are learning to read (stage two), which they discard when they reach stage three. It seems that music facilitates reading by improving the second phonemic stage.

Tucker (1981) compiled several reports concerning music and the teaching of reading. He stated that using music as an aid to teach reading may enhance the enthusiasm and skills of learners, whether or not they are musically gifted or intellectually above average. This back-to-basics approach to education is an important reason why music should be combined with reading in order to boost the efficiency of reading instruction in our schools.

It has often been noted that there are many similarities that exist between music and reading. Both music and reading use a symbol structure that can be decoded into sounds that have meaning. Visual and auditory discrimination are required in both music and reading and both are oriented in a left-to-right framework (Huber, 2009; Kemmerer, 2003).

It is evident that reading skills can be successfully taught to learners by using popular song lyrics. Various recommended activities include working with word cards containing favourite words of any favourite songs and forming new sentences from words in these songs. One can also include guessing the first lines of songs for which the teacher has supplied word configuration clues, and creating crossword puzzles in which the entries are words in song titles.

To integrate music and reading in the classroom, students read to a beat together; this allows them to begin to feel the beat of the words and syllables. The normal rhythmic sounds of words and syllables have long and short beats and a combination of long/short beats. During the improvisational reading process, one has the freedom to alter natural beats and create syncopated beats to lyrics. Syncopation is an interesting way of shifting accents of words and syllables from strong to weak beats. Shifting beats should enhance the feel of words and syllables.

According to Hargreaves et al. (2003), music is a powerful, unique form of communication that can change the way learners feel, think and act. It brings together intellect and feeling and enables personal

expression, reflection and emotional growth. As a fundamental part of culture, past and present, it helps learners to understand themselves and relate to others, forging important links between the home, school and the wider world. This principle ties in with Vygotsky's socio-cultural theory. The teaching of music develops learners' ability to listen and appreciate a wide range of music and to make judgements about musical quality. It encourages active involvement in different forms of amateur music making, both individual and communal, developing a sense of group identity and togetherness. It also increases self-discipline and creativity, aesthetic sensitivity and fulfilment.

When Hargreaves et al. (2003) place self-identity at the centre of the model of the outcomes of music education, this suggests that the central concerns of music psychology and music education may now have more in common than before. The incorporation of the socio-cultural perspective in music and music psychology is matched by the acknowledgement of the broader social and cultural context in music education, such that a developmental social psychology of music and music education has some firm conceptual foundations.

2.3 PHONOLOGICAL AWARENESS AND EARLY READING SKILLS

According to Weinberger (1994), music and language are both a means of communication resulting from a set of instructions that dictate the correct combination of notes or words. According to him, the following processes and skills are essential to emergent literacy development in children:

- Phonological awareness: this involves the learner aurally discriminating between sounds and units of sound (melodic patterns, words/notes and letters). Phonological awareness is thus the sensitivity to the sound structure of language and includes the ability to distinguish three levels of sound structure, namely, rhymes, syllables and phonemes (Hansen & Bernstorf: 2002). Phonological awareness is an important early indicator of later reading ability.
- Metacognition is the process of thinking about one's own thought processes. Metacognitive skills include the ability to make sense of information and monitor one's own learning.
- Phonemic awareness: this relates to the understanding of phonemes – the smallest units in the oral language (Hansen & Bernstorf: 2002). It also allows for an understanding and identifying of the smallest units of sound (letters and notes).
- Sight identification: This shows an instant recognition of words or notes by glancing at them (Hansen & Bernstorf, 2002).
- Orthographic awareness: this includes understanding the use of letters or notes in a specific context.

- Cueing systems awareness: this allows for accessing meaning from information surrounding a word or musical phrase.
- Fluency: this includes reading/performing with speed and accuracy (Hansen & Bernstorf, 2002).

The following table is an adaptation of the Hansen and Bernstorf (2002) table which aptly compares the skills for Reading Text, Music Symbol Reading and Music Text Reading.

Table 2.1 Comparative Skills for Reading Text, Music Symbols and Music Text

Skill	Text Reading	Music-Symbol Reading	Music-Text Reading
Phonological Awareness	Sensitivity to all units of sound. Generating and recognising rhyming words, counting syllables and separating the beginning sound of a word from its ending sound.	Sensitivity to all elements of musical sound. Recognising repeated or imitated sound patterns, sequence, ostinato, matching pitch, etc. Attention to texture, timbre, stylistic nuances.	Learning how to produce the sounds of language in a musical setting. Generating and recognising how the sound elements of text and the sound elements of music are coordinated within a musical setting (e.g. pairing rhymed text with like phrases, cadences or repeated rhythmic passages).
Phonemic Awareness	A special kind of awareness involving letter-sound correspondences in the smallest units of oral language – phonemes (e.g. 'stop' would be expressed in phonemes as s/t/o/p/). Phonemic awareness involves identifying and manipulating the smallest sound units within the written symbol.	Instruction that emphasises how notation is related to the smallest units of musical sounds in systematic ways; music symbol-sound correspondences (e.g. pitches within a phrase, rhythmic subdivisions within a metered measure). Articulation, phrasing, tonguing, performance practice.	In a choral setting, identifying and manipulating sounds as they relate to music symbols, including articulation of pure vowel sounds, diphthongs, elisions, consonants (explosive and affricates). Vocally forming the smallest sound units so that the listener can comprehend the lyrics.
Sight Identification	The ability to identify high-utility words that appear most often in print (sight words such as 'the', 'of', 'dog', etc.).	The ability to identify and play high-utility notes, rests, lines, spaces, rhythm symbols, dynamic markings, fingerings, etc.	Learning the proper vocal enunciation of high-utility words in music lyrics and performing them consistently from song to song.

Orthographic Awareness	Knowing that letters and diacritics represent the spoken language. Understanding that the writing system of a language involves a specific connection between the sequence of letters, characters or symbols, including spelling patterns that are used to recognise familiar chunks in words. Spelling includes variable and sometimes complex but mostly predictable rules.	Knowing that music symbols represent musical language. Understanding that scales are a series of patterns that are the basis for melody. In Western culture, learning a notation system that has rules about the sequences of pitches and organisation of rhythms that occur in predictable ways. Knowing that pitched and non-pitched instruments are scored differently.	Combining the elements of alphabetic knowledge (as described in the text-skills column) and music-symbol-reading knowledge. Knowing rules for the use and placement of music and text symbols in written music.
Cueing Systems Awareness	Gathering meaning from words, phrases, or sentences surrounding a word (context). Determining that material sounds 'right' based on multiple clues (syntax). Noting that material looks 'right' (graphophonic). Noting that material makes sense (semantics).	Gathering meaning from musical phrases and melodic phrases, including placement of accidentals, rhythmic devices, etc. Noting that music sounds and looks 'right' based on the rules of a given culture. Noting that music makes sense given the style, period and composer.	Given a particular style, period, culture, and composer, noting that music and music text sound and look 'right' and make sense.
Fluency	Clear, easy written or spoken expression of ideas; freedom from word identification problems that might hinder comprehension in silent reading or the expression of ideas in oral reading; automaticity.	Effortless music performance; freedom from technical problems that might hinder the musical correctness of a performance; automaticity. The ability to execute the musical aspects of a performance smoothly, easily and readily.	Effortless, independent execution of text and music symbols. The ability to perform in a technically flawless manner.

Anvari et al. (2002), together with Lamb and Gregory (1993), examined the relationship between phonological awareness, music perception skills and early reading skills in a population of 100 four- and five-year-old children. In their study music skills were found to correlate significantly with both phonological awareness and reading development.

Degé and Schwarzer (2001) define phonological awareness as the ability to analyse and manipulate language on two levels. On the word level, phonological awareness refers to the ability to manipulate and analyse larger phonological units (e.g., rhyming and blending words). On the phoneme level, phonological ability refers to the ability to analyse and manipulate the individual sound units (phonemes) within a word. It has repeatedly been shown that phonological awareness is an important predictor of later reading ability

Anvari et al. (2002) state that regression analyses indicated that music perception skills contributed unique variance in predicting reading ability in learners, even when variance due to phonological awareness and other cognitive abilities (mathematics, digit span and vocabulary) had been accounted for. From this study it is possible to deduce that music perception appears to tap auditory mechanisms related to reading that only partially overlap with those related to phonological awareness, suggesting that both linguistic and non-linguistic general auditory mechanisms are involved in reading.

Jancke and his collaborators (2007) (as cited in Kast et al., 2007) have recently shown that visual-auditory multimedia training for three months (by joining reading and writing training with pitch and tone training) enhanced writing performance in children with developmental dyslexia and non-dyslexic children. These new findings are in line with previous results from Standley and Hughes (1997), showing that music training improved pre-writing skills in four- to five-year-old children. There is therefore growing evidence that steers us towards the positive influence of music instruction on reading and writing abilities.

Nicholoson (1972) conducted a study to determine the extent to which music can improve the ability of the slow learner in the development of certain reading readiness skills. She worked with 50 students between the ages of six and eight years old. The students were divided into control and experimental groups, with careful consideration to balancing the groups regarding student gender, reading achievement, age and socio-economic status. The experimental group received music instruction in the concepts of melody, rhythm, and meter. The control group received no music instruction.

At the conclusion of the study she found that the students who received music instruction had significantly higher scores than the students not receiving the instruction in musical and areas. Students in the music group were better at letter recognition and had a higher ability to discriminate between pairs of letters that are similar. In addition to these specific gains, students in the experimental group scored significantly higher in the tests. From these findings Nicholson (1972) concluded that music instruction can improve the ability of slow learners in the recognition of letters of the alphabet and reading readiness skills.

Hallam (2010) proposes that recent advances in the study of the brain have enhanced our understanding of the way that active engagement with music may influence other activities. She states that the cerebral cortex self-organises as we engage with different musical activities. Skills in these areas may then transfer to other activities if the processes involved are similar.

Woodall and Ziembroski (2004) support this theory in stating that successful acquisition of reading and writing in early childhood depends on a solid background in oral language skills. They ask: What better way to expand knowledge and confidence in oral language than through music? They refer to oral language as an interactive and shared process, and music can act as a natural method for children to experience a rich language in an enjoyable way.

Anvari et al. (2002) state that although learning to read involves the visual processing of written language, the ease of reading acquisition is related to the development of phonological awareness. Those learners who develop the ability to hear the individual sound categories within a word are able to associate these phonemes with their written letter representations.

Because the English language uses an alphabetic orthography that plots the written code onto its phonemic equivalent, a child who shows auditory sensitivity to the spoken phonemic units has an advantage in learning the orthographic to phonological mapping system (Goswami & Bryant, 1990). A large amount of research has confirmed that phonemic awareness correlates strongly with reading acquisition (Bradley & Bryant, 1985, Anvari et al., 2002, Lamb & Gregory, 1993). Dege and Schwarzer (2011) state that music and language are specific and share several characteristics such as the use of the auditory domain as the input path and the organisation of discrete perceptual elements into structured sequences. Anvari et al. (2002) state that young learners who are weak at reading are often strikingly insensitive to rhyme and alliteration (Bradley & Bryant, 1985). Consequently the relationship between language sound categories and music sound categories

should be apparent. These findings thus indicate a possibility of a close link between reading and auditory analysis skills.

Anvari et al. (2002), together with Lamb and Gregory (1993), support the findings that some auditory analysis skills used in the processing of language, such as blending and segmenting sounds, are similar to skills such as rhythmic, melodic and harmonic perception, necessary for music perception. If early reading skill is closely connected to the skill of processing the auditory components of speech, it is reasonable to assume that auditory analysis skills necessary for music perception may also be associated with reading development (Douglas & Willats, 1994; Lamb & Gregory, 1993).

Anvari et al. (2002) state that music, like language, is based in the auditory modality and the primary mode of music production, singing, uses the same vocal apparatus as speech. Both speech and music involve combining small numbers of elements (phonemes, notes) according to rules (referred to as grammars in music theory) that allow the generation of unlimited numbers of phrases or utterances that are meaningful. This common aspect proposes that speech and music might be closely linked in early childhood development.

Anvari et al. (2002) claim that learning a language requires learning the basic building blocks of words, syllables and phonemes. However, while the elements of music are different from those of language, basic learning processes may be similar.

Therefore, as with speech perception, pre-schoolers show early sensitivity to some musical features, whereas other features are musical-system specific and thus need to be learned. It should also be noted that, as with language, acquisition of musical structure occurs without formal musical training, simply through everyday experience with music.

Anvari et al. (2002) state that there seems to be another similarity between linguistic and musical information. In both areas, a normalisation process must be in operation in order to achieve perceptual constancy. A phoneme in speech is identifiable despite changes in duration, loudness, timbre and pitch, across speakers and linguistic contexts. Similarly, a melody retains its identity across changes in tempo, loudness, timbre and pitch level, as long as the intervals between successive pitches remain correct.

All this suggests that music and speech may be subject to many of the same basic auditory processes and, hence, early skill with music might enhance reading acquisition to the extent that reading depends on the same basic auditory analysis skills. It is therefore possible that musical training may improve other linguistic skills as well.

There are few studies to date that have directly compared music and reading development, and there is some agreement on the particular elements of music perception that correlate with reading difficulty in school-aged children. Lamb & Gregory (1993) presented sixteen four- and five-year-old children with pitch and timbre discrimination tasks, phonemic awareness and a simple reading test. As was expected, phonemic awareness correlated with simple reading ability. They also reported that pitch discrimination was significantly linked with phonemic awareness. This study suggests that there is a link between music and early reading skill in pre-school children. However, the limitations of this study were that there were only sixteen children in the sample and a limited number of musical skills were tested.

Anvari et al. (2002) also conducted another study which reported a more extensive analysis of the relation between developing reading and musical skills. One hundred four- and five-year-old children were administered a set of music tasks that focused on rhythm, melody and chord processing, a set of phonemic awareness tasks known to predict reading success, and a standardised measure of early reading development. The reason four- and five-year-olds were chosen was because their musical skills and early reading skills both develop at a rapid pace at that age. It is also believed that children of this age particularly enjoy participating in musical activities. The purpose of the study was to observe the relation between musical processing and phonemic awareness in a large sample of young children, as well as to examine how these factors are related to their reading development. Using ordered regression analyses, Anvari et al. (2002) examined whether musical variables predicted reading success, even when the contribution from phonemic awareness had been taken into account.

2.4 COGNITIVE PROCESSES AND READING DEVELOPMENT

A prevailing question among music educators is the role to be played by music cognition research in pedagogical decisions (Rauscher, 2003). In a first attempt to investigate some of the more common cognitive variables through which music might influence reading development, Anvari et al. (2002) also tested digit span, vocabulary and mathematical skills. By performing separate analyses in which one of each of digit span, vocabulary and mathematical skill was removed in the initial step of a hierarchical regression, and examining whether music and/or phonemic awareness

continued to predict reading, they could begin to explore the potential roles of auditory memory, vocabulary and mathematical skill respectively, in the links between music and reading (Anvari et al., 2002:10).

The findings that Anvari et al. (2002) presented provide evidence of a distinct relation between music perception and reading skill in four- and five-year-old children. It is evident that music perception is significantly correlated with both reading skill and phonological awareness, but is also predictive of reading skill in its own right. Therefore, music perception appears to be tapping auditory mechanisms related to reading skill that only partially overlap with those related to phonological awareness (Anvari et al., 2002:12).

Musical training improves how the brain processes the spoken word (Hallam, 2010:28). It also improves the ability to distinguish between rapidly changing sounds. Those with musical training have superior brain-stem encoding of linguistic pitch patterns. There is also a positive correlation between the quality of sensory encoding and the amount of musical training, suggesting a role for musical experience rather than innate differences. This is critical to developing phonological awareness which, in turn, contributes to learning to read successfully.

Rauscher (2003) states that with the growing body of scientific evidence suggesting a fundamental link between music instruction and other abilities, there is a parallel dialogue about the role these studies should play in music education. The discussion ranges from adapting music curricula to accommodate these studies' findings to preserving music education as it stands. Although music education is profoundly important in its own right, it can also play a valuable role in facilitating other competencies.

Woodall and Ziembroski (2004) mention that language in music and language in print have many similarities, such as the use of abstract symbols. Both oral language and written language can be obtained in a similar way, which is by using them in a variety of holistic literacy experiences, and building on what the students already know about oral and written language.

Children instinctively listen to music and try to identify familiar melodies and rhythms, just as early readers will look for words that sound alike, have patterns, or rhyme (Jalongo, 1995). An early study, where music instruction was specifically designed to develop auditory, visual and motor skills in seven- to eight-year-old students over a period of six months, found that the mean reading comprehension scores of the intervention group increased, while those of the control group did not

(Douglas & Willatts, 1994). Similarly, Gardiner et al. (1996) provided children with seven months of Kodaly training alongside visual arts instruction. Their reading scores were compared with controls and were found to have shown greater improvement (Hallam, 2010:273). A recent study (Piro & Ortiz, 2009) focused on the way that learning the piano might impact on the development of vocabulary and verbal sequencing in second grade children.

Hallam (2010:271) supports the idea of the possibility in perceiving slight differences in phonemes which appears to depend on the ability to extract information about the frequencies of the speech sounds (Lamb & Gregory, 1993). There is now evidence that musical abilities predict unique variance in the ability to perceive and produce subtle phonetic contrasts in a second language and in the reading abilities of children in their first language (Anvari et al., 2002).

2.5 USING MUSIC TO IMPROVE READING

Wedin (2011) of the Royal College of Music in Stockholm has embarked on research which shows that the skills needed to learn how to read and write are the same as those practised through playing music. Both the spoken language and music are made up of, for example, tone and melody, rhythm and tempo, dynamics, emphasis etc. Through working consciously with these musical frameworks, learning to read and write is made easier (Lamb & Gregory, 1993).

Visual decoding practices are also a huge part of literacy learning (Hansen, Bernstorf & Stuber, 2004; Anvari et al., 2002). The connection between music and literacy consists of knowledge of letters, words, and sentences; visual focus; and visual memory (Hansen et al., 2004). The knowledge of letters, words and sentences helps learners develop their reading and writing skills. They will understand the meanings of all the letters and this will enable them to put them all together to make meaningful words. This will, in turn, enable them to group the words to form sentences. On the other hand, where music is concerned, one can interpret the music notes as words. Learners who play an instrument will learn how to read notes, both in duration and pitch level, and they will see how these come together to make measures and phrases of music. All of these visual decoding skills are emphasised in both the literacy and music classroom.

Teachers also help beginning literacy learners in other areas of language knowledge. Wiggins (2007) provides some literacy standards for Grade One learners which include expanding their vocabulary, knowledge of rhymes and could develop their spelling. Vocabulary growth occurs whenever students are exposed to new material, such as a story or a song. Putting new information into a musical context can help learner memory as well as the learner's reading and spelling ability;

for example, singing the names of the planets to the tune of 'Frere Jacques' will greatly reinforce knowledge of planet names and order of the planets from the sun and could possibly remain with learners throughout their lifetime. Together with this, a visual chart could be placed on the board with the names of each planet on the chart. This will facilitate letter recognition as well as the reading ability of the learner.

In literature, the most common source of rhyme is poetry. Vocal music is, in essence, poetry set to a melody. Songs that are written for children almost always rhyme, so the music lesson is a good place to practise familiarisation with rhymes. Poetry can also be seen as a connection of music to rhythm. Music has the rhythm built into it. Both vocabulary and rhymes have a place within literacy and music, and these skills help learners become effective language users.

Research has proved that music improves learning. More specific is that music can aid in text recall. Wallace (1994) studied the concept of setting a text to a melody. One of his experiments created a three-verse song with a non-repetitive melody; each verse had different music. A second experiment created a three-verse song with a repetitive melody; each verse had exactly the same music. Another experiment studied text recall without music. The repetitive music produced the highest amount of text recall; therefore, music serves as a mnemonic device. A very simple explanation is that when a song is heard, if the tune or melody is enjoyed, very often the words are remembered more easily. The researcher has often experienced this with learners in her choir, when teaching them a song. Smith (2000) studied background music with word lists. One experiment involved memorising a word list with background music; participants recalled the words 48 hours later.

Hallam (2010:271) states clearly that speech and music have a number of shared processing systems. Musical experiences which enhance processing can therefore impact on the perception of language, which in turn impacts on learning to read. Speech makes extensive use of structural auditory patterns based on timbre differences between phonemes. Musical training develops skills which enhance perception of these patterns. This is critical in developing phonological awareness which in turn contributes to learning to read successfully.

The use of music for reading instruction allows children to easily recall new vocabulary, amongst other things (Woodall & Ziembroski, 2004). Repetition in songs supports and enhances emergent literacy by offering children an opportunity to read higher-level text and to read along with the music over and over again in a meaningful context. Furthermore, teachers using repetitive text can

easily model and exaggerate the repetition, rhyme and rhythm of story, thereby encouraging the children to join in (Woodall & Ziembroski, 2004).

As the young child grows and matures, so does language. The young learner's vocabulary also expands as reading becomes a natural extension of language. Fisher et al. (2001) state that music is an excellent way to explore words and the concept of print. As children listen and sing, they begin to realise that the print has significance, and that there are similarities between print and the meaning. Researchers speculate that it could be the multisensory approach, through movement, eyes, ears and body coordination, linked with the development in self-concept, that makes the difference. Fisher et al. (2001) believe that both reading and making music call for concentration, memory and understanding of abstract concepts, and these are skills children prize and know are highly valued. It is therefore the wise teacher who capitalises on opportunities to 'spark' reading.

As Lapp and Flood (1983) indicate, for syllabication in particular, children can clap the beat of a song, separating the words into correct syllables, then sing part of the song, leaving out certain syllables, words or phrases (cited in Fisher et al., 2001).

McIntire (2007) mentions eleven skills that link literacy and music. These skills include decoding, listening, rhythm, communication, creating, thinking, vocabulary development, expression, memorisation, and large and small motor development skills. She states that if children are exposed to music prior to being able to read by themselves, they will be learning these vital skills that they will need as they start to read. She believes that by adding rhythm, music and movement to any learning experience, we send messages through various pathways to the brain and create a richer learning experience.

Hildebrandt (1998) emphasises the importance of the inter-relationship of music, language and reading in the daily life of the child. Hansen and Bernstorf (2002) state that learning in music and the arts opens doors to a vast array of enlightening influences and life-changing experiences that can contribute to the development of reading skills. An American body, the National Association for the Education of Young Children (NAEYC, 1996) says that in a practical sense the instruction of music can be a particularly rich source of support for achieving reading literacy. The basic reason for this is that most basic skills used in text reading or decoding finds parallels in music reading. Decoding refers to the breaking of the visual code of symbols into sounds (Hansen & Bernstorf, 2002).

Music and language are therefore related modes of communication that share a number of characteristics. Music in language and the language in music support each other and a young child's learning. It is therefore imperative that early childhood educators, wishing to create an exciting and stimulating environment for young children to learn, must include several opportunities for learners to be thoroughly involved in music and literacy activities. Through these opportunities, it will become evident that music and reading are mutually supportive and useful to the learner. It will become clear that imagination and creativity in the classroom will establish the bridge between the realms of music and reading.

Fisher et al. (2001) maintain that musical activities that foster early literacy development can support early literacy instruction. They mention six concepts which provide a firm foundation for early literacy development, much like the musical concepts of harmony, melody, rhythm, meter, form and dynamics. The six early literacy instruction goals include:

- The children's learning of concepts of print
- The children's sense of story and sequence
- The children's phonemic awareness and phonics
- The children's background knowledge and vocabulary
- The children's basic spelling patterns
- The children's early writing activities.

Fisher et al. (2001) detail various musical activities that foster and develop each of the above literacy concepts in the music classroom.

2.6 THE RELATIONSHIP BETWEEN MUSIC NOTATION AND ALPHABETIC TEXT

Speech and music have a number of shared processing systems. Speech makes extensive use of structural auditory patterns based on timbre differences between phonemes. Musical training develops skills which enhance perception of these patterns. This is critical in developing phonological awareness which, in turn, contributes to learning to read successfully. Speech processing requires similar processing. Musical experiences which enhance processing can therefore impact on the perception of language, which in turn impacts on learning to read (Hallam, 2010:1). Active engagement with music improves the brain's primary encoding of linguistic sound. Hallam (2010) conducted a study with eight-year-old children and within just eight weeks of musical training these learners showed an improvement in perceptual cognition.

In general, this programme has resulted in a spectacular cognitive-developmental change, in that children advance from an inexperienced empirical way of thinking to one that is theoretical

(Hallam, 2010). More importantly, the systemic-theoretical teaching in these and many similar programmes leads to substantial progress not just in children's knowledge, but also in their wider cognitive functioning (Lynne, 2001).

2.7 COGNITIVE FUNCTIONING

Musical creativity has often been associated with children's cognitive and emotional development and its value is increasingly acknowledged in psychological and therapeutic studies (Koutsoupidou & Hargreaves, 2009). According to Huber (2009), being involved in music activities such as learning to play a band instrument (i.e., a string, brass, percussion or woodwind) and participating in ensembles that feature such instrumentation have the most significant impact on reading development. This may be due to a combination of the technical requirements needed for effective performance, self-discipline and/or parental influence. Whatever the factor(s), medical research confirms that playing music activates multiple areas of the brain, thus enhancing cognition and increasing brain efficiency (Huber, 2009).

According to Woodall and Ziembroski (2004) good teaching is based on using what children already know, and the influence of music on learning is very clear. Therefore they urge teachers to be motivated and incorporate music, rhymes, chants, rhythm and songs in the classroom.

Gromko (2005) makes it clear that the ability to read and write with understanding enhances the learners' inter-personal communication skills, expands their worlds, and leads to independence in learning. Therefore it is not surprising that literacy and reading comprehension are issues of concern. Children's language has natural rhythm and melody. Children bring this natural 'music' language with them to the task of learning to read, so using singing to teach reading draws on this natural understanding.

Neves (2007) states that the association in music is learned first at the aural/oral and verbal association level. These levels are joined together to form what he calls 'partial synthesis'. When partial synthesis is associated with symbols, composite synthesis is achieved, enabling notational audiation. Notation can only assist us in recalling what we have already audiated in symbolic association. Inference learning happens when familiar patterns are recognised in new material and converted to audiation. It is this that empowers higher level learning – including theoretical understanding and creativity.

Neves (2007:25) quotes McCusker's study where McKusker explored the development of musical awareness among eleven pre-Grade One and Grade One students, by examining the use of invented notation as related to other life influences, including musical aptitude, developmental readiness and language literacy. This aspect relates directly to this research. Language and reading consist of listening, speaking, writing and reading and both language and music rhythm and melody. Therefore music can be a very useful tool in learning a language and learning to read. McCusker's study (as cited in Neves, 2007) concluded that developmental readiness and language literacy have the greatest influence on notation perception. A progression of pattern perception was assessed as learners developed, with rhythmic patterns playing an important role. The author also noticed the importance of social interaction within the group as a determinant to musical growth.

Kolb (1996) argues that the connection between singing and reading not only helps children learn to read, but also encourages a love for reading. She continues, saying that introducing music to children in their early childhood years is beneficial, as this exposure to music will eventually help them be better prepared to learn to read than those who are not exposed to music. Kolb (1996) believes that because of this strong connection between music and literacy, it is a perfect opportunity for educators to incorporate music into as many activities as possible with young children.

Many early childhood teachers incorporate rhymes and music into their curriculum. Research has shown that a strong connection exists between music and literacy. McIntire (2007) and Kolb (1996) describe literacy as the ability to use language to communicate by reading, writing, listening and speaking. They state that learning to read and learning to sing require much of the same elements. They both require a sense of rhythm. When children learn to read, they learn to read rhythmically, and when children are exposed to music, they learn how to sing with rhythm and move to the rhythms they hear. Harp (1988), cited in Kolb, 1996, claims that music and reading go together because singing is a celebration of language. Children's language naturally has rhythm and melody. Children bring this natural 'music' language with them to the task of learning to read, so using singing to teach reading draws on this natural understanding.

Flohr (2006) argues that music is beneficial to children in reading, as well as other subjects. He states that music has the ability to enrich literature and language arts, poetry, drama, science and mathematics, as well as help meet special learner needs. The use of music with special needs children and English Language Learning (ELL) children has proven to be beneficial; McIntire (2007), in a study of music's impact on children with special needs, noted the increase in language

development and emotional adjustment with these learners. McIntire's (2007) study included preschool learners with delayed language development. It was reported that the use of music increased verbal response and improved expressive language abilities. Music can be especially helpful to these children to improve their literacy skills.

A significant amount of children's music teaches young children concepts. Flohr (2006) mentions some concepts that are introduced through children's music, such as numbers and colours. Even popular children's music provides listening pleasure, but also provides educational benefits for the learner. Songs often use music and movement to expand vocabulary and teach recognition of numbers, letters and colours to the young learner. Flohr (2006) offers suggestions for storytelling, and enriching books with music, including involving children in the songs by encouraging them to clap, sing, chant, etc. Children are also encouraged to act out the characters told throughout the songs.

Buntz (2010) supports the literature reviewed when it is stated that music plays an important role in teaching children literacy and other subjects, as well as having effects on cognitive development.

Huber (2009) also states that according to theoretical and empirical research, there is a positive relationship between the development of reading skills and the active participation in the study and performance of music. Both disciplines make use of similar symbol systems and decoding processes for effective interpretation and conceptualisation. Huber (2009) also maintains that each field of study acts as a means of communication through which visual and auditory mechanisms develop a discrimination between symbols used and sounds that are heard. Such similarities depend on several factors which have the potential to achieve and are largely determined by environment, exposure and experience. Thus the more opportunities, activities and knowledge a child experiences, the greater the development in a particular area of learning. Huber (2009) states that the age that formal training begins in the child, accompanied by the length of instruction, are also factors that affect the development of specific skills and cognition in any branch of learning.

Huber (2009) also claims that recent brain research reinforces the existence of links between reading and the study of music. Findings have revealed that brain efficiency depends on the number and strength of synapses in transmitting and storing information. Increased frequency in storing and accessing information results in heightened brain development of the areas affected. Specific areas of the brain have been acknowledged as being in control of the learning processes that are essential to both making and reading music. Hallam (2010) does, however, say that music performance is a

whole brain activity, which strengthens the neural connections and transfers information between both cerebral hemispheres. The pliability of the brain is most evident in early childhood development; early and continuous education provides the ideal conditions for improved brain development as it relates to cognition and learning, both in reading development and music performance.

To conclude, Bolduc and Fleuret (2009) endorse the notion that music is an effective complementary approach that supports the early acquisition of reading and writing skills. According to the work of various researchers, music has many applications in learning. It is unfortunate that, compared to other subjects in the curriculum, music is given a modest role. Although this paper essentially reveals the role that music can play in literacy practices in the classroom, the researcher could just as meaningfully have discussed the role of music in mathematics education or any other field, where its impact is just as powerful. It is up to the educators to reflect on the importance of music education to overall child development and to give a greater emphasis to the use of music in the classroom. Just as music engages young learners, it promises to support increased competencies in both literacy and numeracy development.

Reflecting Vygotsky's influence, Buntz (2010) mentions a study conducted by Vries (2008) involving parental perceptions of how music was used in story time at a public library. The findings revealed that parents believed music in the story-telling sessions boosted social interaction for the children. It also revealed that music allowed the children to focus in storytelling sessions and it showed that music is embedded in storytelling. These sessions provided new ideas for music in the home and beyond.

We can also explore the various cognitive variables that might be involved in the relation between music and reading. One possibility is that music ability is associated with good auditory memory. Adults who had musical training in childhood show better verbal memory than those without musical training (Gromko, 2005). Another possibility is that musical skill predicts reading because both abilities are correlated with general vocabulary.

2.8 CONCLUSION

It has been a motivating factor for the researcher to want to understand music's contribution to the young learner's overall learning. Through this research she hopes to further contribute to the teaching of music in ways that will benefit learners' learning and development of reading ability. Huber (2009) states that theoretical, empirical and medical research have established associations

between music and academic achievement that warrant consideration. Most literature has focused on the benefits of music instruction for young children. This proposed study will investigate the relationship between reading development and the study of music in Foundation Phase learners. Research shows that learning programmes that combine music and literacy have a very positive effect.

The literature review above shows studies which indicate that music has a positive effect on the development of the skills needed for phonological awareness, the recognition and decoding of words and the development of reading strategies for the Foundation Phase learner.

In the next chapter, the researcher will link Vygotskian ideas to classroom instruction. By adding music involvement for the learners, this can facilitate the learning to read process.

CHAPTER THREE: THEORETICAL FRAMEWORK

3.1 INTRODUCTION

In the previous chapter the researcher looked at the literature which supports the use of music activities to aid reading development in the Foundation Phase learner.

In this chapter the researcher will be looking at how Vygotsky's ideas can be used and developed in the classroom to aid in the reading process of young learners. Vygotsky believed that the role of the teacher in education is crucial (Chaiklin, 2012:1). In developing children's abilities, educators are able to guide the learners toward performing actions or tasks which are beyond their current capability. With such guidance by the educator, children can perform beyond their own ability – within certain limits. For teachers, Vygotsky (1978) provides a theoretical underpinning for effective practice. He identifies the key elements in successful teaching, learning and development. Vygotsky said that proper education is not the mere learning of specific knowledge and skills; more than that, it is the development of children's learning abilities – that is, their ability to think clearly and creatively, plan and implement their plans, and communicate their understanding in a variety of ways (Stetsenko & Arievitch, 2008:1; Vygotsky, 1978:90). He believed this could be done by providing learners with a set of cultural tools for thinking and creating.

3.2 VYGOTSKY, MUSIC AND CULTURE

When linking Vygotsky's theory to music, it could be said that music could form, or could be part of, the social relations between learners and their teachers. Music brings people and learners together and forms a universal language. McIntire (2007:3) states that as music teachers, we are trained to teach music, but the truth is we teach children. We need to consider the whole child in our teaching. Teaching can act as a means by which social relations can take place. In this section the researcher will look at how Vygotsky's theory forms the guideline in this study and how it will help in addressing the questions relating to the learning of music and its possible influences on learners' reading performance.

Buntz (2003) offers reasons why music is important in early childhood as it is quite possible that the most obvious reason for teaching music is also the most important – namely that music is enjoyable. He mentions additional reasons which include the fact that music serves as an expressive and creative outlet, promotes socialisation and self-realisation, and it enriches other subjects. Research

by McIntire (2007) and Fisher et al. 2001) supports a strong connection between music and intelligence and between music and literacy.

Neves (2007) makes it clear that all educators, and music teachers in particular, serve as guardians of culture. In saying this, educators have a special obligation to encourage the best kinds of growth and development, including the acquisition of those skills with clear histories of cultural evolution linked to achievement, such as notation, which itself is linked to the development of musical expression. In this context, Alpay (2003) regards culture as socially accepted behaviours, attitudes and beliefs which are constructed through human societal products such as institutions, and tools such as language. Culture, in this sense, is a dynamic outcome of historical events and developments, thus a product of, and contributor to, human development.

However, as emphasised by Vygotsky (Alpay, 2003; Vygotsky, 1978), culture itself will influence human mental functioning and behaviour, and thus there is a complex (integrated) relationship between the cultural environment and personal development. In other words, humans do not only produce culture, but are also products of culture themselves.

Music which is authentic can be accomplished through active music-making within the cultural context of the person performing or listening to the music; it includes conducting, performing and composing, each within its own context and in combination with other contexts, and all within a cultural framework. Neves (2007:17) states that music is more than a formal knowledge of the sounds, notes and rests. It should be seen as ‘purposeful, contextual and socially-embedded’.

3.3 VYGOTSKY’S THEORY OF THE SOCIAL ORIGIN OF THOUGHT PROCESS

Vygotsky's theory stresses the fundamental role of social relations in the development of the mind. Blake and Pope (2008) state that social interaction plays an important role in student learning as it is through social interaction that students learn from each other, as well as from adults. As indicated above, the social world, as defined by Vygotsky, considers not only the interpersonal relations between a student and teacher, or student and peer, but also the wider socio-cultural and historical influences on learning and the learning environment. Stetsenko and Arievitch (2008) state that socio-cultural theory can be characterised by its central claim that children's minds do not develop by virtue of some set structures that unfold through time according to their own natural programmes or sets of rules. Rather, children’s minds develop as a result of continuous interactions and experiences with the social world. These experiences are crystallised in 'cultural tools'; children

master such tools in order to develop specifically human ways of doing things and, in the process, become competent members of a human community. Vygotsky posits that true education is not a mere learning of specific knowledge and skills but, rather, the development of children's learning abilities (Blake & Pope, 2008). The development of thought is to a large degree determined by the linguistic ability of the child which, in turn, is reliant on the child's socio-cultural experience. Therefore one of the most important functions of education today is to enable the development of rich, effective, spoken language. Using music as the vehicle to develop this spoken language will therefore be a tremendous aid to the teacher and learner.

Hargreaves et al. (2003) state that the socio-cultural perspective has become the accepted view and, in essence, it involves the recognition that children do not grow up as isolated individuals. That is, children's thinking is no longer seen as developing through a common developmental sequence regardless of the specific cultural events and situations that they experience. Vygotsky's theory places more emphasis on the merger of these social and cultural networks into the development of thought, so that interactions between teacher and learner gain far more importance. Vygotsky (1978) argued that social relations mediated by cultural tools are the basis for human development. It is widely accepted in the educational field that students need to go through the process of learning to think and through the process of thinking to learn (Blake & Pope, 2008). As a result, teachers, who can incorporate the theories of Vygotsky (among others) into their teaching strategies, are likely to be better able to increase learner success. It is important to view literacy as a social act. Using music activities in the classroom is inherently social and facilitates learning. This can also make reading more accessible to the struggling learner, as using music in various ways can aid in reading development (McIntire, 2007). This aligns with Vygotsky's Social Development Theory, which states that social interaction is vital for developing children's understanding (Vygotsky, 1978).

3.4 VYGOTSKY AND THE ZONE OF PROXIMAL DEVELOPMENT

A widely used term from Vygotsky's (1978:85) writing is the Zone of Proximal Development (ZPD). Vygotsky's concept of the ZPD is where Vygotsky states that children develop as they engage in collaborative activities (Vianna & Stetsenko, 2009). Within educational research, the concept of the ZPD is used widely and is often referred to in studies about teaching and learning in many subject-matter areas, including reading, writing, mathematics, science, second language and violin teaching (Kozulin et al., 2003). Vygotsky describes the ZPD as the 'difference between the level of tasks that can be performed with adult guidance and help, and the level of independently solved tasks' (Blake & Pope, 2008).

As learners move into the Foundation Phase, (Grades One and Two), the emphasis is placed on reading and Mathematics. Blake and Pope (2008) emphasise the importance of learners having an opportunity to practise what is taught during direct instruction time under the guidance of the teacher and teacher aid. Most effective teaching should be aimed at higher levels of the child's ZPD. Music educators can support the learning process of learners and, in this instance in particular, the development of reading of the learner. They can use the process of mediation and use the ZPD as a framework for learning a language and in turn learning to read. In this context, music lessons can provide opportunities for learning across the curriculum. Music, therefore, can be viewed as collaborative activity where learners are involved in the process of making music, together with the teacher and with other learners. Lynne (2008) states that in both language and cognitive development, the ZPD is of central importance for effective learning. There are important links between what and how children are taught and between what they learn. Within the ZPD, the broader and richer the language experience that is provided for learners, the more they are likely to learn. According to Vygotsky (1978), important learning by the child occurs through social interaction with a skillful teacher. The teacher may model behaviours and/or provide verbal instructions for the child. Vygotsky refers to this as co-operative or collaborative dialogue. The child seeks to understand the actions or an instruction provided by the teacher then internalises the information, using it to guide or regulate their own performance. An example of this could be of a young learner learning to read his first words. Alone, the learner might struggle, then the teacher sits with him and describes or demonstrates some basic strategies, such as sounding out the letters to form the words, while offering encouragement. As the learner becomes more competent, the teacher will allow the learner to work more independently. Again, using music as a medium to facilitate the learning and reading process will aid in the ZPD being accessed by the learner. According to Vygotsky, this type of social interaction involving co-operative or collaborative dialogue promotes cognitive development.

3.5 VYGOTSKY AND SPEECH

Vygotsky (1962) argues that communicative and egocentric speech are both social with different functions. According to him, speech develops first, as external communicative/social speech, and then as egocentric speech, and finally as inner speech. Vygotsky argued that egocentric speech is the transition from social activity of children to a more individualised activity. It is connected with children's thinking because it helps them overcome problems. Vygotsky theorised that the structural and functional qualities of egocentric speech develop into speech that is different from external, social speech. He stated that language does not depend on sound, but rather is the practical use of

signs, which is similar to music (McIntire, 2007). Thus, the written form of language is equally important as speech, since written language is the most elaborate form of language. The developmental level required to learn to write is frequently underestimated. Specifically, children must replace words with images of words. Then they must address their writing to no one in particular. In conversation, on the other hand, the subject is clear to the speaker. Vygotsky (1962) argued that children must also be aware of the phonetics, how to analyse each word and how to spell it, and replicate the words with the symbols of words.

The use of language and practical signs can be directly related to music learning and instruction (Chau & Riforgiate, 2010:11; McIntire, 2007:4). In essence music notation is made up of signs and symbols. Therefore music training and reading can build important skills in reading and, in turn, reading expands the learners' vocabulary, as they start to make the connection with words and their meanings. Chau and Riforgiat (2010) furthermore state that musical training not only affects reading, vocabulary and pre-reading skills, but also speech skills, when it comes to language development.

3.6 VYGOTSKY AND CULTURAL-HISTORICAL ACTIVITY THEORY (CHAT)

The work of Vygotsky has become the foundation of much research and theory in cognitive development over the past several decades, particularly of what has become known as Cultural-Historical Activity Theory (CHAT). Roth and Lee (2007) elaborate on Vygotsky's Cultural-Historical Activity Theory (CHAT), which could also form an integral part in the development of music and its effects on literacy development. Being involved in music and the musical life of the school could be defined as an *activity* which adds to the community life of the school. Music as an activity *has* benefits to the learner and to the community. The outcomes of being involved in music activity can contribute to learners' motivation and ability in the classroom. This could be seen in the vignettes presented in the Roth and Lee (2007) reading. The activities that take place in the classroom create an 'environment' for learning and as such offer different opportunities for language learning and reading. As a music teacher, one can identify and use a music activity and use this as a language or reading learning opportunity.

Roth and Lee (2007) make it clear that CHAT has excellent potential for educators as it is thoroughly about development and learning in the community. CHAT has the potential to deal with vital educational issues in fresh ways, chief among which is language. Roth and Lee (2007) refer to language as the most important medium in education; educational researchers who are interested in

language, literacy and language learning often use CHAT as a basis. Very often their reference is to Vygotsky (Vygotsky, 1986).

Something that is challenging for activity theorists is to try to understand this diversity of ways of thinking. The challenge of the music teacher is to use music as an activity in the classroom to develop reading in the learner. The researcher prefers to think that through our classroom activities we submit an invitation to the learners and, that by accepting it, there is the promise that the learners and teachers will become enriched.

Many psychologists argue that the acquisition of knowledge can only be explained in terms of its physical and social context: that we must think in terms of situated cognition (Hargreaves et al., 2003). Two influential ideas in this area are Rogoff's (1990) proposal that 'guided participation' is a more useful description of learning than one based on intellectual changes in children themselves. Lave and Wenger's (1991) concept of 'legitimate peripheral participation' refers to the process by which learners participate in communities. These can also be applied to musical learning and education, since the social and cultural practices embedded in artistic and musical communities are particularly complex.

Galperin's (1998) research represents a key development in the educational approach originally envisioned by Vygotsky and currently pursued by many working in socio-cultural and CHAT traditions. Specifically, Galperin's studies show that children have a vast developmental potential that can and should be realised within specially designed teaching-learning practices based on sociocultural principles of development.

In addition to this, Galperin's theory goes further in that it emphasises an understanding of the learner and promotes the development of the intelligence one needs, to observe how children participate in the community (Stetsenko & Arievitch, 2008). Educators should remain cognisant of the power of conversation held with a learner in lessons, and its potential for extending the child's knowledge.

3.7 THE NOTION OF CULTURAL TOOLS

Stetsenko and Arievitch (2008) state that human language is the multi-level tool combining culturally evolved arrangements of meanings, sounds, melody and rules of communication. Learning such tools is not something that simply helps the mind to develop. Rather, this kind of learning leads to new, more elaborated forms of mental functioning. For example, children master a

complex cultural tool as human language. This, results not only in their ability to talk, but leads to completely new levels of thinking in general. More importantly, cultural tools, according to Stetsenko and Arievitch (2008), are not merely static 'things' but embodiments of certain ways of acting in human communities. The reconstruction of cultural tools is initially possible only in the process of cooperating and interacting with other people who already possess the knowledge of a given cultural tool. It is therefore important to emphasise that teaching leads to development because it allows children to learn to use new cultural tools, and such mastery constitutes the very cornerstone of intellectual development. The development of language in the child is held to generate a fundamental shift in the cognitive development of that child. Language provides the child with a new tool and organises information as new tools through the use of words as symbols (Lynne, 2001). As the young child matures, so does language. His vocabulary expands as reading becomes a natural extension of language. We sometimes find the paradox of a child who seemingly cannot read words, but who can ‘read’ music and respond to familiar words and melodies. Music is an excellent way to explore words and the concept of print. As ’children listen and sing, they begin to realize that the print has meaning, and that there are similarities within the print, and the meaning (Fisher & McDonald, 2001).’

Teachers are encouraged to actively construct instructional procedures that specifically provide children with experiences of tool use, in which the evolving histories and functions of the tools are made explicit (Vygotsky, 1986; Buntz, 2003). In this instance the use of music to facilitate reading will act as a tool for improvement.

Adults provide children with new cultural tools and children are enabled to solve problems on a more advanced level in collaboration than when acting alone. The concept of ZPD is a concrete expression of Vygotsky's idea that mediation by cultural tools is a unique feature of human development. An interesting issue which arises through consideration of Vygotskian views is the specific role and advantages of using music in the reading learning process. Here, the social interaction is present, and an interactive and responding learning environment is achieved.

3.8 SCIENTIFIC AND SPONTANEOUS CONCEPTS

Vygotsky (1962) classified concepts as scientific and spontaneous. Spontaneous concepts are ‘everyday’ concepts, whereas scientific concepts are concepts taught in school. Vygotsky found that as long as curriculum supplies the necessary material, the development of scientific concepts runs ahead of the development of spontaneous concepts. This is because scientific concepts are formed in the process of instruction in collaboration with an adult. Also, children develop reflective

consciousness through the development of scientific concepts. Furthermore, mastering a higher level in the realm of scientific concepts raises the level of spontaneous concepts (Stetsenko & Arievitch, 2008).

Scientific concepts are learned through written symbols while spontaneous concepts are learned from sensory experience (Tharpe & Gallimore, 1988). Vygotsky observed that children become conscious of spontaneous concepts much later, but they may not be aware of this. Development of a scientific concept begins with its verbal definition and lack of rich content from experience (Vygotsky, 1962). According to Tharp and Gallimore (1988), it is vital that an interface between the spontaneous and the scientific concepts be provided during instruction. Scientific concepts also differ from everyday concepts in the way they are acquired. Contrary to everyday concepts, which Vygotsky suggests are adopted spontaneously by the child through the social interaction that occurs in jointly undertaken activities in his or her immediate community, scientific concepts can only be attained as a result of deliberate and systematic instruction in an educational setting.

Vygotsky states that language develops from social interactions. As mentioned previously and in line with Vygotsky's ideas, reading development and musical aptitude are largely determined by environmental factors and experience (Huber, 2009). Thus it is possible that using music within social relations could, in turn, help in the language aspects of reading and reading development. Hargreaves et al. (2003) state that all musical behaviour is 'social' in the sense that musical meanings are socially and culturally constructed from the physical sounds that constitute them.

3.9 CONCLUSION

The relationship between informal and formal music-making involves not only the locations and institutions within which learning occurs, but also the relationships between teachers and learners, as well as the ways in which learners view their own role in the process. For example, the development of communication skills may influence the clarity of inner speech and, in turn, thought patterns. In this instance music and music-related activities are used to aid in language and reading development. Integrating music into children's everyday activities promotes literacy development. Music is a way for children to experience rich language in a pleasing way (Woodall & Ziembroski, 2004). In all aspects of music development such as singing and learning to play a musical instrument, important skills such as reading, writing, listening and speaking are developed. In an early childhood classroom, a musically, literacy-rich environment will generate interest, encourage creativity and set the stage for a positive learning environment.

This chapter aims to make the correlation between Vygotsky's views on learning in the classroom and using music as an activity for this learning to take place. The implications of Vygotsky's theories are extensive and suggest that learners will benefit socially, cognitively and emotionally. Since music instruction relies on already achieved everyday language competence, its instruction in school could illustrate children performance in their ZPD. The acquisition of phonetic awareness and associated symbolic uses of sound-notation relationships may potentially benefit children's reading competence, as they become more aware of the relations that underlie the letter-sound relations and the symbolic qualities of written text.

In the next chapter the researcher will explain the methods that will be used for this study.

CHAPTER FOUR: RESEARCH METHODS

4.1 INTRODUCTION

In the previous chapter the researcher used Vygotsky's ideas on learning and used it in music activities in the classroom. The researcher aimed to make the correlation between Vygotsky's views on learning in the classroom and using music as an activity for this learning to take place.

This chapter looks at the research method that was used when doing the analyses as well as the data collection techniques of this study. The group of boys who were involved in music were monitored and their reading performance also monitored. Being a music educator at this institution afforded the researcher easy access to all academic reports of learners who participated in this research project, thus the materials used in this research were the existing academic and continuous assessment records. The researcher was also able to make contact with the parents, teachers as well as remedial and support staff who were involved with the learners targeted in this study.

4.2 RESEARCH DESIGN

In this study the researcher examined the reading abilities of the learners and deduced whether there was an improvement in reading among learners from Grade One to Grade Three while they were engaged in music activities, as described above, at the school. The study is of a quantitative nature where the researcher will collect the data available on the administrative records for all learners involved in the study from the school. These records included data on each learner's reading scores. The formal recording of learner achievement must be done against the learning outcomes, using the national coding system of the WCED. (See Table 4.3)

To aid anonymity, all the participating learners were each assigned a letter of the alphabet. Table 2 below depicts the framework that guided this study. The primary purpose of this framework was to clarify the process.

Table 4.1: The influence of music in the development of reading in Foundation Phase learners study framework

Assess	Collect Primary Data	Evaluate
➢ Critically review past research and literature	➢ Get reports and document and compile all academic	➢ Analyse reports and findings. ➢ Evaluate if the

	reports of learners involved in the study	learner's reading ability has improved. ➢ Suggest how data can be of use to FP teachers. ➢ Discuss findings.

All literature which pertained to this study or similar studies was accessed and reviewed in the Literature Review of this thesis. Learners in each Foundation Phase class were required to do a reading activity every school day and each learner was given a reading assessment for each term. Reading was also specified as a homework task and learners were encouraged to read every day to their parents at home. Tasks and assessments were done timeously and all leaners and parents were clear about what was required.

4.3 PARTICIPANTS

Fifteen six-year-old male subjects were recruited from the school in the southern suburbs of the city of Cape Town. The learners participating in this study all attended this state school, which has a rich cultural and musical heritage. This type of school in South Africa requires tuition fees, which implies that the children came from middle-class backgrounds. The school consisted of 735 boys. Three hundred of those boys were in the Foundation Phase which is from Grade One through to Grade Three. Participants are selected from a group of Grade Three boys and the data on their reading progress through Grades One to Three is to be gathered from the school archives. Participants ranged in age from six years to nine years eleven months old. Fifteen boys, who were all involved in music at the school, were selected randomly. Randomly in this context implies that because they do music at the school, they were selected. The boys who do music at school were limited as there are only 100 boys in a grade. Most boys were not keen on doing an instrument and some who were keen were not allowed to because of academic reasons. There were also slow workers, who were bright, but struggled to finish their classwork. Since academic work is a priority these boys were refused music tuition during school time. They would often do music outside of school hours but there was no record of that on the school database. No preference was given to the type of instrument played or their level of reading ability. All the participants in the music group had two half hour lessons a week, so they were exposed to the same length of lesson time to music. They were also exposed to the western classical style of music learning, which in a sense is a very traditional style of learning. This classical music is written down and tells the musician exactly what to play.

The music involvement of the learners included playing a musical instrument, (which only started from the second grade), singing in the school choir (which started halfway through the first grade) and learners being involved in class music activities at the school. All the boys were English speaking and none of their parents had formal training in music, or were professional musicians. The data collected over a period of time was academic reports over the past three years as well as reading achievement assessments. Each of the fifteen boys was assessed during each term (three month cycle). In the Foundation Phase these assessments were continuous and took place throughout the term. The reading scores that were documented were based on the Western Cape Department of Education criteria for each grade used in the report system (see Table 4.3). Subsequently the data collected from the academic records of the learners was analysed to identify if there was or was not an improvement in the reading ability of the learners who were exposed to music in the Foundation Phase years of their schooling. The researcher therefore used two forms of data collection tools, namely analysing the academic reports and analysing the records of the learners from Grade One to Grade Three.

4.4 MATERIALS USED TO COLLECT THE DATA

4.4.1 Classroom observations.

Classroom observations were conducted and, during each classroom observation, the researcher noted learner reading activities that occurred during one day's entire reading instruction period (an average of 90 minutes). She observed the amount of reading instruction covered during the lessons and the organisation of instruction (e.g., whole class or small group), and whether or not a specific set of teacher and student activities occurred during the lesson. Reading was done every day and the learners were taken in groups where they were encouraged to read aloud in the groups while the others in the group were actively listening and following with their reading books. All learners needed to hold copies of their own text, to turn pages by themselves, to apply their understanding at their own pace, with the guidance of the teacher or teacher aid (TA).

'Guided reading' took place in groups. The learners were grouped by ability. A 'guided reading' session would generally last between 15 and 25 minutes. The teacher worked with one group while the others were quietly engaged at their desks in organised writing activities. The group would generally consist of five to ten learners.

'Shared Reading' was also used in the classroom: learners and teacher read a text together with a focus on a specific aspect. The classroom assistant or TA often took a session and modelled the 'shared reading' behaviours, particularly in the early stages, when children were learning to listen and respond in a group situation. By modelling paying attention, holding eye-contact, joining in with the reading and responding to questions, the TA or teacher greatly influenced the group. The text was always available so that learners could 'read' the text by themselves, if they chose to do so.

Pre-recorded readings of various stories were also provided for use with a listening centre. These were known as 'listening lab' stories. Very often learners were asked basic questions after the listening activity. Early in Grade One, these questions were done orally; however, as they progressed, the learner was required to write down the answers to the questions.

Table 4.2: What is the aim of reading in the classroom?

1. Phonetic knowledge	awareness of: • letter-sound correspondence • patterns in words • similarities and differences • rhyming and chiming words • syllabification
2. Building a sight vocabulary	providing exposure to high frequency words in a variety of contexts
3. Picture cues	acknowledging relevant detail, relating to own experiences
4. Reading on and back	helping children make connections
5. Fluency and expression	modelling or sharing reading with individuals, discussing context, dramatising, providing opportunities to read for an audience

4.4.2 Student records from circuit data files

Administrative records for all learners involved in the study were obtained from the school. These records included data on each learner's reading scores as well as demographic characteristics such

as gender, age and race/ethnicity. Student-level reading scores based on the reading achievement data in use in each study classroom were collected.

The Western Cape Education Department (WCED 2004), in its Revised National Curriculum Statement (RNCS) states that the formal recording of learner achievement must be done against the learning outcomes, using the national coding system and must be done once a term as per the following guidelines. The WCED Grades R to 9 uses the following national coding system (codes 1 to 4) for the formal recording of learner achievement from January 2004 onwards:

4 = Learner's performance has exceeded the requirements of the learning outcome for the grade.

3 = Learner's performance has satisfied the requirements of the learning outcome for the grade.

2 = Learner's performance has partially satisfied the requirements of the learning outcome for the grade.

1 = Learner's performance has not satisfied the requirements of the learning outcome for the grade.

Table 4.3: Table from the progression schedules from the Department of Education

NASIONALE KODERINGSTELSEL / NATIONAL CODING SYSTEM		
Rating Code	**Percentages**	**Description of Competence**
4	70 – 100	Excellent achievement / Uitsonderlike prestasie
3	50 – 69	Satisfactory achievement / Voldoende prestasie
2	35 – 49	Partial achievement / Gedeeltelik bereik
1	1 – 34	Not achieved / Nie bereik nie

Western Cape Education Department's PROGRESSION SCHEDULE FOR GRADES 1 – 3 (2004)

Since 2011 this assessment criterion has changed to a rating code of One to Seven. The data was however obtained when the codes of One to four were still in use for assessment purposes, which was originally implemented in 2004.

From the time the boys started Grade One, there were twelve assessments that could be analysed up until they reached the end of their Foundation Phase. The researcher was specifically looking at the development or non-development of their reading ability.

4.5 RESEARCH PROCESS

The Foundation Phase learners at the school received approximately the same number of minutes in reading instruction in each classroom. There were four classes per grade which consisted of twenty-three to twenty-five learners. Each class had their own teacher; however, the curriculum was standard and teachers met once a week to discuss content taught in the class as well, worksheets handed out and any other relevant information in the teaching curriculum. This was to ensure that all work was covered equally in all the classrooms. Reading instruction generally emphasised letter-naming fluency and initial-sound fluency as pre-requisite skills to phoneme-segmentation and nonsense-word fluency. The educators read aloud to learners, and learners had access to picture books and beginning reading books in their classrooms.

The music activities included formal music training which involved the learning of an instrument. These instruments included the violin, recorder, piano, keyboard and the trumpet. The instrument the learner undertook to learn depended on the availability of the instrument, whether the school had an instrument to hire out to the learner, or if the student could purchase one. It also depended on the availability of the teacher, meaning did the teacher have space in the timetable to teach the learner, and, finally, it depended on the learner size and build. Singing and choir involvement as well as general class music (most recently know as performing arts) were also included in the music activities that the learner was involved in. The participants were randomly selected, as their participation in the music programme was a prerequisite. Since all the boys in the grade did reading activities and received assessments and reports for their reading ability, writing skills and cognitive development in their school academic reports, choosing the control group was easy. Consent from local school authorities was granted before the beginning of data collection.

4.6 RESEARCH CONTEXT

The researcher selected the school as it has a rich history of music involvement across the grades as well as having access to all the necessary test scores, reading assessments and teacher interviews that would be required for the analysis to take place. Permission was received from the principal,

the school, the teachers and the learner's parent or guardian, before any learner participated in the study

4.7 INTERVIEWS

The researcher was at the time a music teacher at the school where the research study was done. This afforded her the opportunity to conduct interviews with the Foundation Phase teachers and the learning support staff of the school who taught and interacted with the boys. These interviews gave insight into the reading ability, the allocation of marks to each individual learner, the learning to read procedure and development of the boys in each teacher's class. These interviews were done on an informal basis and semi-structured, which gave insight into the teaching methods used in the classroom. Teacher involvement in the classroom limited the number of interviews the researcher could conduct.

4.8 MUSIC ACTIVITIES

Each Foundation Phase class at the school received weekly music instruction for 30 minutes from the music specialist educator. Music lessons were in keeping with the CAPS Curriculum Training of Performing Arts guidelines for the Foundation Phase learners. The learners learned to sing songs in English and new traditional songs drawn from several cultures, namely Xhosa, Zulu and other traditional African songs. A traditional Hebrew song was also learnt. Each grade head would supply the music teacher with the list of themes that would be covered in the classroom. These themes would then be integrated into the music lesson. Special songs for assembly, which took place every Monday morning, would also be revised.

Familiar songs with a slight change of the words to the topic at hand were often used. In this way, sound families (phonological awareness and memory) were reinforced through the music. Approximately ten to fifteen minutes were devoted to singing various songs at each class music lesson. Singing also took place during assembly and hymn singing times at the school. Finally, learners were exposed to a graphic chart or musical score while singing. This chart consisted of, for example, dots to represent steady beat, squares and rectangles to represent word rhythms, or lines to represent melodic contour. Whereas beginning readers of text learn to connect sounds to graphemes or letters, beginning readers of music learn to connect perception of rhythm and pitch to graphic shapes that look the way the sound goes.

Body percussion was introduced and used before percussion instruments were introduced. The tapping out of basic rhythms to a particular song signalled the start of rhythmic concepts. The tapping out of basic rhythms to help students remember pronunciation of certain words was also used. The music specialist educator demonstrated what would be required first, and then have the learners repeat what was done. All this would be done while clapping as they said the words of the various songs. The body percussion reinforced the learner's perception of a steady beat, word rhythms, or high, low, higher and/or lower pitches. Percussion instruments were used to engage learners in building phonemic awareness. The percussion instruments that were used included rhythm sticks, claves, guiro, woodblock, shaker eggs, triangles, finger cymbals, hand chimes and song bells. Xylophones were introduced only at a later stage to reinforce their perception of steady beat, word rhythms or melodic contour. Movement was added later and this aspect helped the learners organise their perceptions of musical sound in time and space. These were particularly important for ensuring that young children had a strong foundation for reading development.

Lastly, very basic history of music was taught in the lessons. Learners were introduced to various music composers. They were also introduced to the various periods in musical history and the influence these composers had on our music today. Excerpts from famous composers' compositions were listened to and themes from their music were highlighted and discussed. This also formed part of the music listening activities.

4.9 DOCUMENT REVIEW

The documents reviewed were the learners' termly reports from Grade One through to Grade Three. These reports were compiled by the class teacher and given to the parents at the end of each term. The report contained a number allocation for the learner's reading and language achievement, as determined by the WCED (2004) (See Table 4.3). The school also kept a record of all these documents. The areas of literacy development and reading ability were looked a specifically. Any learner area of concern for the teacher was documented in the learner portfolio to be addressed by the learning support teacher. These interviews or any meeting with the parents were documented here.

The number allocated for each learner involved in this study was shown on a spread sheet where basic graphs were produced to determine the findings. These findings were documented and discussed.

4.10 ETHICAL CONSIDERATIONS

In order to ensure an ethical approach towards the learners who were participating in the research project, the researcher obtained consent from the principal of the school where the research was taking place. All information received via the school records was confidential. Although the researcher was a staff member at the institution where the research took place, the research project was not compromised by any bias. With the approval of the University Ethics Clearance Committees, as well as access clearance from the school principal and governing body for the relevant class lists and learner results, all teachers were contacted to ensure the integrity of the sample.

4.11 CONCLUSION

This chapter has describes the manner in which the data was collected and used in this thesis. The main data used was the learners' reading achievement and records of the learning outcomes as documented on the learners' report cards. This data formed a very important part of this thesis as it was the source of the researcher's theory which led to the question: Does being involved in various music activities influence the reading ability in the learner?

The next chapter will analyse the data received from this study.

CHAPTER FIVE: DATA ANALYSIS

5.1 INTRODUCTION

In the previous chapter, the researcher looked at the manner in which the data was obtained for this study, the data collection techniques and the research method that was used when doing the analysis of this study.

This chapter analyses the data through articulating the key findings in this study. The main findings of this study supported the view that there is an increase in the development and improvement of reading in the Foundation Phase learners who are involved in music activities at the school. The music activities included choir singing, playing a musical instrument and the performing arts curriculum, previously known as class music or arts and culture. The data that is used in this study included the existing Grade One to Grade Three reading assessments, academic reports and records, which were archived at the school. The school used the scores adapted from the progression schedules obtained from the WCED (2004) (See Table 4.3). These records included data on each learner's reading scores as well as demographic characteristics such as gender, age and race/ethnicity.

Student-level reading scores, based on the reading achievement data in use in each classroom, were collected and tabled. The Fisher's Exact test, together with bar graphs, was used to present the data visually. The object of this analysis gives us insight and a visual representation of the learner's reading scores and how the reading scores have improved from Grade One through to Grade Three in the music group as well as the control group. It is important to view literacy as a social act and engaging the learners in music activities in the classroom facilitates learning which has, albeit gradually, improved their reading scores.

The analysis was represented by means of the Fisher's Exact Test which was used to illustrate the findings. Again the researcher observed whether using music as a medium to facilitate the learning and reading process would aid in the ZPD being accessed by the learner. Since the challenge was to use music as an activity in the classroom to develop reading in the learner, the findings in this chapter helped us determine whether the Vygotskian concepts had helped the learner achieve better reading results. In this instance, the use of music to facilitate reading would act as a tool for improvement.

5.2 RESULTS

The table of results below were compiled from the learners' quarterly report cards. Tables 5.1 and 5.2 indicate the academic reading results of the music group and the comparative (control) group. Table 4.3 in the previous chapter showed the rating code and the percentages associated to the rating code. The current study did not take into account gender or race as having any influence on statistical data and results.

Table 5.1: Reading results of music learners involved in the study

PARTICIPANT	GR 1				GR 2				GR 3			
A	3	4	4	4	3	3	4	4	4	4	4	4
B	3	3	3	3	3	3	3	4	3	4	4	4
C	4	4	4	4	3	4	4	4	3	4	4	4
D	3	3	3	3	3	4	4	4	4	4	4	4
E	2	2	3	3	2	2	3	3	2	3	3	3
F	3	3	3	3	3	3	4	4	3	4	4	4
G	3	3	3	3	3	3	2	3	3	3	3	3
H	3	3	3	3	3	3	3	3	3	3	3	3
I	3	3	4	4	3	4	4	4	3	3	4	4
J	2	3	3	3	3	3	3	3	3	3	3	3
K	3	3	4	4	3	3	3	3	3	3	3	3
L	4	4	4	4	4	4	4	4	4	4	4	4
M	4	4	4	4	3	2	3	3	3	3	3	3
N	3	3	3	3	3	3	3	3	3	3	3	3
O	3	3	3	3	3	3	3	4	3	3	3	4
P	2	2	2	2	2	2	2	3	2	3	3	3
Average	3.0	3.1	3.3	3.3	2.9	3.1	3.3	3.5	3.1	3.4	3.4	3.5

Table 5.2: Reading results of non-music learners involved in the study (The comparative or control group)

PARTICIPANT	GR 1				GR 2				GR 3			
Q	2	2	2	2	2	2	2	2	2	2	2	2
R	3	3	4	4	3	3	3	4	3	3	3	3
S	3	3	3	3	3	3	3	3	3	3	3	3
T	3	3	3	3	2	2	2	2	2	2	2	3
U	2	3	3	3	3	3	3	3	3	3	3	3

V	2	2	3	3	3	2	3	3	3	3	3	3
W	3	3	3	3	3	3	3	3	3	3	3	3
X	2	2	2	2	2	2	2	3	3	3	3	3
Y	2	2	2	2	3	2	3	3	3	3	3	3
Z	3	3	4	4	3	4	4	4	4	4	3	3
AA	3	3	3	3	2	2	3	3	3	2	2	3
BB	3	3	3	3	3	3	4	4	4	4	4	4
CC	3	3	3	3	3	3	3	4	3	3	3	4
DD	1	1	1	1	2	2	2	2	2	2	2	2
EE	2	2	2	3	2	2	2	3	2	3	3	3
FF	3	3	3	3	3	3	3	3	3	3	3	3
Average	2.5	2.6	2.8	2.8	2.6	2.6	2.8	3.1	2.9	2.9	2.8	3.0

The above scores were used for data analysis and for the graphs that were used in this study. The tables depict each individual learner's scores over the three years, shown separately for the music (Table 5.1) and non-music (Table 5.2) groups.

5.2.1 Comparative analysis of the music and non-music group

Here we look at the comparative scores of the music and non-music groups. To be able to make the association between the two groups, we need to look at overall scores in the music and non-music groups first. The following Figure 5.1 gives bar plots of the score data for the music and non-music groups. These types of charts I have used for comparison purposes.

Figure 5.1 denotes the scores of the music learners and non-music learners for each term in each grade. The average was created by taking the sum of the reading score of each learner for the end of term reading assessment and dividing it by the total number of participants. As we are ignoring grades here and plotting all the data, the number of children in the two groups appears to be large even though we only have 32 children. The use of the percentages does make it easier. The bottom numbers indicate the four terms that the academic year is divided into. The significance of representing the data in this way is that it allows us to compare the percentage of results. Comparing the two groups of learners we can deduce that some improvement could have been due to normal development and maturation of the learners. However the amount of 'four scores' achieved in the music group can be attributed to the nurture more than nature factor. Thus, this means that the enhanced music activity and involvement allowed for a more progressive and increased reading result.

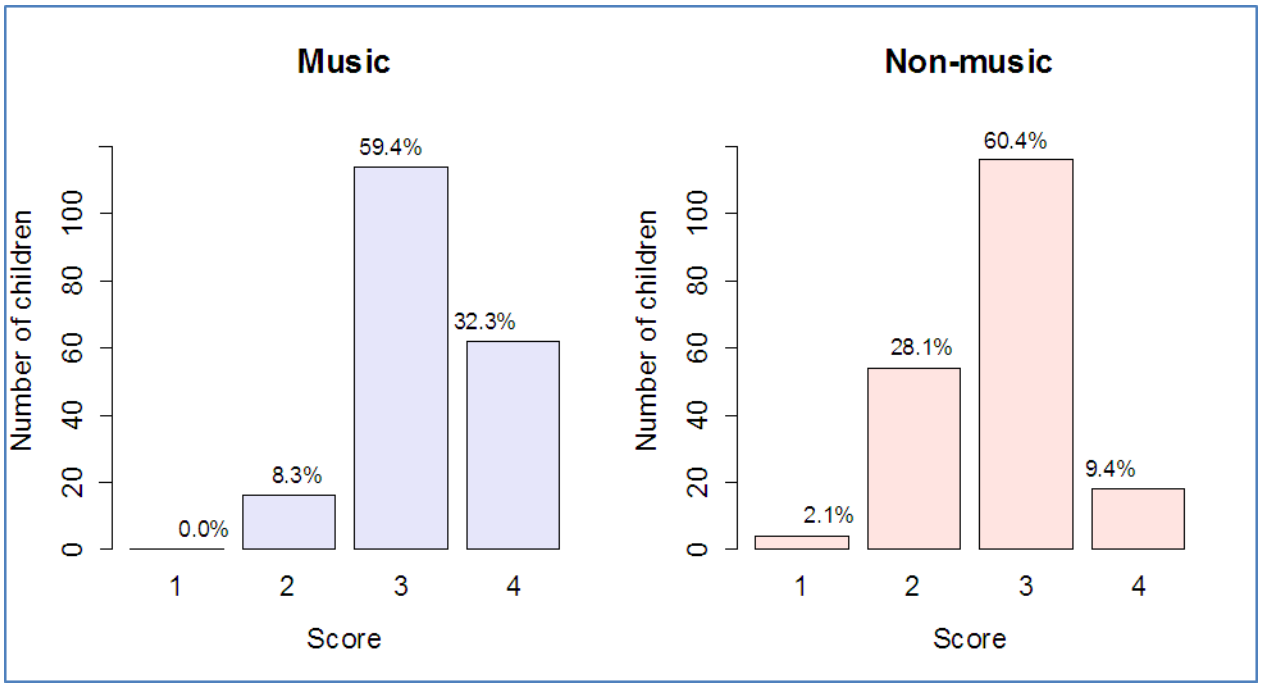

Figure 5.1 Bar plots of the score data for the music and non-music groups

Figure 5.1 clearly summarises the number of children in each of the music and non-music groups who have the various scores. In Figure 5.2 we can see that the distribution for each score is different between the two groups, but that most of the learners have a score of 3 in both groups. However, more learners in the non-music group have a score of 2 rather than 4, while in the music group more children have a score of 4 than 2. This indicates that learners in the music group have a higher reading score as opposed to the non-music group. As can be seen, the learners not involved in music averaged less in their reading assessments.

Table 5.3: The Fisher's Exact Test

	Music		
Score	**1** **N(%)**	**0** **N (%)**	**Fisher's Exact test p-value**
1	0 (0.0)	4 (2.1)	<0.001
2	16 (8.3)	54 (28.1)	
3	114 (59.4)	116 (60.4)	
4	62 (32.3)	18 (9.4)	
Total	192 (100.0)	192 (100.0)	

Values under "Total" give column totals and percentages, i.e. 192 is the sum of the column values and 100=100%. Column percentage totals must add up to 100%.

The Fisher's Exact Test shown in Table 5.3 is a test of association between the reading score achieved and the learners' music involvement. In other words, this test enabled us to see if there is a correlation between the reading scores achieved by a learner who is involved in music activities in the school. There is no music score as this is an association between the involvement of the learner in music activities, as stated in Chapter One, with the reading score that is achieved. The music is not scored or assessed in any way. Although in practice it is employed when sample sizes are small, (as in this study), it is valid for all sample sizes. The reason the Fisher's Exact Test was used is because it is a statistical test used to determine if there are non-random associations between two categorical variables.

5.3 ANALYSIS OF RESULTS

Learners may have benefited from music intervention because of music's emphasis on aural skill development. Therefore, the results of this study are more easily explained by the near-transfer hypothesis. The transfer of learning is pervasive in our everyday life and especially at school and in the community. Transfer takes place whenever our existing knowledge, abilities and skills affect the learning or performance of new tasks. Although we should interpret these results while keeping the limitations of this study in mind, we should use them to serve as the foundation for continued inquiry into the effects of music instruction. The implication for schools is that music instruction, while valuable for liberating the artistic and musical potential of every learner, may significantly enhance a child's language ability.

Integrating Vygotsky's concept of ZPD as a concrete expression of Vygotsky's idea that mediation by cultural tools is a unique feature of human development, into the teaching was achieved. An interesting issue which arises through consideration of Vygotskian views is the specific role and advantages of using music in the reading learning process.

Even though there are no significant differences between the performance of music and non-music groups, as well as across the grades, for music learners, there may, in fact, be some improvement in the performance of music learners by Grade Four and beyond, although there is no evidence in the data that this is due to music instruction per se. The lack of a similar form of improvement for the non-music group, and the fact that their performance across the grades appears to be lower and, in fact, flattened, may -- very tentatively – suggest that music instruction may be having a positive effect on the music group. The data does not, however, indicate any relationship between music instruction and reading improvement; a correlation was only established by the data. For the

proposition that music instruction leads to reading improvement to be established, there would, possibly, need to be a more prolonged qualitative study which could yield observational data about the instructional practices across the respective subject areas of music and reading.

5.4 LIMITATIONS OF THE STUDY

Hallam (2010:14) states that another difficulty with research in this field of study could be that participating in musical activities may be related to other factors which promote academic attainment, for instance, having supportive parents and a home environment conducive to studying. Gromko (2005:203) also states that socio-economic conditions can influence learners' reading ability. Since the school is in a middle class area, one should not assume that all the learners involved in this study are middle class.

The sample size of this study is relatively small and therefore presents some difficulty in finding significant relationship from the data, as statistical tests normally require a larger sample size to ensure a representative distribution.

The reading ability data, which is detailed by The Western Cape Education Department (WCED 2004), national coding system, creates insensitivity to learner reading ability. For example: according to Table 4.3, a difference from Three to Four could mean that the learner has moved from 69 to 70% or it could mean that a learner has moved from 50 to 100%, in other words the same difference could hide a 1% or a 50% increase in performance. This would confound the results where differences are likely to be small. It would be better if the actual percentage performance had been recorded and these could be used to determine progress across the three years for the two matched groups of participants. This would lead to clearer results.

The continuation of music instruction through the Foundation Phase and in later years suggests a strengthening of the relationship, therefore the study could cover a longer period of time for a more accurate result.

Other limitations or some might see it as an advantage, is that this data is correlated in nature because scores are measured on the same children over three grades. This means that we need to take the correlation into account in our tests. As an example of correlation, one needs to consider the reliability of a test. When using correlation to measure test reliability, one expects a positive correlation because each variable has to change in the same manner; that means, learners who got

high scores the first time should get high scores in the second. Suppose one wants to test the reading of the learners, we would get a sample of the learners' reading results over a set period of time. On one particular day one gives them the reading assessment test and on another day they have another assessment that is similar to the first. One ensures that the learners do not learn anything more regarding the reading assessment, between testing sessions and are not given any feedback about their scores on the first assessment. The scores on the two assessments will not be exactly the same, because learners will guess at the answers they are not sure of, and possibly not remember the correct answer, or the questions may not be written clearly, and thus they will get a slightly different score. Thus it will be necessary to correlate the two sets of scores. The more the two sets of scores are the same, the higher the correlation will be. Therefore, the higher the correlation, the better the reliability.

5.5 CONCLUSION AND RECOMMENDATIONS

This research reported on a study of the learners' emerging reading skills influenced by musical skills, during the Foundation Phase years. The findings provide evidence for a relationship between music and reading from Grade One to Grade Three learners. Gromko (2005) states that music perception is significantly linked to both reading skill and phonological awareness, but is also predictive of reading in its own right. Therefore, music perception seems to be tapping auditory mechanisms related to reading skill that partially overlap with those related to phonological awareness.

Hallam (2010:13) states that a key issue arising from some research which is evident in this research is what kinds of musical activity bring about change in particular kinds of intellectual development, and the reasons why. The research reported above has been based on children's participation in a variety of musical activities, some offering a broad musical education, others focused more closely on instrumental tuition and choral involvement. If active engagement with music increases positive perceptions of self, this may transfer to other areas of study and increase motivation in other areas, which could lead to an increase in reading development (Hallam, 2010:15).

This study does add to previous research that supports active involvement in music for the improvement that it provides in further developing reading skills in and beyond the Foundation Phase.

The importance of studying music in the Foundation Phase is well-documented in research (Huber, 2009:92). The continuation of music instruction through the Foundation Phase and in later years suggests a strengthening of the relationship anywhere between marginal and moderate levels.

The evidence in this study suggests the existence of a relationship between active participation in the study of music and reading development in Foundation Phase learners. While the association may not be as strong as one would like, it is positive and factual, meaning it is not a relationship that occurred by chance. In addition, this relationship is more observable with individuals having two or more years of formal training in music performance (Huber, 2009:96).

This investigation does contribute to a growing body of empirical research that supports active participation in music for the enhancement it provides in further developing reading skills beyond the Foundation Phase (Huber, 2009:64).

In conclusion, the researcher believes that she has made a sound finding in the correlation between participation in music instruction and improved reading performance scores during early Foundation Phase learning. While it is clear that the music group's reading performance was consistently higher and even improved by Grade Three in contrast to the non-music group's reading performance scores, it remains unclear if this correlation is the result only of participation in music instruction, as other factors, such as home motivation, have not been investigated. However, since the placing of the learners into the respective groups was sufficiently random to avoid allocating low-performing students to a single group, and vice versa, then the correlation thesis stands. Therefore this research suggests that there may be something positive for learners' learning and development should they participate in music instruction. However, the issues of the nature of such instruction, as well as the nature and extent of such participation, are issues that may still need further investigation.

LIST OF REFERENCES

Alpay, E. 2003. The contribution of Vygotsky's theory to our understanding of the relation between the social world and cognitive development. Department of Chemical Engineering and Chemical Technology, Imperial College of Science, Technology and Medicine. Available: http://www.imperial.ac.uk/chemicalengineering/common_room/files/PsychEd_5.pdf [2014, February 19].

Anvari, S. H., Trainor. J., Woodside J. and Levy B. 2002. Relations among musical skills, phonological processing, and early reading ability in preschool children. Department of Psychology, McMaster University, Hamilton, Ont., Canada. (Unpublished report).

Bradley, L and Bryant, P.E. 1985. *Rhyme and Reason in Reading and Spelling.* Ann Arbor: University of Michigan Press.

Brewer, Chris. 1995. *Music and Learning: Seven Ways to Use Music in the Classroom.* Tequesta, Florida: Life Sounds.

Blake, B. and Pope, T. 2008. Developmental psychology: incorporating Piaget's and Vygotsky's theories in classrooms. *Journal of Cross-Disciplinary Perspectives in Education.* 1(1): 59-67.

Bolduc, J. and Fleuret, C. 2009. *Placing music at the centre of literacy instruction*. Faculty of Education, University of Ottawa.

Buntz, A. 2010. *Children's music collections in public libraries: a case study of the Lackawanna county library system's collection.* Clarion, University of Pennsylvania.

Burch, J. R. 2007. A study examining the impact of scaffolding young children's acquisition of literacy in primary grades. A dissertation submitted as partial fulfilment of the degree of Doctor of Philosophy. Louisiana State University.

Butzlaff, R. 2000. Can music be used to teach reading? *Journal of Aesthetic Education* 343(4): 167-178.

Chaiklin, S. 2012. *The zone of proximal development in Vygotsky's lysis of learning and instruction*. Available: http://people.ucsc.edu/~gwells/Files/Courses_Folder/documents/chaiklin.zpd.pdf [2012, May 27].

Chau, C. and Riforgiate, T. 2010. The influence of music on the development of children. A senior project submitted in partial fulfilment of Bachelor of Science degree in Child Development. California Polytechnic State University, San Luis Obispo, California.

Cohen, L., Manion, L. & Morison, K. 2000. Research Methods in Education (5th edition) Routledge Falmer.

Corenblum, B. and Marshall, E. 1998.The band played on: predicting students' intentions to continue studying music. *Journal of Research in Music Education* 461: 128-140.

Degé, F. and Schwarzer. G. 2011. The effect of a music program on phonological awareness in pre-schoolers. *Front Psychology* 2: 124. DOI:10.3389/fpsyg.2011.00124.

De Vries, P. A. 2008. Parental perceptions of music in storytelling sessions in a public library. *Early Childhood Education Journal* 35(5): 475-476. DOI: 10.1007/s10643-007-0221-4.

Douglas, S. and Willatts, P. 1994. The relationship between musical ability and literacy skills. Journal of Research in Reading, Journal *of Research in reading* 17: 99–107. doi: 10.1111/j.1467-9817.1994.tb00057.x

Eaton, J. C. 2006. The effects of an integrated reading and music instructional approach on fourth grade students' reading and music achievement. Doctoral Thesis. Capella University, Minneapolis.

Fisher. D, McDonald. M. and Strickland. J. 2001. Early literacy development: a sound practice. *General Music Today* 15-20.

Flohr, J. W. 2006. Enriching music and language arts experiences. *General Music Today* 19(2): 12-16.

Frith, U. 1985. Beneath the surface of developmental dyslexia. In *Surface dyslexia*. K.E. Patterson, J.C. Marshall and M. Coltheart, Eds. Hillsdale, NJ: Lawrence Erlbaum Associate. 301-330.

Gardiner, M.E., Fox, A., Knowles, F. and Jeffrey, D. 1996. Learning improved by arts training. *Nature* 381, 284.

Galperin P. 1998. Psychologist in Vygotsky's Footsteps Published in: *"Culture & Psychology"* 4, 501-506.

Goswami, U. and Bryant, P.E. 1990. *Phonological skills and learning to read.* Hillsdale, New Jersey: Lawrence Erlbaum.

Gromko, J. E. 2005. The effect of music instruction on phonemic awareness in beginning readers. *Journal of Research in Music Education* 53(3): 199-209. Available: http://www.jstor.org/stable/3598679 [2013, March 4].

Gromko, J. E. and Poorman, A.S. 1998. The effect of music training on pre-schoolers' special-temporal task performance. *Journal of research in music education* 46, 173-181 **http://www.jstor.org/stable/3345621** [2013, March 4].

Gromko, J. E. and Smith, P. A. 1998. The effect of music training on pre-schoolers' spatial-temporal task performance. *Journal of Research in Music Education* 46(2): 173-181.

Hallam, S. 2010. The power of music: its impact on the intellectual, social and personal development of children and young people. *International Journal of Music Education* 28: 269–289.

Hansen, D. and Bernstorf, E. 2002. Linking Music learning to reading Instruction. *Music Educators Journal* 88(5): 17-21.

Hansen, D., Bernstorf, E. and Stuber, G. M. 2004. *The music and literacy connection.* Reston, Virginia: MENC: The National Association for Music Education.

Hargreaves D., Marshall, N. and North, A. 2003. Music education in the twenty-first century: a psychological perspective. *British Journal of Music Education* 20: 147-163.

Harp, B. 1988. When the principal asks, 'Why are your kids singing during reading time?' *The Reading Teacher* 41, 454-455.

Harrison, C.S., Asmus, E.P. and Serpe, R.T. 1994. Effects of musical aptitude, academic ability, music experience, and motivation on aural skills. *Journal of Research in Music Education* 422:131-144.

Hildebrandt, C. 1998. Creativity in music and early childhood. *Young Children* 53(6): 68-74.

Huber, J. J. 2009. Music instruction and the reading achievement of middle school students. Doctoral Thesis. Faculty of the School of Education, Liberty University, Virginia.

Ivic, I (1994). Lev S. Vygotsky. *Prospects: the quarterly review of comparative education* (Paris, UNESCO: International Bureau of Education) vol. XXIV, no 3/4, 1994, p. 471-485.

Jalongo, M.R. 1995. Promoting active listening in the classroom. *Childhood Education, Fall* 13-18

Kast, M. Meyer, M. Vogeli, C. Gross, M. Jancke, L. 2007. Computer-based multisensory learning in children with developmental dyslexia. *Restorative Neurology and neuroscience* 25: 355-369.

Kemmerer, K. P. 2003. *Relationship between the number of hours spent in general music class and reading skills in kindergarten through Grade 3*. Lehigh University, PA: Lehigh University. UMI no 3117160

Kolb, G. R. 1996. Read with a beat: developing literacy through music and song. *Reading Teacher* 50(1): 76-77.

Koutsoupidou, T. and Hargreaves, D. 2009. An experimental study of the effects of improvisation on the development of children's creative thinking in music. *Psychology of Music* 373:251-278.

Kouri, T. and Telander, K. 2008. Children's reading comprehension and narrative recall in sung and spoken story contexts. *Child Language Teaching and Therapy* 24(3): 329-349.

Lamb, Susannah J., & Gregory, Andrew H. (1993). The relationship between music and reading in beginning readers. Educational Psychology 13(1), 19-27.

Lapp, D. and Flood, J. 1983. *Teaching reading to every child*. 2nd ed. Routledge, NY: Macmillan Publishing. Available: http://www.issaquah.wednet.edu/documents/highschool/schedule/arts/achievement.pdf [2014, February 2014]

Lynne, C. 2001. *Teaching language to young learners.* Cambridge: Cambridge University Press.

McIntire, J. M. 2007. "Developing Literacy through Music." *Teaching Music* 15(1): 44-48.

Muthivhi, A. E. 2008. Socio-cultural case study of the schooling system in Venda, South Africa. Ph.D. Thesis. University of the Witwatersrand, Johannesburg

Neves, V. 2007. Instrumental music as content literacy education: an instructional framework based on the continuous improvement process. Masters Dissertation. Music Education Department. Department of Fine Arts and Communications, Provo Utah.

National Association for the education of Young Children. (NAEYC) 1996. Position statement on developmentally appropriate practice in early childhood programs serving children from birth through age eight. Washington, DC.

Nicholoson, D. 1972 Music as an aid to learning. Doctoral Dissertation, New York University, *Dissertation Abstracts International* 33 (01), 0352A.

O'Bruba, W. 1987. Reading through the creative arts. *Reading horizons* 27, 170-177.

Overy, K. 2000. Dyslexia, temporal processing, and music: The potential of music as an early learning aid for dyslexic children. *Psychology of Music* 28: 218-229.

Overy, K. 2003. Dyslexia and music: from timing deficits to musical intervention. *Annals of the New York Academy of Science* 999: 497-505.

Patel, P. and Laud, L. E. 2007. Using songs to strengthen reading fluency. *TEACHING: Exceptional Children Plus.* 4(2) Article 4. Available: http://files.eric.ed.gov/fulltext/EJ967474.pdf [2014, February 19].

Piro, J.M. and Ortiz, C. 2009. The effect of piano lessons on the vocabulary and verbal sequencing skills of primary grade students, *Psychology of Music* 37(3), 325-347.

Rauscher, F. 2003.Can music instruction affect children's cognitive development? *Eric Digest.* September. Available: http://katherinemichielsschool.org/pdfs/music_and_cog_develop.pdf [2012, May 4].

Rogoff, B. 1990. *Apprenticeship in Thinking: cognitive development in social context*, New York, Oxford University Press.

Roth, W. and Lee, Y. 2007. Vygotsky's neglected legacy: Cultural-Historical Activity Theory. *Review of Educational Research* 772: 186-232.

Santos, M. Castro, S. Besson, M. Moreno, S. Marques and C. Santos, A. 2008. Musical Training influences Linguistic Abilities in Eight year old children: More evidence for brain plasticity. *Cerebral Cortex Oxford Journals* 19: 712-723.

Smith, J. 2000. Singing and songwriting support early literacy instruction. *The reading teacher* 53: 646-649.

Standley, J. and Hughes, J. 1997. Evaluation of an early intervention music curriculum for enhancing pre-reading/writing skills. *Music Therapy Perspectives* 15: 79-86.

Stetsenko, A. and Arievitch, I. 2008. Teaching, learning, and development: a post-Vygotskian perspective. In *Learning for life in the 21st century: sociocultural perspectives on the future of education.* G. Wells and G. Claxton, Eds. Oxford: Blackwell Publishing. 475-503.

Towell, J. H. 1999-2000. Motivating students through music and literature. *The Reading Teacher* 53, 284-287

Tucker, A. 1981. Music and the teaching of reading: a review of the literature. *Reading Improvement* 181: 14-19.

Tharpe, R. G., & Galimore, R. 1991. *Rousing minds to life: teaching, learning and schooling in social context*. Cambridge, MA: Cambridge University Press.

Vygotsky, L. (1962). *Thought and language*. Cambridge, MA: MIT Press.

Vygotsky, L. S. 1978. *Mind in society.* Cambridge, MA: Harvard University Press.

Vygotsky, L. S. 1986. *Thought and language.* Edited and translated by A. Kozulin. Cambridge, MA: MIT Press. (Original work Published in 1934).

Wallace, W. 1994. Memory for music: effect of melody on recall of text. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 206: 1471-1485.

Weinberger, N. M. 1994. Music and cognitive achievement in children. *Musica Research Notes.*12. Available: http://www.musica.uci.edu/mrn/V1I2F94.html [2012, May 4].

Wells, G. 1994a. Learning and teaching "Scientific Concepts": Vigotsky's ideas revisited. This paper was presented at the Conference," Vygotsky and the Human Sciences," Moscow, Ontario Institute for Studies in Education. University of Toronto. Available: http://people.ucsc.edu/~gwells/Files/Papers_Folder/ScientificConcepts.pdf [2014, February 18].

Wells, G. 1994b. The complementary contributions of Halliday and Vygotsky to a "language-based theory of learning". *Linguistics and Education* 6: 41-90.

Wedin, Eva. 2011. Spela med hela kroppen: rytmik och motorik i undervisningen. Stockholm: Gehrmans Musikförlag.

Western Cape Education Department. 2011. National Curriculum statement (NCS) Curriculum and assessment policy statement. (CAPS) Foundation Phase. Grade R- Grade three. Available:

http://www.thutong.doe.gov.za/supportformatrics/HomeLanguageCAPSFoundationPhase/tabid/5002/Default.aspx [2014, July 28].

Western Cape Education Department. 2004. Revised National Curriculum statement (RNCS) Grades R-9. Available: **http://wced.school.za/ncs/ncs-n.html** [2014, July 28].

Wiggins, D. G. 2007. Pre-k music and the emergent reader: promoting literacy in a music-enhanced environment. *Early Childhood Education Journal* 351: 55-64.

Woodall, L. and Ziembroski, F. 2004. *Promoting literacy through music.* Available: http://www.songsforteaching.com/lb/literacymusic.htm [2012, May 4].

APPENDIX A: HEADMASTER'S PERMISSION TO CONDUCT STUDY

The Headmaster
Rondebosch Boys' Preparatory School
78 Campground Road
Rondebosch, 7700
Cape Town

Dear Mr Ryan

This letter serves to request permission to conduct a master's research study at RBPS. The purpose of this study is to possibly find a link in music instruction and reading ability in learners.

Studies support the use of music to help learner reading development. In addition, research has shown that music improves language skills and that there is relationship between music and reading achievement.

Thank you for your assistance and cooperation.

Samantha Kriger

APPENDIX B: INFORMED LETTER OF CONSENT TO PARENT

RONDEBOSCH BOYS' PREPARATORY SCHOOL

78 Campground Road Rondebosch 7700 Cape Town
Tel 021-686 4635 Fax 021-685 1492
E-mail: info@rondebosch.com http://www.rondebosch.com

Dear Parent/ Guardian

I am presently completing my Master's degree in Education and in partial fulfilment of my degree I shall be conducting a research study with the boys currently enrolled in music at RBPS. Your son is eligible to participate in this study since he is a learner at RBPS. Participating learners will be assigned an identification number thus no reference would be made to them by name in this study.

Participation in this study will may result in a better understanding of the possible link between music instruction and how it could or could not affect reading ability and comprehension in the learner.

There are no risks with this study and it will not affect you son in any way.

Should you have any concerns about your son in this study feel free to contact me at 0837744210.

Kind regards,

Samantha Kriger

✂----------

Reply slip:

I _____ (Parent/Guardian Name) consent for my son_____(Son's Name) to participate in this study.

Signature: _____

Date: _____