LEVELS OF TEACHER SELF-EFFICACY AND USE OF MUSIC ACTIVITIES
IN PRE-SCHOOLS IN NAIROBI AND KIAMBU COUNTIES, KENYA.

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A Thesis Submitted in Partial Fulfillment for the Requirements of the Degree of
Doctor of Philosophy in the School of Education, Kenyatta University.

September, 2016
DECLARATION

I declare that this thesis is my original work and has not been presented in any other university/institution for consideration for award of any degree or certificate. This thesis has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, they are specifically accredited and references cited in accordance with anti-plagiarism regulations.

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DEDICATION

I dedicate this thesis to the Almighty God, please accept…

and to my lovely wife Lucy Wambeti for having faith in my abilities….

and to my daughter, Hellen Gathoni, for hanging on in there…

and to my late son, Paul Muya, gone too soon…

and to my late Father, Joseph Muya, inspired us all…

and to my mother, Teresiah Gathoni, keeps the fire burning…

and to the many other family members, who felt inspired by this ‘old man’ going back to school……

and so life moves on……and on….and on….
ACKNOWLEDGEMENTS

First, I thank the Almighty God in whom all things are made possible. Next, I highly appreciate the professional and moral support, guidance and encouragement from my supervisors, Professors Grace Wangari Bunyi and John Aluko Orodho of the Department of Educational Management, Policy and Curriculum Studies, School of Education, Kenyatta University.

I would also like to acknowledge my family for their moral and spiritual support and my respondents for willingly giving me of their time and allowing me to conduct observations in their classes as they taught. My gratitudes also go to my fellow students at Kenyatta University and colleagues at Mount Kenya University, especially Amir, who encouraged me even when the going got tough. Finally, I wish to acknowledge Professor Anita Woolfolk Hoy for allowing me to use the OSTES.

Thank you, Professor.
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# ABBREVIATIONS AND ACRONYMS

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<thead>
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<th>Abbreviation</th>
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<tbody>
<tr>
<td>DICECE</td>
<td>District Centre for Early Childhood Education</td>
</tr>
<tr>
<td>ECD</td>
<td>Early Childhood Development</td>
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<tr>
<td>ECE</td>
<td>Early Childhood Education</td>
</tr>
<tr>
<td>ECDE</td>
<td>Early Childhood Development and Education</td>
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<td>EFA</td>
<td>Education for All</td>
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<td>GoK</td>
<td>Government of Kenya</td>
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<td>GTE</td>
<td>General Teacher Efficacy</td>
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<td>KICD</td>
<td>Kenya Institute of Curriculum Development</td>
</tr>
<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MENC</td>
<td>Music Educators National Conference</td>
</tr>
<tr>
<td>NACCRRA</td>
<td>National Association of Child Care Resource and Referral Agencies</td>
</tr>
<tr>
<td>NACECE</td>
<td>National Centre for Early Childhood Education</td>
</tr>
<tr>
<td>NACOSTI</td>
<td>National Commission for Science, Technology and Innovation</td>
</tr>
<tr>
<td>NAfME</td>
<td>National Association of Music Educators</td>
</tr>
<tr>
<td>OSTES</td>
<td>Ohio State Teacher Efficacy Scale</td>
</tr>
<tr>
<td>PTE</td>
<td>Personal/Perceived Teacher Efficacy</td>
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<tr>
<td>SAT</td>
<td>Standardized Achievement Test</td>
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<tr>
<td>SNAAP</td>
<td>Strategic National Arts Alumni Project</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<tr>
<td>TSE</td>
<td>Teacher Self Efficacy</td>
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ABSTRACT

Despite the fact that pre-school teachers undertake specialized courses to enable them to use music activities in the course of teaching, there is a lot of variability in the frequency, variety and purposes to which these activities are employed. The purpose of this study was to examine the levels of teacher self efficacy and use of music activities in pre-schools in Nairobi and Kiambu Counties. The study is grounded on the self efficacy theory by Bandura and complemented by the theory of multiple intelligences by Gardner. The self efficacy theory focuses on teacher self beliefs which are important in shaping classroom behavior, while the theory of multiple intelligences proposes several distinct types of intelligences which include musical intelligence. The study adopted a sequential mixed methods design for data collection. It endeavored to examine the levels of TSE among pre-school teachers and compare the frequency, variety and reasons for use music activities in pre-schools in Nairobi and Kiambu counties across the levels. The target population was 8211 pre-school teachers in Nairobi and Kiambu counties. The sampling frame was the 2740 pre-schools in Nairobi and Kiambu counties which were clustered into sub counties, and stratified random sampling was used to get ten sub counties. From each sub county, twenty pre-schools were randomly sampled with proportionate allocation from both public and private pre-schools. From each pre-school, one teacher was randomly sampled for inclusion in the study. One hundred and ninety-four pre-school teachers filled a modified Ohio State Teacher Efficacy Scale questionnaire which had been piloted on three pre-school teachers not used in the study. The data was analyzed using descriptive statistics and then ranked. Two groups of respondents were identified based on the ranking: the top 25% and the bottom 25% deemed as those with high TSE and those with low TSE respectively. Purposive sampling was used to get thirteen teachers for each of the two groups, who were observed and audio recorded while teaching and later interviewed. The findings indicate that pre-school teachers in Nairobi and Kiambu counties have high self-efficacy levels and all employ music activities in varying degrees in their classrooms. Using Students’t - tests, the study determined that the difference in the frequency of use of music activities between pre-school teachers with different levels of TSE was statistically significant while the difference in the variety of music activities was not statistically significant at 0.05 significance level. The study unearthed creative and innovative ways of using music activities in class which were reported qualitatively. There was a lot of similarity in the way teachers with different levels of TSE used music activities. The reasons for use of music activities were also similar for teachers across both categories of TSE. The study recommended more use of music activities in the course of teaching. It is envisaged that the findings from this study will prove useful in adding variety to the uses of music activities in pre-schools and may provide additional strategies for instruction at this and other levels of learning. The findings may inform policy at National Centre for Early Childhood Education in order to increase the levels of Teacher Self-Efficacy for the granduands.
CHAPTER ONE
INTRODUCTION AND CONTEXT

1.1 Introduction

This chapter presents the background to the study, the statement of the problem, the objectives of the research and the research questions, the purpose, significance and assumptions of the study, the limitations and delimitations, the theoretical framework based on the theories of self efficacy and multiple intelligences, the conceptual framework and ends with the operational definition of terms.

1.2 Background to the study

The search for quality interactions in classrooms continues to interest educationists all over the world. This mainly addresses those teacher qualities and attributes that result in effective teaching behavior at various levels of education. The current study is about beliefs of pre-school teachers which initiate and sustain classroom interactions and experiences that result in more meaningful learning outcomes, for without doubt, children need quality education (Kocabas & Ozeke, 2012). Recent knowledge about the loss of potential intellectual development during the formative years due to limited experiences has pointed to the value of targeting young children in order to increase later developmental and educational outcomes (Barnett, 2008). The importance of early childhood experiences in later growth and development has been the subject of many researches, including but not limited to, the Perry pre-school project (1962), the Abecedarian pre-school project (1972) and the Chicago longitudinal study (1986). In these studies, researchers provided high quality pre-school programs aimed at cognitive development, with amazing results.

The Perry Pre-school Study took place between 1962 and 1967 in Michigan, USA, and involved 123 African American children from poor families (Schweinhart,
Montie, Xiang, Barnett, Belfield & Nores, 2005). This study has so far documented the impact of the program on participants through the age of forty. Results indicate higher school achievement; increased high school graduation rate; higher employment rate; higher earnings and significantly lower crime rate. These findings are similar to those of the Abecedarian Project, which according to Campbell, Ramey, Pungello, Sparling & Miller-Johnson (2002), began in 1972 in North Carolina. It adopted a true experimental design, with participants being randomly assigned to either the control or experimental group. The treatment group received high quality pre-school experiences. 104 out of the original sample of 111 took part in the follow up study. The findings indicate that those in the pre-school treatment group earned significantly higher scores on intellectual and academic measures as adults, attained more years of total education, were more likely to attend college, and showed a reduction in teenage pregnancy compared with pre-school controls.

Similar findings were reported in the Chicago longitudinal study which began in 1986 on 1539 children and was designed to better understand how early childhood experiences affect later school performance, social behavior, and career plans. Results from this study show higher levels of school achievement, lower rates of grade retention and school dropout, fewer behavior problems in school and lower juvenile crime rates (Temple, Reynolds & Miedel, 2001). With this overwhelming evidence, educators have to concern themselves with what happens in the kindergartens and pre-schools. Consequently, this study concerned itself with the teaching and learning activities in pre-schools.

In the pre-school setting, more than at any other level, the teachers need to be effective and must understand that they are ultimately responsible for the experiences in their classrooms (Ross & Bruce, 2007). A study by Walker (2008) reports that
effective teachers are always prepared, positive about teaching, have high expectations for learners, are creative and display a personal touch. They also cultivate a sense of belonging, are compassionate, have a sense of humor, respect students, forgive and admit mistakes. Stronge (2007) adds that effective teachers have clarity about instructional goals, knowledge about curriculum content and the strategies for teaching it, knowledge about their students and adapting instruction to their needs, integrating their instruction with that of other areas and devoting more time to practice that enrich and clarify the content. Clearly, there are many complex factors that go into shaping effective teaching, but as Vannatta-Hall (2010) notes, critical among them is attitude. Teacher attitudes are constructed of such components as ‘beliefs about the subject area, beliefs about their ability to teach effectively in that area and beliefs about the effectiveness of teaching having any impact on children’s learning’ (Vannatta-Hall, 2010, p 2). Bandura’s (1977; 1997) theory elucidates the development of attitudes from a social learning framework in which behavior is theorized to depend on one’s sense of self efficacy. This research therefore sought to explore pre-school teachers’ beliefs, specifically the attribute of self-efficacy, which according to Bandura (1997) has a powerful influence on the teachers’ general effectiveness with the students as it shapes the thought patterns and emotions that enable classroom actions.

Self - efficacy refers to the beliefs one holds about ones’ capabilities to organize and execute the course of action required to generate desired outcomes (Bandura, 1997). It has to do with how one feels about his or her ability to accomplish a given task, that is, confidence (Cubukcu, 2008) or assurance. Teacher Self efficacy (TSE) is part of the self efficacy theory and refers to “teachers’ self-belief in their ability to promote students’ learning” (Hoy and Spero, 2005). TSE is an important construct
as it influences teacher motivation and persistence. The importance of TSE is captured by Madewell and Shaughnessy (2003), who observe that “what we know, the skills we possess, or what we have previously accomplished are not always good predictors of subsequent attainments because the beliefs we hold about our capabilities powerfully influence the ways we behave” (p. 381).

The strength of TSE beliefs lies along a continuum but research identifies two levels of teacher efficacy: high and low. Studies have documented the characteristics of highly efficacious teachers as better organization, readiness to try new ideas to meet students’ needs, being less critical of students whenever they make mistakes, having an optimistic attitude about teaching and likely to implement positive classroom management strategies (Scharlach, 2008). Tschannen-Moran & Woolfolk Hoy (2001) found out that teachers with high levels of (TSE) are more resilient in their teaching and liable to try harder to help all students to reach their potential. High TSE has also been associated with confidence and innovativeness and using novel methods to reach the learners (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998) and with greater levels of planning and organization (Allinder, 1994). When teachers have a high sense of self efficacy, they are more creative in their work, persist longer and increase their efforts when their performances fall short of their goals (Bangs & Frost, 2012). The reverse is generally true of teachers with lower levels of TSE (Allinder, 1994). They have a pessimistic attitude about teaching, are critical of learners and do not set challenging goals.

This is supported by findings by Gerges (2001) who found that pre-service teachers with lower rating of TSE were less likely to implement novel teaching methods into their classrooms. According to Bandura (1997), the level of success an individual experiences in any task is associated with how efficacious he/she feels towards that
task. Self-efficacy is specific to the task being attempted, and high self-efficacy in one area may not coincide with high self-efficacy in another area. In a research on Slovak teachers’ levels of efficacy, Gavora (2010) found that TSE underlies and enables all observed classroom actions. Accordingly, TSE is able to explain the individual differences in observed teachers’ activities in the field of education (Ustuner, Demirtas & Ozer, 2009).

Olson (2011) notes that music is an important and exceptionally useful tool in the way we learn and to deny its power is to squander a truly great resource. This is echoed by Ockleford (2008) who points out that music has a special place in children’s development and from the very beginning, children find music irresistible. He adds that in the early years setting, music is a powerful and inclusive ‘glue’, bringing coherence to the activities in which children and practitioners engage. Indeed, music offers every child an opportunity for fun, enjoyment and enrichment (Zinar, 1987). Kocabas & Ozeke, (2012) seem to agree with Ockleford (2008) and argue that using music activities in education of children opens up new windows to life, providing new stimulation for them. With music the children have fun, gain pleasure and develop their various skills.

The importance of music in early childhood is captured by Standley & Madsen (1990) who point out that “these years are critical for developing the ability to engage in music through singing and moving and for using the body to respond as a musical instrument in many ways to different kinds of music”(p 24). Music has positive contributions to the development of children in terms of feeling the sense of achievement, giving self confidence, learning developmental skills, enhancing self-esteem, having relaxation and teaching academic concepts (Kocabas & Ozeke, 2012). It is used as a bridge to integrate other subjects (Okongo, 2007), makes
learning easier (Zinar, 1987), helps “the children to learn concepts and skills more easily, enjoy the learning activities and gain social skills such as participating in group activity, following instructions and leading a group” (Kocabas & Ozeke, 2012 pg 87). An interesting finding in a study by Aguirre, Bustinza and Garvich in 2016 is that songs create a favorable environment in the classroom and encourage students to be more committed to class activities.

Hetland (2000), in a meta-analysis of research findings, found a ‘strong and reliable’ relationship between music activities and brain functioning, and concluded that engagement in music, one way or another, leads to dramatic improvements in performance on spatial-temporal measures. Scott (1992) studied the aspects of attention and perseverance of pre-schoolers and revealed that participation in music led to significant achievement in measures of self-regulation. Music activities also have positive effects on children’s social competence and behavior, including self-regulation skills as was revealed by Lobo and Winsler (2006), in a study on Head Start Pre-schoolers taking part in a creative dance and music program. An analogous study by Broh (2002) found out that students who participated in musical activities talked more with parents and teachers, and had higher self-esteem leading to increased motivation and self-efficacy while another study by Whitwell (1977) drew similar conclusions: that creative participation in music improves self-image and self-awareness. In summary, music activities cater for all round development of the leaner. Music activities are valuable in their own right and enhance children’s creativity as well as their social, physical, intellectual and emotional development (Seefeldt & Barbour, 1998).

Music as a ‘tool’ for instruction is often overlooked though it has many proven benefits and connections to the body, brain and learning that are important and can
aid in academic achievement (Merrell, 2004). In his theory of multiple intelligences, Gardner (1983) posits that there are at least eight different types of “intelligences” associated with human beings, rather than just one single quotient. He views intelligence as the capacity to solve problems or to fashion products that are valued in one or more cultural setting (Gardner & Hatch, 1989). One of these “intelligences” is “musical intelligence”, which involves the performance, composition, and appreciation of musical patterns. According to Gardner (1999) in Seefeldt & Barbour (1998), these differences confront an educational system that assumes that every person can learn the same materials in the same way. The broad spectrum of students would be better served if disciplines could be presented in a numbers of ways.

The theory of multiple intelligences challenges teachers to think about its’ practical uses and applications in schools. Multiple intelligences with respect to education is based on the idea that all students learn differently and must have the opportunity to learn in appropriate ways (Levin, 1994). Gardner (1999) in Seefeldt & Barbour (1998) points out that music is a way of knowing and may be a privileged organizer of cognitive processes, especially among young people and that of all the intellectual capacities none develops earlier than music capacity (Olson 2011). The power that music can have on learners is extensive; it can benefit students and lead them to higher achievement and development (Merrell, 2004). This is especially true in the pre-school classrooms, for music activities render themselves readily for use as instructional strategies, for student engagement and for classroom control. Indeed, with music, students become more engaged with the class and interested in the class topic, pay more attention, participate more frequently, and carry out all their tasks with more energy and enthusiasm (Aguirre, Bustinza & Garvich, 2016).
The importance of music activities to children could be what led the Music Educators National Conference (MENC) to adopt a position statement that all children have musical potential, that young children are capable of developing critical thinking skills through music, that music is a natural and important part of young children’s growth and development and early interaction with music positively affects the quality of all children’s lives. Indeed music experiences should be subserviently integrated within the daily routine and play of children and should include music from a variety of cultures, styles and time periods (MENC, 1991). In the light of the foregoing, this study focused on how pre-school teachers used the strengths of musical intelligence in their teaching.

According to (Kenyan) Vision 2030, the Government of Kenya (GoK) aspires for a globally competitive quality education, one that will be relevant and lead to a just cohesive society. The competitive quality education should include music activities which are an important manifestation of human expression. These music activities should be central and essential to a complete education (Kenya Vision 2030). As Dewey (1859-1952) observes, education is not a preparation for life; rather it is the living. It should therefore be enjoyable to the learner. Downplaying or excluding music activities degrades education and culture because instruction constitutes a necessary part of sustaining any culture or society (Jorgensen, 2003).

The Government of Kenya (GoK) has for a long time realized the importance of music as a part of and support to the curriculum in the schools. Before the review of the 8-4-4 curriculum in 2002, music was a compulsory examinable subject offered to all primary school learners. After the revision, however, it remained a core subject (offered to all) but non-examinable. The GoK also supports the Permanent Presidential Music Commission (PPMC), which, among other things, seeks
modalities to include music and dance at all the levels of the school system. The government also supports the annual schools and colleges music competitions known as the Kenya Music Festival (KMF) in a bid to expose students to this important area of life, to preserve our culture and to build a wider repertoire of music activities.

The support for use of music activities in pre-schools can be deduced from a perusal of the curriculum content in institutions which train Early Childhood Education (ECE) teachers. In all of them trainee ECE teachers undertake music and movement courses designed and approved by experts in the area of ECE. In some of these institutions, for example, the universities offering ECE training, the courses number three or four, interspersed throughout the training period. In the District Centres for Early Childhood Education (DICECE), the ECE trainee teachers undertake two compulsory courses in music and movement. These courses are approved by both the Commission for University Education (CUE), for the case of universities and the Kenya Institute of Curriculum Development (KICD) for the DICECE curriculum.

The Kenya Institute of Curriculum Development (former KIE) Early Childhood Development and Education Syllabus (RoK, 2008) states that Early Childhood development should provide education geared towards development of the child’s mental, social and physical abilities and enable the child to enjoy living and learning through play. The Primary Education Creative Arts Handbook (RoK, 2006) advices the teacher to be aware of the stages of artistic development of the child so as to think about how best to approach the learning /teaching process in order to achieve the set objectives. In these two documents, the teacher is specifically advised to use music activities. In fact, the Primary Education Creative Arts Handbook (ibid.) clearly spells out the types of music activities to be used for each of these stages. It
further states that music and movement activities should be an important component of children’s daily activities in ECD centers.

The inclusion of music and movement as a core subject in the pre-school curriculum in Kenya gives an indication of the importance accorded to this area of learning while the description of the skills to be developed, the activities the children should engage in, and the materials to be used in the learning process reflect a deep understanding of music as (a teaching) and learning experience (Okongo, 2007). Using music activities in the course of instruction is beneficial to the learner. Indeed, early childhood teachers who take the time to integrate music and movement activities optimize possibilities for increased academic learning time (Sandberg, Cory & Kathleen, 2013). This is because children's innate love for music makes it appropriate for use as a motivational tool (Thares, 2010). To support this love for music, a study by Dinsmore (2003), reported in White (2007) found that an overwhelming 93% of students interviewed said they loved music and that music relaxed and helped them stay on-task. Another study by Almodovar (2010) in Puerto Rico found that teachers used music activities everyday in numerous ways with a variety of purposes, and they viewed music integration as a tool to fulfill students’ needs. These findings complement another study on use of music across the curriculum by Malin (1993), which found that most of the elementary classroom teachers (more than 70%) incorporated music activities in their lessons. This parallels a study in Kenya by Sinyei, Mwonga & Wanyama in 2012 which revealed that songs were the most popular educational resource in ECE’s and were used in all the pre-schools. To add support, Almodovar (2010) points out that in general, teachers use music activities more than other visual arts in their classrooms and more time is spent on music activities than any other art form. In addition, teachers
consider use of music activities to be helpful to students’ academic achievement (Shuck, 2005).

However, some studies reveal that teachers do not include music activities in their teaching (Digolo, 2003). Other studies show that the status of music remains low and there is an almost total neglect for this important area (Akuno, 2012). Some teachers shy away from using songs in class (Okongo, 2007) and indeed, the most threatening didactic issue in early childhood education today seems to be the marginal position music occupies in curricula activities (Koech, 2003). Pre-school teachers are seen as not competent in using music activities with children (Kocabas & Ozeke, 2012) and opportunities for using music activities are often subordinated to other teacher-controlled activities (Tsunady, 2001).

Pre-school teachers appear to occupy both ends of the continuum, indicating a lot of variability in the use of music activities in the course of instruction. Why is this so? Could it attributed to the teachers’ belief in their teaching ability? It is imperative for educators to concern themselves with explanations for the actual observed teacher behavior in pre-schools and hence the necessity for this study.

1.3 Statement of the problem

The preceding section has demonstrated the need for music activities subserviently integrated within the pre-school curriculum. Music activities create a favorable environment in the classroom and encourage students to be more committed to class activities (Aguirre, Bustinza & Garvich, 2016). Indeed, early childhood teachers who take time to integrate music activities optimize possibilities for increased academic learning time (Sandberg, Cory & Kathleen, 2013). In cognizance of this fact, trainee ECE teachers undertake specialized courses to enable them to use music activities in
the course of instruction, so, ideally, there should be use of many music activities in
the course of classroom interactions in preschools.

A keen observation in Kenyan ECEs reveals that most teachers actually use music
activities in the course of instruction (Andang’o 2007). However, there is a lot of
variability across all music activities observed amongst the teachers in Nairobi and
Kiambu counties in terms of frequency, variety and the reasons for their use. Why
does this variability exist?

If the situation is not addressed, some preschool children in Nairobi and Kiambu
counties will continue in learning environments where their musical intelligence is
not exploited to the full in the pursuit of learning goals. From previous research, high
TSE has been linked to creativity, innovativeness, experimentation and use of novel
methods in the classroom. Since TSE underlies and enables all observed classroom
actions and is able to explain the individual differences in observed teachers’
activities in the field of education (Ustuner et. al., 2009), can the variability be
attributed to the levels of teachers’ beliefs in their abilities? This study therefore
sought to examine levels of teacher efficacy and use of music activities among pre-
school children in Nairobi and Kiambu counties.

1.4 Purpose of the study

The purpose of this study was to find out the levels of TSE and use of music
activities in pre-schools in Nairobi and Kiambu counties. Given the importance of
self efficacy in determining behavior, it was imperative to understand TSE from the
teacher’s perspective and how it relates to the use of music activities in the pre-
schools.
1.5 Objectives of the study

The research was guided by the following objectives:

i. To examine the levels of TSE among pre-school teachers in Nairobi and Kiambu counties.

ii. To determine whether there is a significant difference in the frequency of usage of music activities between teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

iii. To determine whether there is a significant difference in the variety of music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

iv. To find out the music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

v. To compare reasons for use music activities based on levels of TSE among pre-school teachers in Nairobi and Kiambu counties.

1.6. Research questions and hypotheses

1.6.1 Research questions

The research sought to address the following questions:

i. What are the levels of TSE in use of music activities among pre-school teachers in Nairobi and Kiambu counties?

ii. Which music activities are used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties?

iii. What are the reasons for use of music activities among pre-school teachers in Nairobi and Kiambu counties based on levels of TSE?

1.6.2 Hypothesis
The study was guided by the following hypotheses:

H01: There is no significant difference in the means of the frequency of use of music activities between teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

HA1: There is a significant difference in the means of the frequency of use of music activities between teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

H02: There is no significant difference in the variety of use of music activities between teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

HA2: There is a significant difference in the variety of use of music activities between teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

1.7 Significance of the study

The study sought to find out and describe the levels of teacher self efficacy among pre-school teachers in Nairobi and Kiambu counties. It also sought to find out if a statistically significant difference existed between the levels of TSE and the variety and frequency of use of music activities in pre-school classes. Finally, it sought to find out the actual music activities and the reasons teachers in the pre-school classes give for use of these activities and compare them across levels of TSE.

There is a dearth of research literature on the use of music activities in the pre-school classrooms, especially in Kenya and more studies are needed in this area. Also, there is need to explore the attribute of teacher efficacy especially at a time
when there is an emphasis on quality education provision. Thus, this study may contribute additional literature in the area of teacher self efficacy and use of music activities in pre-schools.

This study may have practical implications on the future of Early Childhood Education programs. Gaining new perspectives on observed uses of music activities in the pre-schools may promote an understanding of their effectiveness, providing the pre-school teachers with additional strategies for instruction. The multiple uses of music activities may lead to strengthened interest in music, both as a method of instruction and as a way of enhancing learning in other levels of education thus enabling educators to provide more appropriate instruction in the pre-schools.

The findings of this study may generate a necessary feedback to personnel in DICECE and NACECE and may inform teacher preparation centers on the need to restructure or evaluate their music and movement programs. From this research, issues and challenges may be raised which could ignite some interest in future researchers in the area of use of music activities or teacher self efficacy. Finally, the findings from this study may contribute to the government efforts of making pre-school education more efficient.

1.8 Limitations and Delimitations

1.8.1 Limitations

i. The study was limited by time for repeated observations of the teacher in the pre-school classroom. Only one observation session was held per teacher. Repeated observations may have unearthed more music activities and more uses for the same in the pre-school classrooms. The researcher made a holistic observation of the classroom activities and audio recorded the lessons for reference during the analysis.
ii. The study was limited by the instruments used to collect data, since no instrument can be regarded as totally absolute. To counteract and minimize the effect, the researcher used triangulation, complementing interview data with observational data.

iii. The TSE data was self reported, so it may have biases due to individual differences in reaction to self exposure.

iv. There could have been flaws in interpretations of TSE data due to human errors. To reduce the effect of these errors in interpretation, the researcher used the Statistical Package for Social Sciences (SPSS Version 21.0).

v. The observational and interview data was collected from a purposively selected sample, so there is need to put a word of caution when attempting to generalize the findings.

1.8.2. Delimitations

Though there were many potential participants, for example, teachers in lower primary classes, this research targeted teachers in pre-schools in Nairobi and Kiambu counties. It did not concern itself with the other counties or other levels of Early Childhood Education. Though there are many factors that make teachers effective in their teaching, this study focused on an examination of levels of teacher self efficacy with regard to using music activities in the pre-school classroom. Hence, levels of teacher efficacy in other areas were not considered in this study. This study did not address itself to teaching of music as a curriculum subject area. While there are several aspects in the use of music activities such as meter, lyrics, language and pitch among others, this study focused on only three of them, that is the frequency, the variety and the purposes to which music activities are employed.
1.9 Assumptions for the study

In the study, the following assumptions were made:

i. All respondents selected for the study would be available and would provide honest and reliable responses.

ii. The pre-school teachers selected for the study had undergone an ECE teacher training course and had therefore been exposed to Music and Movement courses.

iii. The pre-school teachers were familiar with and used KIE/NACECE developed guidelines for instruction in the pre-schools.

iv. Pre-school teachers used music activities in the course of their teaching in pre-schools in Nairobi and Kiambu counties and would accept to be observed and audio recorded.

1.10 Theoretical framework

This research is based on the self efficacy component of the social cognitive theory by Bandura (1997) and complemented with the theory of Multiple Intelligences by Gardner (1983). Self efficacy (SE) is a motivational construct characterized as the extent to which individuals believe they can organize and accomplish actions necessary to bring about a desired outcome. Teacher Self efficacy refers to “teachers’ self-belief in their ability to promote students’ learning” (Hoy and Spero, 2005). These beliefs are a key factor in a generative system of human competence, guiding and influencing what teachers do in the classroom. Teachers’ plans and actions are generally filtered through their belief system, which can affect their practice and daily activities in their classrooms. TSE shapes the thought patterns and emotions that enable classroom actions and therefore directly influences outcomes in the classroom (Bandura, 1997).
This study focuses on Perceived Teacher Self Efficacy which is defined as a teacher’s judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated (Henson, 2001). The level of success an individual experiences in any task is associated with how efficacious he/she feels towards that task. Bandura (1997) notes that unless people believe they can produce desired effects by their actions, they have little incentive to act. These beliefs are a major basis of action because people guide their lives by their beliefs of personal efficacy. Similarly, teachers’ pedagogical efforts are governed by what they believe they can achieve (Gibson & Dembo, 1984). Teachers who believe strongly in their ability to promote learning create mastery experiences for their students and experiment with a variety of teaching strategies, but those beset by doubts about instructional efficacy construct classroom environments that are likely to undermine students judgments of their abilities and their cognitive development (Bandura, 1997).

Teachers with a high level of TSE have “greater levels of planning and organization” (Allinder, 1994), are more confident and innovative and use novel methods to reach the learners (Tschanne-Moran, Woolfolk Hoy & Hoy, 1998). They are also more resilient in their teaching and try harder to help all students to reach their potential (Tschanne-Moran & Woolfolk Hoy, 2001). When teachers have a high sense of self efficacy, they are more creative in their work, persist longer and intensify their efforts when their performances fall short of their goals (Bangs & Frost, 2012). Teacher self efficacy is generally expressed through novel instructional strategies, purposeful student engagement and thoughtful classroom control. These are the same avenues through which music activities are used in the classroom. The researcher was guided by the opinion that teachers with high TSE were likely to use
more and varied music activities in their classrooms and for more meaningful purposes. The theory of self efficacy permeates through this study, first and foremost by guiding the background, then being part of the statement of the problem and subsequent objectives, guiding the literature review and the choice of methodology, giving shape to the reporting of the findings and being part of the conclusions and recommendations.

The self efficacy theory is complemented by the theory of ‘Multiple Intelligences’ (MI) proposed by Gardner in the book ‘Frames of the Mind’ (1983). He posits that there are eight or more “intelligences” associated with human beings. He views intelligence as ‘the capacity to solve problems or to fashion products that are valued in one or more cultural settings’ (Gardner & Hatch, 1989). These intelligences are Linguistic intelligence, Logical-mathematical intelligence, Spatial intelligence, Interpersonal intelligence, Bodily-kinesthetic intelligence, Intrapersonal intelligence and Musical intelligence. Musical intelligence involves the performance, composition, appreciation and use of musical elements of melody, rhythm and harmony.

A school-teacher should give all students experiences of “learning using different intelligences” (Eisenhower Southwest Consortium for the Improvement of Mathematics and Science Teaching, 1998). Music activities promote the development of multiple intelligences and also offer other cognitive benefits, such as enhancing the sense of sequence and memory. Therefore, classroom-teachers must provide varied approaches to meet each student’s strong points. Using rhythm, chanting and songs with students can increase their attention and interest while inspiring them to learn (Woodall & Ziembroski, 2004) In a nutshell, music activities contribute to the development of the pre-school child. The teachers’ use of music
activities will be a factor of his/her state of mind, his/her previous successful experiences, what he/she has observed others doing (vicarious experience or social learning) and what others tell him/her about his/her use of music activities in the classroom. In short, the teachers’ use of music activities will be a factor of his/her level of TSE. Strands of MI theory are infused through the whole research, informing the literature review, the methodology, the reporting of the findings and the recommendations and suggestions for further research. This study sought to find out how teachers use the strengths of musical intelligence in the course of instruction.

1.11 Conceptual framework

Miles and Huberman (1994) define a conceptual framework as a visual or written product, one that explains, either graphically or in narrative form, the main things to be studied: the key factors, concepts, or variables and the presumed relationships among them. The relationships between the independent, intervening and dependent variables in this study are captured in the conceptual framework illustrated in figure 1.1
Independent variable  Intervening variables  Dependent variable

Levels of Teacher Self Efficacy
High TSE
Good classroom management
Student engagement
Innovative instructional methods

Low TSE
Less confident
Less creative
Lower levels of planning

Use of music activities in the classroom
Classroom management
Student engagement
Instructional strategies
  • Frequency
  • Variety
  • Reasons

• Assessment of personal teaching competence
• Individual musicality
• Age
• Teaching experience
• Time constraints
• Content to be taught
• Context of teaching

*Figure 1.1* Conceptual Framework showing the relationship between the variables in the study.

From figure 1.1, the independent variable is the level of Teacher Efficacy and can either be high or low. The levels of TSE influence the use of music activities in preschools. Ideally, those teachers with high TSE should use more music activities, have more variety and employ these activities as instructional strategies, for student engagement and for classroom control. However, there are intervening variables. An intervening variable is one which affects the influence the independent variable has on the outcome variable. On the part of the teacher, these are individual musical ability based on training and mastery experiences, own personal teaching competence, teaching experience and age, among others. These were controlled through purposive sampling in the second phase of the study. Other environmentally induced intervening factors that were not under the control of the researcher included the weather, the content to be taught and the constraints of both time and space.
1.12 Operational definitions of key terms

**Classroom Control**: The process of ensuring that classroom lessons and transitions run as smoothly as possible.

**Chant**: a repeated rhythmic phrase, typically one shouted or sung in unison by a group of learners: to say or shout repeatedly in a singsong tone.

**Frequency of Use of Music activities**: number of occurrences of the music activities in a given time span; that is the temporal distribution of the use of music activities.

**Instructional practices**: all those attempts by the teacher to use alternative strategies to reach the learner.

**Intellectual/cognitive development**: how individuals learn to think and reason for themselves in relation to the world around them.

**Language development**: the ordinary processes of learning in which children acquire the forms, meanings and uses of words and utterances from the linguistic input: skill that allows children to communicate with others.

**Music activities**: all activities related to music and dance in a classroom setting, be they singing, dancing, chanting, accompanying, rhyming, listening to or composing music.

**Music for instruction**: music when used as a method of teaching other activity areas, for example using music to teach the alphabet, or to teach counting backwards.

**Student Engagement**: Ensuring students make a psychological investment in learning and try hard to remain focused on the lesson.
**Teacher self efficacy:** the belief a teacher has in his/her own ability to successfully complete a teaching task: a teacher’s judgment of his or her own capabilities to bring about desired outcomes of student engagement and learning.

**Poem:** a piece of writing that partakes of the nature of both speech and song that is nearly always rhythmical, usually metaphorical, and often exhibits such formal elements as meter, rhyme, and stanzaic structure.

**Pre-school:** an educational establishment offering early childhood education to children prior to the commencement of education at primary school. The ages of the learners are usually between 3 and 6 years.

**Rhyme:** correspondence of sound between words or the endings of words, especially when these are used at the ends of lines of poetry.

**Rhythm:** a particular type of pattern formed by strong, regular, repeated pattern of movement or sound, especially when played on drums or clapped with the hands.

**Social development:** process of learning the values, knowledge and skills that enable children to relate to others effectively and to contribute in positive ways to family, school and the community.

**Variety of Music activities:** the spectrum of music activities used within a specified time span. This would include poems, rhythms, raps, rhymes, songs, dances etc
CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.1 Introduction
This chapter presents a review of literature related to teacher self efficacy and its sources, and the place of music activities in ECE. It also has literature relating to the frequency, variety and purposes of music activities in the classroom. It ends with a summary and identifies the gaps which still needed to be filled.

2.2 The Effective Teacher and Teacher Self Efficacy
What constitutes “teacher effectiveness” is a matter of definition, and most definitions incorporate success in socializing students and promoting their emotional and personal development in addition to success in promoting their mastery of formal curricula (Brophy & Good 1986). Effective teachers contribute to positive academic, attitudinal, and social outcomes for students. Campbell, Kyriakides, Muijs, and Robinson (2004) state that teacher effectiveness is the impact that classroom factors such as teaching methods, classroom organization and use of varied resources have on students’ holistic development.

In a study by Walls, Nardi, Minden & Hoffman (2002), 90 college students provided data on the most effective and the most ineffective teachers. From the qualitative data analysis, effective teachers were found to have five characteristic in common: created a good emotional environment, displayed skill in their work, allowed student participation, were enthusiastic and had good classroom control. The findings are confirmed by Walker (2008) who used his university students over the years to write essays on the effective teacher. Students were to explain their selection of effective teachers and provide examples of how those teachers inspired them. From the qualitative data analysis, successful teachers were found to have the following
characteristics: always prepared, positive about teaching, high expectations for learners, creative, fair, display a personal touch, cultivate a sense of belonging, compassionate, have a sense of humor, respect students, forgive and admit mistakes. Although these studies used qualitative analysis, they still contribute to our understanding of teachers’ effectiveness. According to Ko, (2010), effective teachers have clarity about instructional goals, knowledge about curriculum content and the strategies for teaching it, knowledge about their students and adapting instruction to their needs, integrating their instruction with that of other areas and devoting more time to practice that enrich and clarify the content. A more simplified perspective is offered by Campbell et al., (2004, p.24): “a teacher is effective if he/she can accomplish the planned goals and assigned tasks in accordance with school goals”. These studies did not address teacher beliefs, which the current study sought to explore.

2.2.1 Teacher Beliefs
Vannatta-Hall (2010) agrees that effective teaching is shaped by many complex factors, but of critical importance among them is attitude. Teacher attitudes are constructed of such components as beliefs about the subject area, beliefs about their ability to teach effectively in that area and beliefs about the effectiveness of teaching having any impact on children’s learning (Vannatta-Hall, 2010, p.2). This makes teacher beliefs a major concern to those concerned with education and thus the necessity for this study.

It is important to study the attributes of the teacher who is entrusted with implementing the curriculum (Hoffer, 1983). One important attribute is teacher beliefs. Beliefs are referred to as “the heart of teaching” (Vartuli, 2005, p.76). Research on teachers’ beliefs is considered critical in teacher education research.
because teachers’ beliefs are closely related to the process of making decisions and to behavior (Fang, 1996b). Indeed, it has been established that teachers’ beliefs and decision-making process are related because daily decisions are based on these beliefs (Piotrkowski, Botsko, & Matthews, 2000). This research therefore sought to explore the attribute of Teacher-Efficacy, which has a controlling influence on the teachers overall effectiveness with the students as it shapes the thought patterns and emotions that enable classroom actions (Bandura 1997).

2.2.2 Self Efficacy

Self-efficacy is part of the larger social cognitive theory, which relates to how people learn in a social context. It is an indispensable part of a theory on human development, introduced by Bandura through a number of exploratory studies (Bandura 1977, 1986, 1997). Bandura (1977) defined efficacy as beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments. It refers to the beliefs that human beings have in their own ability and capacity to take action and succeed (Bangs & Frost, 2012). According to Cubukcu (2008, p.149), “Self-efficacy is a person’s judgment of his or her capabilities to organize and execute courses of action required to attain designated types of performances”. It is the response of a person to the question, “Can I do this task well?” Research shows that people who have high efficacy exhibit higher levels of effort and are resilient in their efforts, even in difficult and tricky situations (Gordon, 2001; Roberts, Henson, Tharp & Morenzo, 2000; Scharlach, 2008).

These self beliefs have been found to predict the efforts people put forth, how well they persevere when faced by obstacles, how effectively they monitor and motivate themselves, what they achieve and what choices they make in life (Bandura, 1997). Peoples’ level of motivation, affective states and actions are based on what they
believe they can accomplish (Bandura 1986). An individual with a high degree of self efficacy makes judgments about his or her capacity to achieve a certain level of performance. Bandura (1977) posits that the level of success an individual experiences in any task is associated with how efficacious he/she feels towards that task. The outcomes people expect also depend largely on their judgments of how well they will be able to perform in given situations. Self-efficacy is a future-oriented belief about the degree of competence a person expects he or she will display in a given situation. These beliefs impact on the thought patterns and emotions that influence actions in which people expend substantial effort in pursuit of goals, recover from temporary setbacks and exercise control over events that affect their lives (Tschannen-Moran & Hoy, 2001).

2.3 Teacher self efficacy
The concept of teacher’s sense of efficacy has developed continuously and is currently discussed relevant to Bandura’s (1977) theory of self-efficacy, which indicates the significance of teachers’ beliefs in their own capabilities in relation to their behavior in the process of student learning. The development of the efficacy construct dates back to the RAND studies conducted by Berman & McLaughlin in 1977 based on the Locus of Control theory proposed by Rotter in 1966. These studies were concerned with generalized expectancies for internal versus external control of reinforcement. The respondents were to respond to two items buried in a long questionnaire to determine whether the teaching environment was within or outside the teachers’ control. The result was the development of two constructs: the General Teaching Efficacy (GTE) and the Personal Teaching Efficacy (PTE), depending on whether teachers believed the environment was within or outside their control. A subsequent study by Rose & Medway (1981) explored the construct of
Teachers Locus of Control (TLC), by assigning student success or failure to either the teacher or the environment using a forced choice format. The items used were weakly correlated to the Rand items at .11 and .41. TLC was found to be a better predictor of teacher behavior. This research also included the willingness of teachers to implement new teaching strategies. Greenwood, Olejnik & Parkway (1990), used a forced choice format and found out that teachers who had low GTE and PTE also had higher stress levels.

A research by Gusky (1981) added the Responsibility for Student Achievement (RSA) perspective. The respondents in this study distributed 100 percentage points between teacher factors and environment factors in student achievement. Seven of the items were forced choice, and the respondents were to agree with either first or second choice. In this study, there were positive correlations between RSA and TSE and greater efficacy was linked to more positive attitudes about teaching and high levels of confidence in teaching abilities.

Ashton, Webb, & Doda (1983) used a fifty item questionnaire to explore various problem situations in the course of teaching e.g. motivation, discipline, academic instruction, planning and evaluation and came up with the Ashton Vignettes which measure the degree of personal teaching efficacy. Responses ranged from “extremely ineffective” to “extremely effective” on a scale of judgment on how well they could perform in each situation, resulting in two sets of vignettes on teaching in general and personal teaching ability. The results were norm referenced. These studies represented the first strand of teacher efficacy based on Locus of Control.

The second perspective on teacher efficacy came from Bandura's (1977) social cognitive theory, which suggested that self-efficacy was the most important motivational force behind an individual’s actions. Self-efficacy was defined as “the
conviction that one can successfully execute the behavior required to produce outcomes” (Bandura 1977, p. 193). Accordingly, TSE has been defined as “the extent to which a teacher believes he or she has the capacity to affect student performance” (Berman & McLaughlin, 1977, p. 137) or as “teachers’ beliefs or conviction that they can influence how well students learn, even those who may be difficult or unmotivated” (Guskey & Passaro, 1994, p. 4). It is a judgment of a teachers’ capability to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated (Armor, Conroy-Oseguera, Cox, King, McDonnell, Pascal, Pauly, & Zellman, 1976; Bandura, 1977). This judgment is crucial to the teacher and has been shown to demonstrate a profound influence on the daily lives of teachers and their students (Klassen, Bong, Usher, Chong, Huan, Wongd & Georgiou, 2009).

Using a combined conceptual framework from the foundation provided by the RAND researchers and Bandura’s self-efficacy theory, Gibson and Dembo (1984) created a new instrument for measuring teacher efficacy. The measure was developed to assess what they perceived to be the two aspects of teacher efficacy, namely outcome expectations, labeled general teaching efficacy, and efficacy expectations, named personal teaching efficacy. This led to a definition of personal teaching efficacy as put forth by Soodak and Podell (1993) “a teacher’s belief about his or her ability to perform the actions needed to promote learning or manage student behavior successfully” (p. 406). Bandura (1997) advances four main sources of TSE. These are mastery experiences, vicarious experiences, social persuasion and physiological or affective states.
2.3.1 Mastery experiences

An interpretation of an individual’s performance on a previous task plays an important role in building the sense of self efficacy. People who view their past efforts as successes approach similar or related tasks with confidence while those who believe they have failed may develop less confidence in their abilities (Morris, 2009). A teacher who thinks his first lesson was boring to the students might experience lowered self efficacy beliefs, while a teacher with a more positive impression of the first lesson might become more self efficacious with regard to instruction. Successful performance leads to increased SE, while setbacks lead to a decrease in SE.

A study by Hoy and Spero (2005) demonstrated that mastery experiences are very important in maintaining high levels of TSE. As teachers develop they have accumulating increases in TSE, and they rely on these as memories and interpretations of similar past teaching experiences. This is in line with Bandura (1997), who posited that mastery experiences typically provide the largest contribution to perceptions of efficacy and are the most influential source of teacher efficacy. While this may be true, Wagler (2011) found no such connections between mastery experiences and TSE.

2.3.2 Vicarious experiences

A vicarious experience is derived from observing the successes and failures of others performing a similar task. According to Morris (2009), the effect of vicarious experiences is especially strong if the models or comparison groups are perceived as similar to the individual. A models’ failure is more likely to lower the observers self efficacy. The converse is also true: a models’ success is more likely to boost the observers self efficacy. However, unlike the proposal by Banduras’ self efficacy
theory, Wagler (2011) using forty six pre-service elementary teachers and twenty inservice teachers in the pretest-post test design did not find significant effects of vicarious experiences on levels of TSE in science teaching.

2.3.3 Social persuasion
This refers to evaluative feedback from the significant others. A teachers’ sense of efficacy is likely to be influenced by attending to the things they are told by supervisors, parents, students or fellow teachers. If the teachers get a positive feedback, then the perceived self efficacy is raised while if they receive negative feedback, the sense of self efficacy is lowered. These messages are particularly powerful when an individual has little experience (Morris 2009). According to Morris (2009), messages that are specific and sincere can have a powerful effect on the development of one’s self efficacy. Discouraging messages may be more effective in altering self-beliefs than are positive social persuasions (Bandura, 1997).

A study to determine the sources of TSE (Mulholland & Wallace, 2001) revealed that student enthusiasm was the one constant source of positive information in developing science teachers’ self-efficacy in both pre-service and in-service situations (Mulholland & Wallace, 2001).

2.3.4 Physiological and affective state
The physiological and affective states also inform ones’ self efficacy. These include but are not limited to stress, fatigue, anxiety and mood. Bandura (1997) maintained that moderate levels of arousal lead to optimal performance. This is supported by other findings (Cassady & Johnson, 2002). It is imperative for teachers to experience some level of arousal every time they enter a classroom. Research has identified three different but closely related strands of teacher efficacy. These are collective teacher efficacy, general teacher efficacy and personal/perceived teacher efficacy.
For the purposes of this research, only Perceived Teacher Efficacy (PTE) was considered in detail.

2.4 Personal/Perceived Teacher Efficacy

Personal or Perceived Teacher Efficacy (PTE), also known as Teacher Self Efficacy (TSE) is the belief a teacher holds that he/she can personally achieve certain ends through teaching. Teachers with high TSE believe that intelligence is malleable; that all children can learn and that they can help them learn (Deemer, 2004). Teachers with high TSE are more likely than those with low TSE to implement instructive innovations in the classroom and to use classroom management approaches and adequate teaching methods that encourage students' autonomy (Guskey, 1988), to manage classroom problems (Chacon, 2005; Korevaar, 1990), and to keep students engaged on the task (Podel & Soodak, 1993). They try various teaching strategies with students. They are less critical of students when they make mistakes, are more likely to implement positive classroom management strategies and maintain a positive attitude when teaching difficult students (Pinkston-Miles, 2003; Scharlach, 2008).

PTE has been found to be linked to elementary and secondary school teachers' instructional experimentation, including willingness and readiness to try a variety of materials and approaches, the desire to find better teaching strategies, implementing alternative methods and a willingness to improve teaching practice. An investigation of the factors influencing pre-service teachers' variation in use of instructional methods revealed that teachers with little to no experience with a specific teaching method, resulting in lower rating of PTE, were less likely to implement new teaching methods into their classrooms (Gerges, 2001). These findings support the assertion that self-efficacy is a strong predictor of behavior (Bandura, 1997).
Teachers with a higher sense of efficacy exhibit greater enthusiasm for teaching (Allinder, 1994), have greater commitment to teaching (Coladarci, 1992) and believe that it is up to them to provide a wealth of strategies to reach students. They view success in the classroom as a dual responsibility. They expect their students to take a measure of responsibility for their success and they also accept responsibility to ensure positive outcomes for their students (Allington, 2002). They are also more likely to stay in teaching (Burley, Hall, Villeme, & Brockmeier, 1991; Glickman & Tamashiro, 2006). In view of the foregoing, this study seeks to explore the levels of teacher efficacy and find their relationship to the use of music activities among preschool children.

2.4.1 Measurement of Teacher Self Efficacy

Tschannen-Moran and Woolfolk-Hoy (2001) proposed a new measure of teacher efficacy. Because it was developed at Ohio State University, it is known as the Ohio Sense of Teacher Efficacy Scale (OSTES). In this measure, both dimensions of the teacher efficacy judgment (i.e., personal competence and analysis of the task) are tapped. Specifically, these researchers developed a measure of teacher efficacy that assessed critical tasks associated with teaching in the domains of engagement, classroom management, and instructional practices. Tschannen-Moran and Woolfolk-Hoy (2001) consider this new measure to be superior to previous assessments of efficacy. This is the tool the researcher modified and used in the current study.

The OSTES was validated through three investigative studies at Ohio State University. The work was done by participants in a seminar on self-efficacy in teaching and learning in the College of Education at the Ohio State University. Each member selected items from the Bandura scale that she or he believed represented
essential tasks or elements of teaching and also made 8–10 new items to reflect areas of teaching not represented on the Bandura Scale. The items were discussed one by one, attempting to reach a consensus on each item. This discussion yielded 52 items. In the first validating study, the instrument was tested on a sample of 224 participants, including 146 pre-service teachers (124 females and 22 males) and 78 inservice teachers (43 females and 35 males). All were taking classes at the Ohio State University. The original 52 items were reduced to 32. In the second study, a sample of 217 was selected from students at three universities (Ohio State, William and Mary, and Southern Mississippi) and included 70 pre-service teachers (49 female, 20 male, 1 no indication) and 147 in service teachers (94 female, 53 male) and 3 respondents who failed to indicate their teaching status. Three factors, accounting for 51% of the variance, emerged from the varimax rotation of the 18 items in the respondents’ scores. These factors were labeled efficacy for student engagement (8 items), efficacy for instructional strategies (7 items), and efficacy for classroom management (3 items). An efficacy subscale score was computed for each factor by calculating the mean of the responses to the items retained within each factor and subsequent reliabilities for the subscales were calculated at 0.82 for student engagement, 0.81 for instruction practices, and 0.72 for classroom management. In the third study, a sample of 410 participants was used. The results of these analyses indicate that the OSTES is reasonably valid and reliable. It is better than previous measures of teacher efficacy in that it has an integrated and stable factor structure and assesses a broad range of important teaching tasks without being so specific that it cannot be used to compare across subjects, levels, or school contexts (Tschannen Moran & Hoy, 2001). Additionally, the three-factor structure of the measure enables researchers to identify specific areas of concern in teachers and
relationships between these domains of teaching tasks, teacher performance outcomes, and student achievement.

There have been many studies on various aspects of TSE. Ross (1992) used a sample of 18 grade 7 and 8 history teachers and found that student achievement was higher in classes with teachers with higher levels of TSE, while another study by Chan (2005) associated levels of TSE to observed behavior in the classroom, but cautioned the extent to which TSE might underestimate, overestimate or accurately reflect teacher effectiveness. A study by Allinder (1994) on TSE and selected instructional variables among teachers who provided direct and indirect service to special education classes found reliable relationship between TSE and instructional experimentation, while a parallel study by Morgan (2007) on 34 teachers from Oklahoma public school systems using a creativity scale and OSTES found that a relationship may exist between creativity and teaching self-efficacy.

Pendergast, Garvis and Keogh (2011) used OSTES in a longitudinal study that investigates beginning pre-service teachers’ views of what it is to be a teacher. Although the study is ongoing, they have found that TSE tends to increase during teacher education enrolment but decreases after graduation to the end of the first year of teaching. Self-efficacy is dependent on the content and the context, and characteristics of age, gender and program studied are not significant, consistent with other research confirming that demographic variables have not been significant predicators of the efficacy beliefs of teachers (Tschannen-Moran & Woolfolk Hoy, 2007). An analogous study in Iran by Mojavezi and Tamiz (2012), using 80 high school teachers and 150 students and using the OSTES, found that TSE has positive influence on student motivation and achievement.
Guskey (1988) investigated the relationship between TSE and teacher attitudes toward the implementation of new instructional practices using 120 elementary and secondary school teachers. Results showed that measures of teacher efficacy were significantly related to teachers' attitudes towards new instructional practices. A similar study was conducted by Ghaith and Yaghi (1997) to investigate the relationships between teachers experience, efficacy, and attitudes toward the implementation of instructional innovation using 25 teachers. Results showed that personal teaching efficacy was positively correlated with teachers' attitudes toward implementing new instructional practices. One consistent finding in the research is that self efficacy is associated with teacher effectiveness in the classroom. The belief that teachers have about their teaching ability (teaching efficacy) appears to play a major role to determine the type of instructor they are or will be. All the foregoing studies point to TSE as a major factor in shaping teacher behavior in the classroom. This study therefore sought to find the levels of TSE among pre-school teachers in Nairobi and Kiambu counties.

2.5 Music activities in the classroom

Early childhood is the time to capitalize on children’s innate musical spontaneity, and to encourage their natural inclinations to sing, move and play with sound (Stellacio & McCarthy, 1999). This applies to all children since as Standley & Madsen (1990) observe, all children are born with the potential to learn to speak and understand language, and the potential to learn to perform and understand music. Recent research, moreover, reveals that music aptitude, like all human characteristics, is normally distributed in the population and the majority of persons fall somewhere in the middle of the “bell curve” with average aptitude (Gordon, 1990).
In his theory of multiple intelligences, Gardner (1999) posits that there are various “intelligences” associated with human beings. Intelligence is seen as the capacity to solve problems or to fashion products that are valued in one or more cultural settings (Gardner & Hatch, 1989). These intelligences are linguistic intelligence, logical-mathematical intelligence, spatial intelligence, interpersonal intelligence, bodily-kinesthetic intelligence, intrapersonal intelligence and musical intelligence which involve the performance, composition, and appreciation of musical patterns. Research has shown that students think and learn in many different ways. The theory therefore provides educators with a conceptual framework for organizing and reflecting on pedagogical practices. This reflection has led many educators to develop new approaches that might better meet the needs of the range of learners in their classrooms” (Kornhaber, 2001, p.276).

There are several ways of integrating music within the curriculum. These are:

i. Subservient style: This is where music becomes a servant and helps students learn other subject areas. Subservient activities represent the most common approach to music integration in schools.

ii. Co-equal, Cognitive style: This is where music becomes equal with other subject areas. In other words, the teacher is teaching music even as he/she teaches other subject areas. Music and other subject areas share the objectives of the lesson.

iii. Affective style: This is where learners are given the opportunity to have reactions to music so that the overall mood of the classroom is controlled. These types of affective activities are more prevalent in the primary grades.
iv. Social Integration style: This is where music plays a key role in making social events successful. Specifically, music plays roles outside the classroom but still within the school community.

Using music in the classroom will not only contribute to the development of musical intelligence, but also enhance the learning process overall (White, 2007). Several research studies have shown there are positive effects of using music in the course of teaching. Rauscher & Zupan (2000) propose that integrating music education in early childhood curriculum can enhance young children’s performance of spatial-temporal tasks. This is in agreement with other studies on active engagement with music and impact on visual-spatial intelligence (Rauscher and Zupan, 2000; Rauscher, 2002). Also, increases in abstract reasoning ability and memory were found among young children who were exposed to early music instruction compared to children in the control group (Bilhartz, Bruhn and Olson, 2000). In addition, music activities (e.g., song texts, rhyming words, rhythmic patterns, steady beat, dramatization of stories through movement and instruments) have a dramatic effect on reading and literacy. Utilizing music in the classroom enables students to amalgamate experiences, change into new activities, calm down for rest time, share cultural differences, and build self-worth and sense of comradery (Shore & Strasser, 2006).

Another related study was done by Castillo, Czarlene, Tajalangit, Ereno, Serino and Tayo in 2014 in which 21 grade one students (13 males, 8 females) were selected to complete a jigsaw puzzle to assess their spatial reasoning skills while exposed to two different conditions: Instrumental Music and Nursery Rhymes respectively. Findings imply that nursery rhymes stimulate the brain’s processing of organizing images more effectively than that of instrumental music. Children are therefore more likely
to perform better on a spatial reasoning task when they listening to or perform nursery rhymes. The music activities, as alluded to earlier, should be subserviently integrated across the curriculum.

There have been many research studies on music integration within the curriculum. A qualitative study by Shuck (2005) investigated the levels and frequency of music integration in an elementary school. The study used surveys, observations, lesson plans and interviews on 14 elementary school teachers who were involved with music integration in the school. Shuck concluded that academic benefits are associated with music integration. In an ethnographic study by Chee Ho Lum (2008), the mother-tongue language teachers of pre-schools classes in Singapore were examined for their incorporation of music and musical elements in their daily teaching. The teachers’ musical training, along with considerations of curricular needs, and classroom management, all contributed in determining the amount and type of music that was brought into the classroom. Other research findings were that awareness and training were the two most crucial issues that affected music integration and that teachers considered music integration to be helpful to students’ academic achievement. Another study by Almodovar (2010) in Puerto Rico found the same results, but also found that the musical training and experience did not play a vital role in early childhood teachers’ uses of music in the classroom, contradicting previous research findings.

In a study exploring factors that affected how much and in what ways music was included in classrooms, Giles and Frego (2004) found that lack of time and pressure to concentrate on academic areas determined the use of music in the classroom. Even if this was the case, another study on use of music across the curriculum by Malin (1993) found that most of the elementary classroom teachers (70%)
incorporated music in their lessons. A parallel study by Purnell, Gray and Sullivan-Cosetti in 2004 examined classroom teachers’ perceptions and practices of music integration in Southwestern Pennsylvania found that teachers greatly supported the value of including music in classroom activities. Most teachers believed that music integration improves teachers’ abilities to meet students’ multiple learning styles as well as improving students’ overall academic achievement. To support these findings, Zdzinski, Ogawa, Dell, Yap, Adderley & Dingle (2007) compared teachers in Japan and the US on the practice of integration of music with other subject areas. Results indicated that teachers from the US showed a higher use of practices in music integration than teachers from Japan. But this study did not find out the actual music activities used in the classrooms, which the current study attempts to do.

In a qualitative study on integrating music across the curriculum, Tuazon (2015) found uncountable benefits which he categorized into two: benefits across the curriculum and benefits outside the curriculum. The benefits across the curriculum included classroom management, instructional strategies and student engagement. Analogous to this, the teacher efficacy scale developed by Tschannen-Moran and Woolfolk Hoy has three subscales, namely student engagement, classroom management and instructional practices. It can therefore be concluded that music activities render themselves for use in the classroom along the same avenues.

In summary, children love to sing; music livens up learning and when learning is fun, students have more motivation to learn. Music increases attention span, improves listening skills, and promotes oral language development. Music is a fun way to learn, and the songs learned will become a part of each student's long-term memory which will help them be life-long readers. Between the ages of two and six years, children become capable of longer periods of attention and rapidly develop a
more sophisticated vocabulary. During this time, children need multiple and repetitive opportunities, such as learning rhymes and singing songs to help with the formal process of mastering the mechanics of reading (Thares, 2010). Using music in the classroom may be an appropriate technique for teaching since children exhibit a natural love for music. Music activities can aid in improving children’s academic performance, positive behavior, increased productivity and motivation to learn and work (White, 2007). The studies cited above explored the use of music activities, but did not seek to find out the actual music activities used in preschools. This study set out to document the actual music activities used in preschools in Nairobi and Kiambu counties.

According to Tschannen-Moran and Woolfolk Hoy (2001) Teacher self efficacy loads on three factors; student engagement, classroom management and instructional strategies. Music activities, on the other hand render themselves readily for use along these three avenues. Consequently, the researcher was interested in how pre-school teachers in Nairobi and Kiambu counties use music activities for student engagement, classroom management and as instructional strategies.

2.6. Reasons for using music activities in the classroom

2.6.1 Music activities for Student engagement

Student engagement refers to all the strategies that teachers use to keep the student on task. It is also perceived as the totality of educational strategies and teaching techniques that address the intellectual, emotional, behavioral, physical, and social factors that either enhance or undermine learning for students. Student engagement represents the time and effort students devote to activities that are empirically linked

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to desired outcomes of the school and what teachers do to induce students to participate in these activities (Kuh, 2009b). It has come to describe how involved or interested students appear to be in their learning and how connected they are to their classes, their institutions, and each other. There is a continuum of what is meant by “student engagement” and a concomitant range of benefits from grabbing attention to facilitating deep learning. It is important to include classroom approaches that begin with enhancing attention and move toward deepening learning especially because there tends to be increased focus on the cognitive domain and decreased concentration on physical and emotional considerations in our education today.

There are several dimensions to student engagement. These are intellectual engagement, where teachers may create lessons, assignments, or projects that appeal to student interests; Emotional engagement, where teachers may use a variety of strategies to promote positive emotions in students that will facilitate the learning process and minimize negative behaviors; Behavioral engagement, where teachers may establish classroom routines and use consistent cues (for example, elementary school teachers may clap three times or raise a hand, for example, which signals to students that it’s time to stop talking, return to their seats, or begin a new activity); Physical engagement, where teachers may use physical activities or routines to stimulate learning or interest, or where teachers may introduce short periods of physical activity or quick exercises, particularly during the elementary years, to reduce fidgety, or distracted behaviors; Social engagement, where teachers may use a variety of strategies to stimulate engagement through social interactions and Cultural engagement, where teachers may take active steps to make students feel welcomed, accepted, safe, and valued (Trowler, 2010).
Music can be seen as a powerful teaching tool because it helps keep children focused and centered on the task at hand. Teachers who embrace a variety of learning activities that appeal to multiple learning modalities are more likely to achieve early success for all students and music can help accomplish that goal (Hyde, Lerch, Norton, Forgeard, Winner,........ Schlau, 2009). Studies have shown that students who are more relaxed and focused stay on task better (White, 2007). In one such study, investigating the effects that music and movement activities had on creating a better learning state for attention and engagement among first graders, Sandberg, Cory & Kathleen (2013) found that integrating music and movement produced positive results for two focus first-grade students. Although the participants were few, this study still contributes to our understanding on using music for student engagement. In another study, 93% of students interviewed said music activities relaxed them and helped them stay on-task (Dinsmore, 2003 in White, 2007). In yet another study in use of music in teaching, Aguirre, Bustinza & Garvich (2016) found that songs create a favorable environment in the classroom and encourage students to be more committed to class activities. This clearly shows that using music can positively influence the likelihood of on-task behavior, which prevents the student from doing other things that are not relevant to the school work, for example, talking and playing.

Teachers are finding that music can help to create a positive emotional environment that is conducive to learning (Anderson, Henke, McLaughlin, Ripp, & Tuffs, 2000). Music can humanize, personalize, and energize; tap into students’ interests, and elicit positive feelings and associations; and involve students in relevant and meaningful interaction (Dunlap & Lowenthal, 2010). From a physiological perspective, there is growing evidence that music can effectively elicit highly
pleasurable emotional responses. Music-induced emotional states have been linked to dopamine release, the chemical that sends “feel good” signals to the rest of the body (Salimpoor, Benovoy, Larcher, Daghe, & Zatorre, 2011). Music bypasses the cognitive filters and works wonders in a variety of ways to enhance student engagement. In addition to setting a mood or increasing energy, well chosen music activities can help to reinforce a learning point (Strean, 2011). Research findings indicate that early childhood teachers who take the time to integrate music and movement activities optimize possibilities for increased academic learning time (Sandberg, Cory & Kathleen, 2013) especially since the intentional use of music in the classroom will set the scene and learning atmosphere to enhance our teaching and learning activities (Brewer, 1995). Along with this, listening to music throughout the day enriches the learning environment. Music acts as a memory aid for making learning information easier. The experience becomes a memory aid making information to be learned easier to memorize (Thares, 2010).

Brock and Lambeth, (2013) report a study in which the teacher researcher compared 38 third-grade students to determine the effect of mathematics-related music on mathematics instruction. As the music instructor, the teacher-researcher implemented 15 minutes of mathematics-related music over the course of 6 weeks. Following the intervention, the treatment and control group revealed no significant difference in academic achievement. However, students' engagement in mathematics-related music was significantly different from the same group of students participating in mathematics instruction.

Integrating music and movement activities is easy, inexpensive, and fun. Integrating music and movement on a consistent and spontaneous basis can create a learning environment that engages children productively. After periods of focused
concentration, the body and brain of the child needs action to rejuvenate to be ready for the next cognitive activity. The challenge for the early childhood educator is to balance those periods of inactivity with activity and to gradually increase the child’s ability to pay attention. One relatively easy way to create this kind of fluid instructional setting is to integrate music and movement periodically throughout the literacy instruction (Sandberg, Cory & Kathleen, 2013) and this makes learning more focused, effective, memorable, and enjoyable to students (White, 2007).

Strategies for engagement hinge on one’s understanding and definition of engagement, as well as notions of what would constitute appropriate targets, goals and beneficiaries for engagement strategies (Strean, 2011). Teachers therefore use music activities for student engagement based on their understanding. For example, a welcoming atmosphere is important for the students and one way it could be provided is through music activities (White, 2007). The teacher can also use music for setting the tone, which is using upbeat songs to energize, slow music to calm and background music during modeling or drawing time etc. Studies have shown that soft music can help a person focus and become a better worker and that when learners appear tired, using music activities re-energizes them and aids in concentration. Using rhythmic activities can also be used to reinforce students instead of using “good”, “well done” etc. Researchers are interested in identifying how teachers bring about student engagement and limit the disruptions in the classroom (Kaliska, 2002). Based on this, the researcher was interested in finding out whether pre-school teachers in Nairobi and Kiambu counties use music activities for student engagement.
2.6.2 Classroom control

Classroom management refers to a systematic instructional process used by teachers to guide students toward successful rule compliance in the classroom (Marzano & Marzano, 2003) and it may be among the most difficult challenges for teachers, particularly beginning teachers (Gordon, 2001). It involves all aspects of what is going on in the classroom while a lesson is being taught. Not only does classroom management include how the teacher or facilitator delivers the curriculum, but also how the students interact with the teacher and with others in the classroom, and extends into the classroom environment in which students learn as well. It includes elements of classroom discipline, but focuses more on creating a peaceful learning environment that is comfortable, organized, engaging, and respectful for both the teacher and the students (CMR Guide, 2014). Classroom management is used in this study to refer to all the strategies that teachers use to keep discipline within the class.

The issue of discipline in the classroom continues to surface as one of the most challenging problems in education today (Kaliska, 2002), yet using music activities is one way in which teachers can influence their classroom environment to have a positive impact on classroom management (Dinsmore, 2003 in White, 2007). Effective classroom management will increase student engagement, decreases disruptive behavior, and make good use of instructional time, resulting in a classroom full of students staying on task, remaining quiet while working and staying calm which are all part of good classroom management (White, 2007). To maintain discipline in the classroom, there is need to establish rules and procedures for general classroom behavior, group work, seat work, transitions and interruptions, use of materials and equipment, and beginning and ending the period or the day (Marzano & Marzano, 2003).
Research has shown beyond reasonable doubt that music activities render themselves readily for classroom management. Marzano & Marzano (2003) report a study by Wang, Haertel, and Walberg (1993), who analyzed 86 chapters from annual research reviews, 44 handbook chapters, 20 government and commissioned reports, and 11 journal articles to produce a list of 228 variables affecting student achievement. They combined the results of these analyses with the findings from 134 separate meta-analyses. Of all the variables, classroom management had the largest effect on student achievement. Parallel to this finding, White (2007), using 10 students in an action research that implemented background music in the classroom demonstrated that music can be very effective as a tool for classroom management. White (2007) focused on four main points: does background music increase student motivation, positive behavior, relaxation, and staying on-task?

A study on social aspects of attention and perseverance by Scott (1992) showed that participation in music activities leads to major achievement in measures of self-regulation leading to discipline and order in the classroom. Another study conducted with Head Start pre-schoolers taking part in a creative dance and movement program revealed positive effects on the children’s social competence and behavior, including self-regulation skills (Lobo & Winsler, 2006). Deasy (2002), in summarizing the use of music as a tool for behavior modification in schools reports several striking indications of positive effects on both academic performance and behavior.

Good classroom management in this respect should include music activities for transition, giving directions and calling for attention within the classroom. Examples of such usage could be when starting activities of the day (good morning, good morning how are you today?), lining up for any activity (In the line, in the line get into the line), going outside for play time (Going outside Going outside my oh my
what a beautiful day, what a beautiful day!), cleaning up (tidy up, tidy up), transition time and at the end of the day ("Bye, Bye, Bye") as a cue for the learners to go home. The researcher was therefore interested in whether pre-school teachers in Nairobi and Kiambu counties used music activities for classroom management.

2.6.3 Instructional strategies

Olson (2011) notes that music is an important and exceptionally useful tool in the way we learn and to deny its power is to squander a truly great resource. Music activities can be used as instructional strategies and as tools for instruction. Whatever the topic, music is a great tool for facilitating deeper engagement with the content and for enhancing memorization and recall. This is in line with applications of musical intelligence (MI) theory in the classroom including teaching strategies, classroom environment and class management. In one qualitative study conducted by Mills (2001), four teachers applied the MI theory in their classroom curricula particularly in the integration of musical experiences and found positive results in the performance of their students. It is worth noting that the current study is based on the MI theory.

Music is used as a carrier when the melody acts as a vehicle for the words. The lyrics of songs are easily remembered because of a strong musical connection and then often used as educational tools. As an example, toddlers may learn the letters of the alphabet through the familiar "Alphabet Song." Academic content put with music is then connected to the brain (Thares, 2010). Music activities have also been shown to improve verbal memory in children and adults (Ho, Cheung & Chan, 2003). Participants engaging in music activities and participants without music participation were tested for immediate recall of words and recall of words after 15 minute delays. Word lists were presented orally to each participant 3 times and then
participants recalled as many words as they could. Even when matched for intelligence, the musically involved participants tested better than non-musically involved participants.

Gromko (2005) studied kindergarten children who received 4 months of music instruction for 30 minutes once per week. The instruction included active music-making and kinesthetic movements to emphasize steady beat, rhythm and pitch as well as the association of sounds with symbols. The children who received the music instruction showed significantly greater gains in phonemic awareness when compared to the control group. Parallel to this was a study where children from economically disadvantaged homes participated in instruction which focused on the concepts of print, singing activities and writing. The children in the experimental group showed enhanced print concepts and pre-writing skills (Standley & Hughes, 1997). Register (2001) replicated this work with a larger sample of 50 children. Results again showed significant gains for the music-enhanced instruction in writing skills and print awareness.

In another study, Medina (1993) studied the effects of music upon the acquisition of English vocabulary in a group of 48 second-grade children with limited English proficiency. Vocabulary gain scores were consistently higher for the groups in which either music or illustration were used, and highest for the group in which both were used. This implies that music activities do positively contribute to language development. Such music activities would include, but are not limited to, poems, chants, rhymes and songs. In another study Hurwitz, Wolff, Bortnick & Kokas (1975) tested whether involvement in music improved reading performance in first grade children. The experimental group received musical instruction including listening to folk songs with an emphasis the listening for melodic and rhythmic
elements. The control group consisted of children who were matched in age, IQ, and socioeconomic status and who received no special treatment. After training, the music group exhibited significantly higher reading scores than did the control group, scoring in the 88th percentile versus the 72nd percentile. Moreover, continued musical training was beneficial; after an additional year of musical training, the experimental group’s reading comprehension scores were still superior to the control group’s scores.

Andrews (1977) investigated the effects of integrating music in reading achievement using two intact classes balanced for gender (11 males and 8 females). The study found out that reading attitudes improved when coupled with music. In support of this, a meta-analysis by Butzlaff (2000) involving 30 studies demonstrated a reliable association between using music and standardized measures of reading ability. Even though the connection between music and performance on the SAT verbal test had already been established, this study found comparable results across a larger set of studies.

Music activities also enhance memory and recall. Bilhartz, et. al. (2000) found that pre-schoolers who received instruction in singing and pitch recognition outperformed their peers in the Bead Memory subtest of the Stanford-Binet Intelligence Scale, which measures abstract reasoning abilities, including visual memory, imagery and sequencing. Setting the mnemonics to music or rhyme is very effectual with the young learners. Scruggs and Mastropieri (2000) also demonstrated that children taught using mnemonics were able to retrieve information more efficiently from memory leading to improved grades and promoting more positive classroom interaction between the teacher and students and among the students themselves. Wallace, Siddiqua & Harun-ar-Rashid (1994)
presented students with three verses of text put to music. The students exhibited better recall of the text than when it was presented in spoken form, without music. Each of the three verses in this case was sung with the same tune. When the music was already familiar to the students, it worked quite well. In this study, Wallace et al., (1994) showed that repetition and familiarity were central in information retrieval. With music, information is retrieved in sequence from memory, with fewer gaps and missing sections in the text and if the melody is simple and repetitive with a definite rhythm through the verses, it allows for better recall. In one study of musical effects on memory, visual cues (filmed events) were paired with background music. Later, participants who could not recall details of the scene were presented with the background music as a cue and recovered the inaccessible scene information (Boltz Schulkind & Kantra 1991).

According to Rivers (1987) songs are the means in the course of which educational topics are presented successfully. A study carried out in Senegal (Sylla, 2010) called “The impact of songs and games in English language teaching” points out that in an effort to supplement a lesson plan in the English language teaching classroom in the 4th form, teachers often turn to songs and games. They are valuable resources to expand students' abilities in listening, speaking, reading, and writing. Music activities have been used to reinforce school-aged children's academic skills, such as reading development, quite effectively. Colwell (1994) conducted a study to determine if implementing music with a whole language program in kindergarten would aid in these students' reading accuracy. The results of the study show that text set to music facilitates greater reading accuracy. Because music plays a significant part in the development of young children, it seems logical that using music would benefit these children.
Children's innate love for music makes it appropriate to use songs as a motivational tool for reading (Thares, 2010) and research has found that using music activities in the classroom has empowered students to read fluidly and with prosody (Lorraine & Rasinski, 2004). This is because singing develops memory, improves phrasing, and helps all students learn across the curriculum (Johnson & Memmott, 2006). In a research conducted by Hijazi and al-Natour (2012) regarding the integration of music into learning foreign languages, the application of musical learning strategies in the study of English poetry yielded positive results, while the findings of Paquette and Rieg’s (2008) study reinforce the various ways that integrating music into children’s everyday activities promotes literacy development, especially with English language learners. Music activities build vocabulary and pre-reading skills which they use as they begin to learn to read. In addition to songs, rhymes can be a fun way to encourage young students to be active participants in their learning. Learning to rhyme is a key element in building a good foundation for learning to read. Songs and rhymes aid memory and learning skills as well as help children improve listening and sound discrimination skills (Mascle, 2009). Using music helps students understand words, sentences and paragraphs which lead to them become better readers. It was found that the use of songs aids in improving students' accuracy, phrasing and reading, and that the words connected to melodies have a tendency to stay with young readers (Stanley, 2006). Songs can also be used to teach specific skills such as word recognition and phonemic awareness. Comprehension and vocabulary can be developed with the use of nursery songs, folk songs and jingles. Learning through music can also build listening skills, enhance abstract thinking, and improve memory. Teachers who integrate music into their daily
activities provide a way to meet the individual reading levels of their students (Thares, 2010).

Music activities have been associated with language development. Research shows that music and language are inseparable as each appears to be a preparation for the other. Brandt, Gebrian & Slevc (2012) clearly demonstrate that language and music are deeply entangled in the early life and develop along parallel tracks. On the same, Gromko (2005) found that teachers who used music in their classrooms, along with rhymes, chants and song lyrics, helped kindergarten students develop better phonemic awareness skills. Kindergarten students exposed to music made greater gains in the development of phonemic segmentation fluency than kindergarten students not exposed to music (Thares, 2010). Expounding on the same theme, Lowe (2002) found that students receiving instruction through this integrated music and second language lessons format performed better in music and French, relative to students that learned both subjects separately. On the whole, research as exposed the potential of musical-rhythmic instructional teaching and learning strategies as an effective educational tool in the elementary classroom.

Thares (2010) reports on a program designed for students identified as struggling readers. The program provides a fun and engaging environment of repeated reading through the use of song lyrics. After using this program with a group of middle school students over a nine-week period, the lead researcher found that fluency and reading comprehension increased by more than an entire grade level for these students. As a result of the findings from this project, the lead researcher conducted a second year of research using 200 elementary, middle school and high school students and a third year with ESL (English as a second language) learners. The
results of the studies showed an average gain in fluency and reading comprehension by one grade level and as high as a grade level and a half.

Though being exposed to music helps develop auditory and visual skills needed for reading, particularly among kindergarten and first grade students, research also demonstrate that the amount of writing is reduced by exposure to music. In a study to determine the effect of background music on amount of writing using 19 2nd grade pupils, Koppelman and Imig (1995) demonstrated that background music had negative effects on the amount of writing in a given period of time. The findings could have been moderated by use of familiar melodies which distracted the learners and therefore interfered with their concentration.

On the positive side, Overy (2003) confirmed that music can benefit all children, including those with dyslexia. A study on the impact of music lessons on rhythm and timing skills for these children, Overy (2003) found that classroom music lessons affect both phonological and spelling skills, and that music activities provide a multisensory learning environment for children. This of course means that music activities contribute to the linguistic aspect of holistic development. After all meaningful learning requires “relaxed alertness, immersion and active processing” (Caine & Caine, 1994).

Using music to teach letter names and sounds to children is a practice that has been around for many years (Smith, 2000). While children are being taught to sing the "Alphabet Song," for example, they or an adult may point to the letter as it is sung. By doing this, the children learn to recognize the individual alphabet letters through visual representations which may lead to a better understanding of the relationship between the spoken word and print. Singing and listening to the sound each letter
makes is one way of internalizing information. Simple tunes, chants and rhymes can help a child retain information.

Observations recorded by Geist and Geist (2009) in a Head Start classroom suggested that students responded more to mathematics activities that included music. When students had free playtime, they could be seen creating patterns using songs learned in previous lessons. Head Start educators were challenged with integrating music into their mathematics lessons, but as they became more comfortable, the lessons were successful. Music reinforces concepts that are vital to academic achievement by developing critical thinking skills which enhances reading, communication, writing, and mathematics (Kelstrom, 2007). On the same, Harris (2008) found out that young children who were enrolled in a Montessori program and had experienced music-enriched curriculum had higher achievement scores in mathematics than those who had experienced only the Montessori program.

Music activities can be drawn from the popular domain, sacred songs, choruses, traditional and cultural music, own composed or adapted activities. They can be songs, dances, rhythms, chants or poems. They could be used spontaneously in a classroom setting for reinforcement or for student engagement, for teaching new concepts or revision, for re-energizing the children or for classroom control. A teacher could even ask learners to compose songs to capture the topic taught. Also, songs do have deeper meanings. To challenge the sharper learners, teachers could analyze the meanings of song lyrics. How do teachers with differing levels of TSE use these music activities?

Children learn through repetition. Reciting the words you are teaching on a daily basis will help them memorize the words. This can be achieved through music
activities. This research therefore sought to find out the frequency of the use of music activities, the nature of the activities used and the purposes served by music in the pre-school classes in Nairobi and Kiambu Counties and relate them to levels of TSE.

2.7. Aspects of use of music activities

While there are many aspects or dimensions of music activities that researchers can focus on, including, but not limited to age appropriateness, nature of the activities, pitch at which they are performed, the meter, harmony and nature of the melodies among others, the current study focused on the frequency of the use of music activities, the variety of music activities and the purposes they served in the pre-school classroom.

2.7.1 Frequency of the use of music activities

It is common expectation that practice makes perfect. The brain is said to have over one hundred billion neurons and as children learn, synapses are formed between the neurons. These connections are strengthened through repetition. Research has shown that repetition and rehearsal enhances consolidation, a process by which memories are moved from temporary to permanent storage in the cortex (Richards, 2008). Fields (2005) observes that when an event is repeated sufficiently often, synapses and neurons fire repeatedly, indicating that this event is worth remembering. This seems to confirm one of the most fundamental principles of learning, which is the principle of repetition which dates back to approximately 4,400 and 3,000 B.C. At its onset, Aristotle observed that the more frequently things are experienced, the more likely they will be easily recalled (Weibel, 2011). This principle was expounded by Skinner and Guthrie and forms the core of Hull’s theory of habit formation ($SE_R = sH_R x D$).
Ausubel’s theory of meaningful learning relies heavily on repetition as transfer can only be facilitated through repetition, and discriminability of new materials is enhanced through repetition. Indeed, Consolidation of previously learned material is achieved through confirmation, correction, clarification, differential practice and review in the course of repeated exposure with feedback to the learning material (Ausubel, 1978). Brunner’s concept of the spiral curriculum also builds on this principle of repetition and practice.

There are several principles of learning subsumed by the universal principle of repetition. In the behavioral school of thought, Aristotle, Thorndike, Pavlov, Hull, Guthrie, Watson and Skinner are in agreement about the use of repeated attempts in order to induce meaningful learning. Watson specifically observes that repetition is one of the two principles that induce learning. In the cognitive school of thought, Ebbinghaus, Tolman and Kohler seem to agree that frequent repetitions are necessary to prevent forgetting and increased repetition in one study period produces a savings in later relearning. They advocate for repetition through mental review and comparison (Weibel, 2011).

When seen through the lens of the Cognitive Information Processing (CIP), rehearsal increases the length of stay in Short Term Memory (STS) and gives coding and other storage processes time to operate. It is generally accepted that any kind of operation on information is a form of rehearsal. While effective practice or drill must be mindful and deliberate, revisiting material with variation of time, context, purpose and perspective, incidental learning is as a result of repeated, periodic presentation thus organizing the learned through repeated exposure. This view also underscores the significance of repetition in meaningful learning. Schemas are created,
developed, tuned, and restructured through repeated experience and there is increased precision of schema through experience (Weibel, 2011).

In the constructive approach to learning, revisiting what has previously been learned relates new information to it. Piaget posits that action schemes are the structure of actions generalized by repetition and that through consolidation, a reflex becomes stronger and more precise through exercising it. He adds that first habits are formed through patterns of exercise and schemes of assimilation are repeated and elaborated as the child develops, while adaptation comes through repeated use and accommodation.

From the social perspective, Vygotsky observes that children learn mental planning through repeated experiences and internalization occurs through repeated encounter while Bandura notes that multiple observational trials may be required to reproduce modeled stimuli accurately and behavior that is repeatedly observed is learned most thoroughly. Repetition is also necessary in order to build self-efficacy. Beliefs of self-worth and self-efficacy are built through repeated experiences of success. In a situated learning research by Lave (1988), it was found that participants checked their interim and partial solutions and made multiple attempts before solving problems thus confirming the need for repetition (Weibel, 2011). The extent of musical engagement and its nature are important factors in the transfer to non-musical activities (Fields, 2005). Nzioki (1990) observes that music has unique qualities which allows for repetition without getting bored. Frequencies of use of music activities are important because children need multiple and repetitive opportunities, such as learning rhymes and singing songs to help with the formal process of mastering the mechanics of, say, reading (Thares, 2010).
The researcher is of the opinion that the more the music activities, the more they serve the purpose within the classroom setting. Furthermore, there are many opportunities for use of music activities and an efficacious teacher is likely to make use of these opportunities. These could be student engagement, instructional strategies or classroom management. Gillespie and Glider (2010) carried out a study that investigated the frequency and how and when teachers used music in preschool classrooms throughout the day and found that music was used 6.5 times hour on average for student engagement, instructional strategies or classroom management. Is this the situation in Nairobi and Kiambu Counties?

2.7.2 Variety or types of music activities

There is a wide variety of music activities to choose from. These range from composing songs and rhythms, singing, vocalizations, playing on instruments, accompanying from drums or sticks, listening to music from recordings, singing alone or in groups, dancing or moving to music either alone or in pairs, acting out the music, miming, rhyming, rapping, clapping, imagery and story songs to musical words and games, echoing songs, rhythmical clapping, chanting and other domains of musical structure relating to pitch, time, timbre, gesture, rhythm and meter. As a teacher, one should ensure that there is adequate balance between consistency and variety.

Music activities can be structured to closely mirror Bloom’s taxonomy and therefore offer variety. There are those that would call for the children to recall, to comprehend, to apply or even to critically engage in higher thinking skills. Altermuller, Gruhn & Parlitz (1997) observe that each person has a unique ‘learning biography’, reflected in the way the brain processes information. As each person
engages in different musical activities over long periods, permanent changes occur in the brain. Different musical activities produce activity in different areas of the brain. The researcher is of the opinion that the more the variety, the more innovative he teacher is, and therefore the more self efficacious.

2.7.3 Reasons for using music activities

The guidelines for ECD in Kenya spell out the following objectives. Through Music activities, children should be able to:

i. Relax and enjoy themselves
ii. Express their feelings and emotions
iii. Enjoy other curriculum activities
iv. Learn and sing new simple children’s songs and dances
v. Appreciate our cultural heritage and develop a sense of nationhood
vi. Identify and learn to play simple musical instruments
vii. Appreciate other peoples cultural heritage
viii. Develop sense of international consciousness
ix. Build self confidence and leadership skills
x. Develop their social skills
xi. Develop listening skills and memory
xii. Start appreciating others talents
xiii. Develop their vocabulary and communication skills
xiv. Develop co-ordination and control of body muscles
xv. Create their own songs and dances
xvi. Start appreciating music at an early age as a pre-requisite to learning music in primary school and higher levels (KIE, Guidelines for ECD in Kenya, p 79)
These objectives point to the reasons for using music in the pre-school classrooms, from curriculum perspective. Brewer (1995) adds a learning perspective. He states that music helps us learn because it:

i. establishes a positive learning state  
ii. creates a desired atmosphere  
iii. builds a sense of anticipation  
iv. energizes learning activities  
v. changes brain wave states  
vi. focuses concentration  
vii. increases attention  
viii. improves memory  
ix. facilitates a multisensory learning experience  
x. releases tension  
xi. enhances imagination  
xii. aligns groups  
xiii. develops rapport  
xiv. provides inspiration and motivation  
xv. adds an element of fun  
xvi. accentuates theme-oriented units

The researcher was interested in finding out the reasons teachers give for using music activities in their classrooms, hence the interviews.

2.8 Summary and Gap Identification

This chapter has shown the importance of teacher self-efficacy in the teaching and learning, since it influences the choices teachers make in the classroom and explains
the variability in observed teacher behavior. It is therefore imperative that educators concern themselves with the teacher efficacy levels. The chapter has also outlined the necessity for use of music activities as a way of student engagement, classroom control and as an instructional strategy. It has clearly been shown that the teacher plays an important role, and therefore educators need to concern themselves with his attributes, especially with what he believes he can accomplish in his teaching duties. The construct of teacher self efficacy has received attention from researchers in the recent past, relating to retention, student achievement, teacher burnout and teaching specific areas within the curriculum. Some studies relate TSE and teaching life skills (Rezayat & Nayeri, 2013), TSE and instructional practices (Gusky, 1988), TSE and student motivation (Mojavezi & Tamiz (2012) and TSE and student achievement (Ross, 1992). There are also several studies in the area of self efficacy in music (Ritchie & Williamon, 2007). Gillespie and Glider (2010) carried out a study that investigated how and when teachers used music in pre-school classrooms throughout the day and found that music was used 6.5 times hour on average. However, they did not investigate the underlying reasons, nor address teacher beliefs. Nyangeri (2014) investigated the use of music as a medium of instruction in pre-schools in Kitale, Kenya, attributing its use to teacher education and years of experience. However, he did not address TSE specifically, nor try to relate it to use of music activities. In most of the studies reviewed, researchers used either quantitative or qualitative approach. This left a gap for use of a mixed methods approach, hence the uniqueness of this study.

There is a scarcity of research on use of music activities to optimize learning time among pre-school children, and none seems to explore the relationship between teacher self efficacy and use of music activities in the pre-schools. Specifically, there
seems to be no such study in Nairobi and Kiambu Counties. This study sought to fill that gap.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents the research design, the variables of the study, the locale, target population, sampling techniques and sample size. It also discusses the research instruments, pilot study, data collection and data analysis procedures as well as logistical and ethical considerations for this study.

3.2 Research Design

This study adopted an explanatory sequential mixed-methods design. This design consists of two distinct phases: quantitative followed by qualitative (Creswell, 2012). In this design, a researcher first collects and analyzes the quantitative data. The qualitative data are collected and analyzed second in the sequence to help explain, or elaborate on, the quantitative results obtained in the first phase. It is used when one research approach is not enough to answer the research questions. Mixing methodologies makes sense when the researcher has more than one research question, for which more than one method fits (Green, Camils & Elmore, 2006). Researchers combine elements of methods in a way that makes the best sense for the study they want to do (Gay, Mills & Airasian, 2009), since each research method implies a different line of action towards reality and hence will reveal different aspects of it. Even in a small scale study, a mixture of methods can often be adopted (Wellington, 2000). Many social scientists use multiple approaches in order to overcome problems that may stem from studies relying upon a single method of inquiry, a single set of data and a single investigator. Methods are combined not only to gain their individual strengths but also to compensate for the particular faults and
limitations of any single method (Burgess, 1984). The combination of multiple methods, empirical materials, perspectives and observations in a single study is best understood as a strategy that adds vigor, breadth and depth to any investigation (Henn, Wenstein & Foard, 2009) and the power of multiple methods flexibly used should not be underestimated.

In this study, quantitative techniques could have addressed objective one, two and three about the levels of TSE, the frequency and variety of use of music activities. However, they were not enough to address objective four and five about the actual music activities and the reasons for use of music activities given by teachers with different levels of TSE. The research adopted a descriptive survey for the first-phase, to be able to get to a large number of respondents in a wide geographic region. Orodho(2012) states that descriptive survey approach allows researchers to gather information, summarize and interpret for the purpose of clarification. Results from the quantitative phase guided the selection of teachers with high and low TSE for investigation in the second phase of the study which employed a phenomenological approach to get the teachers own views and reasons for use of music activities. The goal of phenomenological research is to describe a person’s ‘lived’ experience in relation to what is being studied (Balls, 2009), in this case use of music activities. A simplified procedure for the mixed methods design is shown in figure 3.1

![Figure 3.1 Sequential mixed methods Design (adapted from Creswell, 2012)](image-url)
3.3 Variables

Variables are key ideas that researchers seek to collect information on to address the purpose of their studies (Creswell, 2012). The variables in this study were levels of Teacher Self Efficacy and use of music activities in the pre-school classes. The aspects of music activities explored in this study were frequency, variety and purpose.

3.3.1 Independent variable

The independent variable in this study was Teacher Self Efficacy. The strength of TSE beliefs lie along a continuum, and research generally identifies two levels: high TSE and low TSE. The characteristics of teachers with high TSE are innovativeness, creativity, using novel methods, more confidence and greater levels of planning. These attributes should lead to use of music activities in the course of instruction. The reverse is true of teachers with low levels of TSE.

3.3.2 Dependent variable

In this study, the dependent variable was use of music activities in the pre-schools. The use of music activities depends on many factors, but this research focused only on levels of TSE. The aspects of music activities explored in this study were frequency, variety and purpose of use of music activities within the observation period of about one and a half hours.

3.3.3 Intervening variables

An intervening variable is one which affects the influence the independent variable has on the outcome variable. In this study, these variables intervene between TSE and use of music activities. On the part of the teacher, these are individual musical
ability based on training and mastery experiences, own personal teaching competence, teaching experience and age, among others. These were controlled through purposive sampling in the second phase of the study. Other environmentally induced intervening factors that were not under the control of the researcher included the weather, the content to be taught and the constraints of both time and space.

3.4 Location of the Study

The study was carried out in Nairobi and Kiambu counties. Nairobi county borders Kiambu county to the north and west, Machakos county to the east and Kajiado county to the south. Nairobi county is divided into nine sub counties. These are Makadara, Njiru, Kamukunji, Starehe, Langata, Dagoretti, Westlands, Kasarani, and Embakasi (see appendix x).

Kiambu county is located in central Kenya and borders Murang’a county to the North and North East, Machakos county to the East, Nairobi and Kajiado counties to the South, Nakuru county to the West, and Nyandarua county to the North West. The county has an area of 2,543.4 square kilometers and a population of 1,623,282 It has twelve sub counties, namely Gatundu South, Gatundu North, Juja, Thika Town, Kabete, Githunguri, Kiambu town, Kiambaa, Kabete, Kikuyu, Limuru and Lari sub counties (see appendix xi). Nairobi and Kiambu counties were selected for the study because they have a mix of rural and urban characteristics, mixed and single language pre-schools, private and public pre-schools, high and low socio-economic status schools, and local and international systems of education. This gave a better understanding of the use of music activities in diverse settings. Further, the researcher had a fairly good command of the geography of the two counties, so getting to the sampled pre-schools was fairly easy.
3.5 Target population

This study targeted all the pre-school teachers in both Nairobi and Kiambu counties, whether teaching in private or public pre-schools. This was because the phenomenon under study was “use of music activities among pre-school children”. Pre-school children in Nairobi and Kiambu counties attend both private and public schools. According to Nairobi County Education Office and Program Officer Kiambu county, there were 844 pre-schools with 2506 teachers in Nairobi county and 1907 pre-schools with 5705 teachers in Kiambu county, making a total of 2751 pre-schools with 8211 teachers. This is shown in Table 3.1

Table 3.1 Pre-schools and pre-school teachers in Nairobi and Kiambu counties

<table>
<thead>
<tr>
<th>Nairobi County</th>
<th></th>
<th></th>
<th>Total pre-schools</th>
<th>No. of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dagoretti</td>
<td>Private</td>
<td>Public</td>
<td>54</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Langata</td>
<td>Private</td>
<td>Public</td>
<td>54</td>
<td>159</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Westlands</td>
<td>Private</td>
<td>Public</td>
<td>65</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Njiru</td>
<td>Private</td>
<td>Public</td>
<td>162</td>
<td>483</td>
</tr>
<tr>
<td></td>
<td>143</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embakasi</td>
<td>Private</td>
<td>Public</td>
<td>111</td>
<td>330</td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makadara</td>
<td>Private</td>
<td>Public</td>
<td>43</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kamukunji</td>
<td>Private</td>
<td>Public</td>
<td>31</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kasarani</td>
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<td>Public</td>
<td>239</td>
<td>718</td>
</tr>
<tr>
<td></td>
<td>216</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starehe</td>
<td>Private</td>
<td>Public</td>
<td>85</td>
<td>251</td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kiambu County</th>
<th></th>
<th></th>
<th>Total pre-schools</th>
<th>No. of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatundu N.</td>
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<td>Public</td>
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<td>348</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gatundu S.</td>
<td>Private</td>
<td>Public</td>
<td>126</td>
<td>375</td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Githunguri</td>
<td>Private</td>
<td>Public</td>
<td>177</td>
<td>530</td>
</tr>
<tr>
<td></td>
<td>121</td>
<td>56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kiambaa</td>
<td>Private</td>
<td>Public</td>
<td>300</td>
<td>902</td>
</tr>
<tr>
<td></td>
<td>257</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limuru</td>
<td>Private</td>
<td>Public</td>
<td>160</td>
<td>482</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lari</td>
<td>Private</td>
<td>Public</td>
<td>215</td>
<td>635</td>
</tr>
<tr>
<td></td>
<td>159</td>
<td>56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>juja</td>
<td>Private</td>
<td>Public</td>
<td>152</td>
<td>452</td>
</tr>
<tr>
<td></td>
<td>108</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kikuyu</td>
<td>Private</td>
<td>Public</td>
<td>198</td>
<td>595</td>
</tr>
<tr>
<td></td>
<td>147</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruiru</td>
<td>Private</td>
<td>Public</td>
<td>152</td>
<td>456</td>
</tr>
<tr>
<td></td>
<td>108</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiambu T.</td>
<td>Private</td>
<td>Public</td>
<td>120</td>
<td>358</td>
</tr>
<tr>
<td></td>
<td>78</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Kabete.</td>
<td>Private</td>
<td>Public</td>
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</tr>
<tr>
<td></td>
<td>56</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Thika Mun.</td>
<td>Private</td>
<td>Public</td>
<td>113</td>
<td>332</td>
</tr>
<tr>
<td></td>
<td>87</td>
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</tr>
<tr>
<td>Grand total</td>
<td></td>
<td></td>
<td>2751</td>
<td>8211</td>
</tr>
</tbody>
</table>

(Source: Nairobi County Education Office (2015) and Kiambu County Education Office (2015))
3.6 Sampling Techniques and Sample Size

The research design adopted in this research called for a multi-stage sampling procedure. The sampling procedure is outlined below.

3.6.1 Stage one

All the pre-schools in Nairobi and Kiambu counties were clustered into sub counties. The sampling for the first phase was proportional stratified random sampling to get approximately 50% of the sub counties. According to Mugenda & Mugenda (2003) a sample size of between 10% and 30% is a good representation of the target population and hence the 50% was considered adequate for this study. The sub counties in Nairobi were given numbers 1-9, then using the lottery method, 4 sub counties were picked for inclusion in the study. The same procedure was repeated for Kiambu County using numbers 1-12 to get 6 sub counties out of 12 for inclusion in the study. This made a total of 10 sub counties.

3.6.2 Stage two

The pre-schools in the sampled sub counties were stratified into public and private. This ensured all pre-school teachers had an equal chance of inclusion. Random sampling with proportionate allocation from both public and private pre-schools was used to get 20 pre-schools from each sub county based on the premise that each sub county had unique contribution to the understanding of the research problem. The procedure for calculating the proportionate allocation is shown here:

$$\text{Sample of public pre-schools for sub county} = \frac{\text{Public pre-schools}}{\text{Total pre-schools in the sub county}} \times 20$$

For example, for Dagoretti sub county

$$\text{Sample of public pre-schools} = \frac{23}{54} \times 20 = 9$$
Sample of private pre-schools = \( \frac{31 \times 20}{54} = 11 \)

The public pre-schools were given nominal numbers. Then using the table of random numbers, the required numbers of pre-schools were selected for the study.

The same procedure was repeated for the private schools, to make a total of two hundred pre-schools (20x10). This is shown in table 3.2

Table 3.2 Pre-schools in Nairobi and Kiambu Counties and proportionate sample size.

<table>
<thead>
<tr>
<th>Nairobi County</th>
<th>Sub county</th>
<th>private sample</th>
<th>%</th>
<th>public sample</th>
<th>%</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dagoretti</td>
<td>31</td>
<td>11</td>
<td>35.5</td>
<td>23</td>
<td>9</td>
<td>39.1</td>
</tr>
<tr>
<td>Langata</td>
<td>41</td>
<td>15</td>
<td>36.6</td>
<td>13</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
<td>Westlands</td>
<td>43</td>
<td>13</td>
<td>30.2</td>
<td>22</td>
<td>7</td>
<td>31.8</td>
</tr>
<tr>
<td>Starehe</td>
<td>55</td>
<td>13</td>
<td>23.6</td>
<td>30</td>
<td>7</td>
<td>23.3</td>
</tr>
<tr>
<td>Sub-total</td>
<td>170</td>
<td>52</td>
<td>88</td>
<td>28</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kiambu County</th>
<th>Sub county</th>
<th>private sample</th>
<th>%</th>
<th>public sample</th>
<th>%</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatundu North</td>
<td>60</td>
<td>10</td>
<td>16.7</td>
<td>57</td>
<td>10</td>
<td>17.5</td>
</tr>
<tr>
<td>Kiambaa</td>
<td>257</td>
<td>16</td>
<td>6.2</td>
<td>53</td>
<td>4</td>
<td>7.5</td>
</tr>
<tr>
<td>Limuru</td>
<td>120</td>
<td>15</td>
<td>12.5</td>
<td>40</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>Lari</td>
<td>159</td>
<td>15</td>
<td>9.4</td>
<td>56</td>
<td>5</td>
<td>8.9</td>
</tr>
<tr>
<td>Githunguri</td>
<td>121</td>
<td>15</td>
<td>12.4</td>
<td>56</td>
<td>5</td>
<td>8.9</td>
</tr>
<tr>
<td>Thika Mun.</td>
<td>87</td>
<td>15</td>
<td>17.2</td>
<td>26</td>
<td>5</td>
<td>19.2</td>
</tr>
<tr>
<td>Sub-total</td>
<td>804</td>
<td>86</td>
<td>288</td>
<td>34</td>
<td>34</td>
<td>120</td>
</tr>
<tr>
<td>Grand totals</td>
<td>974</td>
<td>138</td>
<td>376</td>
<td>62</td>
<td>62</td>
<td>200</td>
</tr>
</tbody>
</table>

3.6.3 Stage three

From each of the two hundred pre-schools, one teacher was randomly sampled for inclusion in the study using lottery method. If there were two or more teachers in a school, the researcher would assign them numbers and use lottery method to select one for the study. This made two hundred pre-school teachers for the survey phase.
of the research. The questionnaires were administered to these 200 teachers. 194 teachers returned the questionnaires duly filled. Their levels of TSE were calculated by adding their scores on the OSTES questionnaire.

As Wheatley (2005) observes, levels of TSE are often described in terms of two categorical groups—‘positive, high, or greater’ teacher efficacy, and ‘low, lower, or lesser’ teacher efficacy. The scores were therefore ranked in descending order to enable the respondents to be categorized into the top 25% and the bottom 25%, indicating those with high teacher efficacy and those with low teacher efficacy. This is illustrated in table 3.3

Table 3.3 Teachers score on TSE

<table>
<thead>
<tr>
<th>Class</th>
<th>Exact limits</th>
<th>Number of teachers</th>
<th>Cf_b</th>
</tr>
</thead>
<tbody>
<tr>
<td>61-72</td>
<td>60.5-72.5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>73-84</td>
<td>72.5-84.5</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>85-96</td>
<td>84.5-96.5</td>
<td>68</td>
<td>110</td>
</tr>
<tr>
<td>97-109</td>
<td>96.5-109.5</td>
<td>72</td>
<td>182</td>
</tr>
<tr>
<td>109-120</td>
<td>109.5-120.5</td>
<td>12</td>
<td>194</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>194</td>
<td>194</td>
</tr>
</tbody>
</table>

The following formula was used for calculating the median;

\[ Q_1 = L + \left( \frac{n/4 - cf_b}{f_w} \right) \times Lw \]

and \[ Q_3 = L + \left( \frac{3n/4 - cf_b}{f_w} \right) \times Lw \]

Where \( Q_1 \) and \( Q_3 \) are 1st and 3rd quartiles respectively, 
\( L \) is the Lower exact limit; 
\( n \) is the total frequency, 
\( cf_b \) is the cumulative frequency below, 
\( f_w \) is the frequency of the modal class and 
\( Lw \) is the width of the class.

The cutoff scores for the upper and lower quartiles were calculated to be 85.64 and 102.41 respectively. By rounding off, the cut off scores for the upper and lower quartiles were taken as 86 and 102. These were taken to be the limits for
categorizing the respondents into those with low TSE and those with high TSE. Any respondent scoring 86 and below was deemed to have low TSE, while any respondent scoring 102 and above was deemed to have high TSE. Using these cutoff points, the researcher ended with the results shown in Table 3.4

Table 3.4 Cutoff scores for low and high TSE

<table>
<thead>
<tr>
<th>Category</th>
<th>Cut off score</th>
<th>Number of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low TSE</td>
<td>86 and below</td>
<td>49</td>
<td>25.5</td>
</tr>
<tr>
<td>High TSE</td>
<td>Above 102</td>
<td>48</td>
<td>24.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>97</strong></td>
<td><strong>50.2</strong></td>
</tr>
</tbody>
</table>

The researcher used the two categories as a basis for purposively selecting a sample for the second phase as explained in 3.6.4

### 3.6.4 Stage four

According to Patton (1990) there are no rules for sample size in qualitative inquiry...the sample size depends on what you want to know, the purpose of the inquiry, what's at stake, what will be useful, what will have credibility, and what can be done with available time and resources. Frequencies are rarely important in qualitative research, as one occurrence of the data is potentially as useful as many in understanding the research problem (Litchman, 2010). Qualitative research is concerned with meaning and not making generalized hypothesis statements.

Guest, Bunce, and Johnson (2006) put forward that saturation often occurs between 12 and 15 participants for a particular group. However, if one has different categories of participants then one may need 12 to 15 of each category in order to reach saturation. Since there were two heterogeneous groups, purposive sampling was used to get thirteen teachers from each of two the categories from stage three above (3.6.3). Purposeful deviant-case sampling was used to select information-rich
cases whose study would illuminate the questions under study (Patton, 1990). Extreme or deviant case sampling focuses on cases that are rich in information because they are unusual or special in some way (ibid). Considerations for inclusion were based on gender, years of teaching experience at pre-school, age and extreme scores on TSE. The rationale was that the criteria for inclusion would control for the intervening variables as explained in section 3.3.3. In the current study, deviant cases included two extremely high and one extremely low score on TSE, two teachers who had long teaching experience and two who were relatively new in the profession and three male teachers. The rest were randomly sampled. The researcher ended up with a total of twenty-six teachers for the second phase of the study. This subsample is shown in table 3.5

Table 3.5 Respondents for the second phase of the study

<table>
<thead>
<tr>
<th>Gender</th>
<th>High TSE</th>
<th>Low TSE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Totals</td>
<td>13</td>
<td>13</td>
<td>26</td>
</tr>
</tbody>
</table>

3.7 Research Instruments

The researcher collected data using a modified Ohio State Teacher Efficacy Scale (OSTES) questionnaire, an observation guide and an interview schedule.

3.7.1 Sense of Teacher Self Efficacy Scale

The researcher used a modified version of the Teacher Efficacy Scale developed by Tshannen-Moran and Anita Woolfolk Hoy in 2001. Because it was developed at Ohio State University, it is also called the Ohio State Teacher Efficacy Scale (OSTES) (See appendix i). The first section of the questionnaire was researcher made and sought to capture demographic data including gender, age, educational
background, teaching experience, approach used in teaching ECE and the language
used for instruction in pre-schools. The second section of the questionnaire was the
OSTES, which was refined through three investigative studies and has strong
construct validity as well as reliability. It is now a standard instrument used to
capture the construct of teacher efficacy. It has 24 items. When factor analysis was
used to test this instrument, there were three moderately correlated factors: efficacy
in learner engagement, efficacy in instructional practices, and efficacy in classroom
management. The OSTES questionnaire was modified in the wording and scoring
after the feedback from piloting. The word pupil was replaced by learner in the
OSTES and instead of the likert scale categories ranging from 1-9, the responses
were reduced to range between 1 and 5. This was in response to the feedback from
the teachers during the pilot study. For example:

How much can you do to get children to follow classroom rules?

<table>
<thead>
<tr>
<th>Nothing (1)</th>
<th>very little (2)</th>
<th>some influence (3)</th>
<th>quite a bit (4)</th>
<th>quite a lot (5)</th>
</tr>
</thead>
</table>

This was modified to:

13. How much can you do to get children to follow classroom rules?

<table>
<thead>
<tr>
<th>Nothing (1)</th>
<th>very little (2)</th>
<th>some influence (3)</th>
<th>quite a bit (4)</th>
<th>quite a lot (5)</th>
</tr>
</thead>
</table>

Since the researcher was interested in the totality of TSE, there was no need to
analyze the subscales of TSE. Rather, the researcher computed the overall TSE. The
highest achievable score was (24x5) = 120 and the minimum score that could be
obtained was (24x1) 24.
3.7.2 Observation guide (appendix iii)

The researcher adopted a holistic observation approach, observing and recording all the activities that took place within the learning environment, supported by a structured observation guide. The observation guide helped the researcher focus on a few very specific behaviors (Orodho, 2009), that is the type, frequency and observed uses of music activities within the classroom. This is shown in table 3.6

Table 3.6 Observation guide

<table>
<thead>
<tr>
<th>S/no</th>
<th>Musical activity</th>
<th>Nature of activity</th>
<th>Purpose for which used</th>
<th>Student activity</th>
</tr>
</thead>
</table>

3.7.3 Interview guide (appendix ii)

The interview guide was an outline of the main themes to follow up on during the course of the interview. The main themes in this study were:

i. Reasons for music in pre-schools

ii. How teachers use music activities in class

iii. The specific music activities used in class

iv. How music activities help learners in other activity areas

v. How music activities are used for class management

vi. How music activities are used for learner engagement

vii. How music is used as an instructional strategy

viii. How teachers learn the music activities to use in class
3.8 Validity and Reliability

3.8.1 Validity of the OSTES Questionnaire

Although this scale was refined through three investigative studies by Tschannen-Moran and Woolfolk-Hoy in 2001 and has strong construct validity, the researcher discussed the items with the supervisors. This implies the validity was from expert opinion and member checks. From the feedback, the questions were modified accordingly, especially the wording. For example, the word pupil was changed to learner. This helped to ensure both face and construct validity.

3.8.2 Reliability of the OSTES Questionnaire

The study reported by Tschannen-Moran & Woolfolk Hoy (2001), found the reliabilities shown in table 3.7.

Table 3.7 Reliability of the OSTES

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSES</td>
<td>7.1</td>
<td>.94</td>
<td>.94</td>
</tr>
<tr>
<td>Engagement</td>
<td>7.3</td>
<td>1.1</td>
<td>.87</td>
</tr>
<tr>
<td>Instruction</td>
<td>7.3</td>
<td>1.1</td>
<td>.90</td>
</tr>
<tr>
<td>Management</td>
<td>6.7</td>
<td>1.1</td>
<td>.90</td>
</tr>
</tbody>
</table>

Since the reliability was established in a different educational setting, the researcher piloted the questionnaire on three pre-school teachers from different pre-schools who were not used for the study. After three weeks, the researcher retested the instrument on the same pre-school teachers and calculated a correlation using Pearson’s Product Moment Correlation Coefficient. The formula used is shown here:

\[
r = \frac{\sum xy - \left(\frac{\sum x}{n}\right)\left(\frac{\sum y}{n}\right)}{\sqrt{\left(\sum x^2 - \left(\frac{\sum x^2}{n}\right)\right)\left(\sum y^2 - \left(\frac{\sum y^2}{n}\right)\right)}}
\]

Where x is the test score and y is the retest score.
A correlation of 0.825 was arrived at, which was deemed acceptable, being higher than the previously set acceptance levels of 0.7. As a result, the modified OSTES was adopted for use in this research.

3.8.3 Validity of the observation guide

The researcher discussed the observation guide (Appendix iii) with the supervisors and necessary modifications were made. The observation guide was piloted on one pre-school teacher who was not used for the actual study. The researcher and one of the research assistants simultaneously observed the teacher while teaching and compared and discussed results. Since the observation was taking place in the usual pre-school classroom, and the researcher did not interfere in any way with the teaching/learning activities in the pre-schools, the observation had strong ecological validity.

3.8.4 Validity of the interview schedule

The researcher discussed the interview schedule (Appendix ii) with colleagues and the supervisors, after which it was modified by removal or addition of more questions, or by rewording the questions themselves. It was then piloted on two pre-school teachers who were not used for the actual study. The researcher requested for help from one of the research assistants in establishing synchronous reliability when conducting and recording the interview.

3.9 Data Collection Techniques

The first phase quantitative data was collected using the modified Sense of Teacher Efficacy Scale developed by Tshannen-Moran and Woolfolk-Hoy in 2001 (Appendix i). This questionnaire was issued to the 200 respondents in the first phase. 194 of them returned duly filled questionnaires. An analysis of scores in the 194
questionnaires was used in ranking the teachers based on levels of Teacher Self Efficacy. The top 25% were deemed to have high teacher self-efficacy while the bottom 25% were deemed to have low teacher self-efficacy levels. From each of these two categories, 13 teachers were purposively sampled. Considerations for inclusion were based on gender, extreme cases and years of teaching. These teachers were then observed in their classrooms using the observation guide. The researcher filled the spaces in the observation guide as the observation progressed and also audio recorded the classroom proceedings to complement the field notes. Further qualitative data was collected from face to face interviews immediately after the observation. As Orodho (2009) observes, interviews allow for the researcher to respond to individual differences among the respondents and to capture the reasons underlying observed behavior.

3.10 Data Analysis

3.10.1 Teacher Self Efficacy
The data from the modified Sense of Teacher Efficacy Scale was cleaned, coded and entered into the Statistical Package for Social Sciences (SPSS) Version 21.0. The data was then analyzed using descriptive statistics and presented in frequencies and tables. To get the overall teacher self efficacy, all the scores for the 24 items in the questionnaire were added up. The highest possible score was 24x5 (120), while the lowest possible score was 24x1 (24). The scores therefore ranged from 24 to 120. These were then ranked in descending order to enable the respondents to be categorized into the top 25% and the bottom 25%, indicating those with high TSE and those with low TSE.
3.10.2 Observational data

The data from the observation was recorded on the observation schedule sheet. The frequency of the use of music activities in pre-schools was recorded in actual number of activities used. If a teacher used three different types of music activities within the period of observation, this was recorded as 3. This was then cross tabulated with self efficacy data and analyzed for significance of the difference of the means using student’s t-test statistics.

The different types of music activities such as songs, rhythms, movements, dances, rhymes, chants and musical games were noted on the observation schedule sheet and also audio recorded. The purposes for which the activities were used, such as classroom management, student engagement and as instructional strategies were determined by the researcher and recorded and later clarified during the interview session, and used to compare the actual uses of music activities among teachers different levels of TSE. The activities were grouped according to the dominant usage within the classroom.

3.10.3 Interview data

According to Babbie and Mouton (2001), qualitative data analysis involves breaking up the texts into manageable themes, patterns, trends and relationships. Orodho (2009) proposes a thematic analysis using the cut and paste method and finally narrating the findings using graphics and direct quotations. This involves data reduction, data display and data verification (Miles and Huberman, 1994). The process of analysis followed the route shown in figure 3.2
Analysis of interview data from the two groups (high and low TSE) followed the guidelines by Babbie (2014) where the transcriptions from the interviews were read about four times to capture the main themes, and then coded and catalogued by topics. Axial coding followed next and the researcher identified the core concepts in the interview data. The data was then grouped into main themes. The actual procedure used was:

i. The audio recorded information was transcribed.

ii. The information was read at least four times word for word.

iii. All words that captured key ideas and themes were coded.

iv. The researcher sorted through the data identifying similar themes.

v. The researcher interpreted the data using these broad themes

### 3.11 Logistical and Ethical Considerations

#### 3.11.1 Logistical considerations

The researcher requested for permission to use the OSTES from Professor Anita Woolfolk Hoy. This was duly granted (Appendix iv). With the authorization from the Dean, Graduate School, the researcher applied for a research permit to collect data within the pre-schools from the National Commission for Science, Technology and Innovation (NACOSTI) (Appendix vi). Upon approval, the researcher applied to the County Directors of Education for both Nairobi and Kiambu (Appendixes vii, viii and ix) for permission to carry out the research within the County pre-schools.
The researcher then identified the teachers to fill the questionnaires. At school level, the researcher liaised with the head teachers before approaching the teacher. The teachers then signed the consent letter. As this was going on, the researcher trained two research assistants to help in data collection. The assistants accompanied the researcher during the pretests for the instruments and practiced administering the instrument to each other, alternating the roles of interviewer and interviewee.

3.11.2 Ethical considerations
In addition to the permission to conduct research by the relevant authorities, the researcher sought informed consent from the sampled teachers through a letter of introduction (Appendix v). If the teachers were willing to take part in the study, they duly declared so and appended their signatures to the letter of introduction. If not, the researcher approached the next teacher in the same pre-school during the first phase, and selected another one from the same pool for the second phase. The researcher assured the teacher respondents that the information divulged during the data collection would be completely confidential and would not be used in any other way except as specified in the current research. The following safeguards were also outlined in the informed consent statement:

i. Participants’ real names were not be used in the data collection or in the written report. Instead, codes and pseudonyms would be assigned to all participants in all verbal and written records and reports.

ii. All materials would be locked in a file cabinet to safeguard confidentiality.

iii. No audiotapes, transcription notes or observation notes would be used for any purpose other than for the purposes of this study and that when this study was completed, all related materials would be destroyed.

iv. Participation in this study was strictly on a voluntary basis.
v. No children would be spoken to, or questioned.

vi. Participants also had the right to withdraw from this study at any time without penalty.
CHAPTER FOUR

FINDINGS, ANALYSIS, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings, analysis, interpretations and discussions of data gathered during the study. The purpose of this study was to find out the levels of TSE and use of music activities in pre-schools in Nairobi and Kiambu counties. The study was based on the objectives and research questions which were fundamental to the review of literature, data collection and analysis techniques. An endeavor is made to present the contents within the framework of the objectives this study sought to address.

The study was guided the following objectives:

i. To examine the levels of TSE among pre-school teachers in Nairobi and Kiambu counties.

ii. To determine whether there is a significant difference in the frequency of usage of music activities between teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

iii. To determine whether there is a significant difference in the variety of music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

iv. To find out the music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

v. To compare reasons for use music activities based on levels of TSE among pre-school teachers in Nairobi and Kiambu counties.

The researcher used a modified Sense of Teacher Efficacy Scale (OSTES) developed by Tshannen-Moran and Woolfolk-Hoy in 2001 for data collection (See
The first section of the questionnaire was an addition to the OSTES and sought to capture demographic data including gender, age, levels of ECE training, teaching experience, type of institution, approach used in teaching ECE, and language used for instruction. This was an attempt to understand the characteristics of the respondents. The second part of the questionnaire consisted of the OSTES.

The chapter is organized along the following themes:

i. Return rate
ii. Demographic variables
iii. Findings, analysis, interpretations and discussions by order of objectives

4.2. Demographic Variables

4.2.1 Return rate

Almost all the questionnaires given out were filled and duly returned. This could be attributed to the fact that the researcher waited while the respondents filled the questionnaires. The return rate is shown in table 4.1

Table 4.1 Return rate

<table>
<thead>
<tr>
<th>Questionnaires</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given out</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>Returned</td>
<td>194</td>
<td>97</td>
</tr>
<tr>
<td>Not returned</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100</td>
</tr>
</tbody>
</table>

The actual number of returned questionnaires was 194, from which the other demographic data were extracted. Six respondents did not return their questionnaires.

4.2 Demographic Information

The demographic characteristics of the sample were captured in the first part of the questionnaire. It related to gender, age, levels of ECE training and teaching
experience. Other information related to the type of pre-school and language and approach used in instruction in the pre-schools.

This information is presented in table 4.2

Table 4.2 Demographic information

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>5.2</td>
</tr>
<tr>
<td>Female</td>
<td>184</td>
<td>94.8</td>
</tr>
<tr>
<td>Totals</td>
<td>194</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Age ranges of the respondents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 20 yrs</td>
<td>4</td>
<td>2.1</td>
</tr>
<tr>
<td>20-30 yrs</td>
<td>78</td>
<td>40.2</td>
</tr>
<tr>
<td>30-40 yrs</td>
<td>83</td>
<td>42.8</td>
</tr>
<tr>
<td>Over 40 yrs</td>
<td>24</td>
<td>12.4</td>
</tr>
<tr>
<td>Not indicated</td>
<td>5</td>
<td>2.6</td>
</tr>
<tr>
<td>Totals</td>
<td>194</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Level of ECE training</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untrained</td>
<td>18</td>
<td>9.3</td>
</tr>
<tr>
<td>Certificate</td>
<td>83</td>
<td>42.8</td>
</tr>
<tr>
<td>Diploma</td>
<td>79</td>
<td>40.7</td>
</tr>
<tr>
<td>Degree</td>
<td>14</td>
<td>7.2</td>
</tr>
<tr>
<td>Masters</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>194</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Approach used in instruction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DICECE</td>
<td>163</td>
<td>84.0</td>
</tr>
<tr>
<td>KHA</td>
<td>7</td>
<td>3.6</td>
</tr>
<tr>
<td>Montessori</td>
<td>16</td>
<td>8.2</td>
</tr>
<tr>
<td>Not indicated</td>
<td>8</td>
<td>4.1</td>
</tr>
<tr>
<td>Total</td>
<td>194</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Teaching experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 yrs</td>
<td>60</td>
<td>30.9</td>
</tr>
<tr>
<td>5-10 yrs</td>
<td>74</td>
<td>38.1</td>
</tr>
<tr>
<td>10-15 yrs</td>
<td>51</td>
<td>26.3</td>
</tr>
<tr>
<td>Over 15 yrs</td>
<td>9</td>
<td>4.6</td>
</tr>
<tr>
<td>Total</td>
<td>194</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Main language used for instruction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>41</td>
<td>21.1</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>44</td>
<td>22.7</td>
</tr>
<tr>
<td>Mother tongue</td>
<td>22</td>
<td>11.3</td>
</tr>
<tr>
<td>Mixture of English and Kiswahili</td>
<td>86</td>
<td>44.3</td>
</tr>
<tr>
<td>Not indicated</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Totals</td>
<td>194</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Type of institution</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>133</td>
<td>68.6</td>
</tr>
<tr>
<td>Public</td>
<td>61</td>
<td>31.4</td>
</tr>
<tr>
<td>Total</td>
<td>194</td>
<td>100.0</td>
</tr>
</tbody>
</table>
4.2.2 Gender

From table 4.2, almost all the respondents in this study were females. This raises the issue of feminization in early childhood education and is a concern to educationists. It is important to have more male teachers in order to create a positive attitude in the ECDE sub-sector and to help in role modeling.

4.2.3 Age

The majority of the respondents were aged between 20 and 40 years (see table 4.2) which means pre-school teachers in Nairobi and Kiambu counties are relatively young.

4.2.4 Levels of ECE training

The majority of the respondents were Certificate and Diploma holders, while the total trained teachers made up approximately 91% (see table 4.2). This implies that apart from the untrained teachers, the teachers in all the varied categories of pre-schools in Nairobi and Kiambu counties were professionally qualified to efficiently implement the pre-school programme. They had also undergone various types of pre-school training at different training institutions and should have undertaken a course on music and movement. They were therefore in a position to use music within and across the curriculum.

4.2.5 Teaching experience

A majority of the teachers in this study had more than five years teaching experience (see table 4.2). This implies that respondents have had opportunity for mastery experiences and verbal persuasion in cementing teacher self-efficacy and were in a position to use music activities across and within the curriculum. The characteristics of pre-school teachers’ experience in Nairobi and Kiambu counties differ from some
earlier studies in Kenya which had established that most of pre-school teachers had comparatively few years of experience (Kinuthia, 2009).

4.2.6. Approach Used in pre-schools

The main approach used in pre-schools in Nairobi and Kiambu Counties is DICECE (84%), while only a few teachers use Montessori (8.2%) and KHA (3.6%) (see table 4.2). The DICECE approach emphasizes development of the whole child and advocates for use of music activities during instruction. Nyangeri (2014) observes that KHA and Montessori training programmes mainly cater for pre-schools based in Nairobi.

4.2.7 Language used for instruction

The nature of the two counties in terms of ethnic composition dictates the language used for instruction. Most of the teachers used a mixture of English and Kiswahili while a modest number use either English or Kiswahili. Only a few use mother tongue, and these are in the more rural areas of Kiambu County. This finding was deemed to have a direct bearing on the type of music activities used in the classrooms.

4.2.8 Type of Institution

From table 4.2, the majority of respondents in this study were from private schools. This is not surprising since private pre-schools in Nairobi and Kiambu Counties outnumber the public schools by almost three to one.
4.3 Teacher Self Efficacy

4.3.1 Overall Teacher Self Efficacy

The first task for this study was to examine the levels of teacher self-efficacy (TSE) among pre-school teachers in Nairobi and Kiambu counties. To get the overall teacher self efficacy scores, the scores on the 24 items on the modified OSTES were added up. The highest achievable score was \((24 \times 5) = 120\) and the minimum score that could be obtained was \((24 \times 1) = 24\). The results are shown in Table 4.3.

<table>
<thead>
<tr>
<th>Class</th>
<th>Number of teachers</th>
<th>Percentage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>25-36</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>37-48</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>49-60</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>61-72</td>
<td>6</td>
<td>3.09</td>
<td></td>
</tr>
<tr>
<td>73-84</td>
<td>36</td>
<td>18.55</td>
<td></td>
</tr>
<tr>
<td>85-96</td>
<td>68</td>
<td>35.05</td>
<td></td>
</tr>
<tr>
<td>97-109</td>
<td>72</td>
<td>37.11</td>
<td>Mean 93.469</td>
</tr>
<tr>
<td>109-120</td>
<td>12</td>
<td>6.18</td>
<td>Standard deviation 11.17</td>
</tr>
<tr>
<td>Totals</td>
<td>194</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

An examination of Table 4.3 shows that the mean was 93.47 and a standard deviation of 11.17. Teachers' overall TSE belief was at the level of 3.89 \((93.47/120) \times 5\). In other words, this level is equivalent to 77.89 \% \((93.45/120) \times 100\), which is fairly high. If converted to a scale out of 9, this value equals 7.01\((3.89/5) \times 9\). This score is higher than the total TSES scores of Tschannen-Moran & Hoy (2007) \((X = 6.87 (76\%))\) and Hoy & Spero (2005) \((X=5.03(55.9\%))\). Noticeably, the score is lower than in the study by Pendergast, Garvis and Keogh in 2011, which found \((X=7.50 (83.3\%))\). It could be stated, based on this finding, that pre-school teachers in the two counties perceive themselves to be very confident in teaching. Research has
informed us that competent teachers generally have a strong sense of teacher efficacy (Schunk, Pintrich, & Meece, 2008). This is the case with pre-school teachers in Nairobi and Kiambu counties.

Having a high level of TSE points at being able to put knowledge into practice. The researcher therefore expected the teachers to be better organized, ready to try new ideas to meet students’ needs, have an optimistic attitude about teaching and be likely to implement positive classroom management strategies (Scharlach, 2008). The teachers should also try harder to help all students to reach their potential, be more innovative and use novel methods to reach the learners (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). It was also the researchers’ expectation that the teachers would exhibit greater levels of planning and be more creative in their work (Bangs & Frost, 2012). The researcher also expected teachers to use varied approaches in teaching pre-school children, and at least use music activities in the course of instruction.

4.3.2 Analysis of TSE levels by demographics

In an attempt to gain a better understanding, the researcher analyzed TSE scores by demographics, which are shown in table 4.4
## Table 4.4 Analysis of TSE scores by demographics

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Total score</th>
<th>Score in %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>879</td>
<td>73.3</td>
</tr>
<tr>
<td>Female</td>
<td>184</td>
<td>17251</td>
<td>78.1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td><strong>Age ranges of the respondents</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 20 yrs</td>
<td>4</td>
<td>371</td>
<td>77.3</td>
</tr>
<tr>
<td>20-30 yrs</td>
<td>78</td>
<td>7284</td>
<td>77.8</td>
</tr>
<tr>
<td>30-40 yrs</td>
<td>83</td>
<td>7780</td>
<td>78.1</td>
</tr>
<tr>
<td>Over 40 yrs</td>
<td>24</td>
<td>2250</td>
<td>78.1</td>
</tr>
<tr>
<td>Not indicated</td>
<td>5</td>
<td>445</td>
<td>74.2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td><strong>Level of ECE training</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untrained</td>
<td>18</td>
<td>1592</td>
<td>73.7</td>
</tr>
<tr>
<td>Certificate</td>
<td>83</td>
<td>7745</td>
<td>77.8</td>
</tr>
<tr>
<td>Diploma</td>
<td>79</td>
<td>7513</td>
<td>79.3</td>
</tr>
<tr>
<td>Degree</td>
<td>14</td>
<td>1280</td>
<td>78.2</td>
</tr>
<tr>
<td>Masters</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td><strong>Approach used in instruction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DICECE</td>
<td>163</td>
<td>15293</td>
<td>78.2</td>
</tr>
<tr>
<td>KHA</td>
<td>7</td>
<td>624</td>
<td>74.3</td>
</tr>
<tr>
<td>Montessori</td>
<td>16</td>
<td>1489</td>
<td>77.6</td>
</tr>
<tr>
<td>Not indicated</td>
<td>8</td>
<td>724</td>
<td>75.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td><strong>Teaching experience</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 yrs</td>
<td>60</td>
<td>5629</td>
<td>78.2</td>
</tr>
<tr>
<td>5-10 yrs</td>
<td>74</td>
<td>6700</td>
<td>75.5</td>
</tr>
<tr>
<td>10-15 yrs</td>
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<tr>
<td>Over 15 yrs</td>
<td>9</td>
<td>912</td>
<td>84.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td><strong>Main language used for instruction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>41</td>
<td>4108</td>
<td>83.5</td>
</tr>
<tr>
<td>Kiswahili</td>
<td>44</td>
<td>3968</td>
<td>75.2</td>
</tr>
<tr>
<td>Mother tongue</td>
<td>22</td>
<td>2200</td>
<td>83.3</td>
</tr>
<tr>
<td>Mixture of English and Kiswahili</td>
<td>86</td>
<td>7757</td>
<td>75.2</td>
</tr>
<tr>
<td>Not indicated</td>
<td>1</td>
<td>97</td>
<td>80.8</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td><strong>Type of institution</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>133</td>
<td>12543</td>
<td>78.6</td>
</tr>
<tr>
<td>Public</td>
<td>61</td>
<td>5587</td>
<td>76.3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
<tr>
<td><strong>County</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nairobi private</td>
<td>50</td>
<td>4699</td>
<td>78.3</td>
</tr>
<tr>
<td>Nairobi Public</td>
<td>27</td>
<td>2517</td>
<td>77.7</td>
</tr>
<tr>
<td>Kiambu private</td>
<td>83</td>
<td>7754</td>
<td>77.8</td>
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<tr>
<td>Kiambu Public</td>
<td>34</td>
<td>3160</td>
<td>77.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>194</td>
<td>18130</td>
<td><strong>77.9</strong></td>
</tr>
</tbody>
</table>
4.3.3 Scores on TSE by gender

An analysis of table 4.4 shows that females scored higher on TSE, scoring about 5% more than the males. This difference was not much and could have been purely by chance. Other research findings have found no relationship between gender and TSE (Pendergast, Garvis & Keogh, 2011), though a research synthesis by Shahid and Thompson (2001) found that females tended to have both higher personal and general teacher efficacy than did males.

4.3.4 Scores on TSE by age ranges

The scores on TSE based on age show a slight increase with increasing age. From about 40 years, scores on TSE are fairly stable (see table 4.4). This can be attributed to mastery experiences which is one of the sources of TSE. It can be assumed that the older the teacher, the longer the teaching experience, hence more mastery experiences. As teachers develop they have accumulating increases in TSE, and they rely on these as memories and interpretations of similar past teaching experiences (Tschannen- Moran, Woolfolk-Hoy & Hoy, 1998). While this may be true, Wagler (2011) found no such connections between mastery experiences and TSE.

4.3.5 Scores on TSE by level of ECE training

An analysis of the scores shows increasing levels of TSE by level of education from untrained through certificate to diploma level (see table 4.4). There is a discrepancy for degree holders. This could be attributed to the learning that takes place at the training institutions and the length of training. This finding complements those from a study by Pendergast et. al, (2011) which found out that pre-service teacher education programmes play an role in the development of teachers efficacy beliefs.
4.3.6 Scores on TSE by approach used for instruction

The pre-school teachers who use DICECE approach recorded the highest levels of TSE. They were followed by those who used Montessori approach. The teachers who use the KHA approach scored the least in this study (see table 4.4). Is it likely that the nature of training affects self efficacy beliefs?

4.3.7 Scores on TSE by teaching experience

An interesting observation is that beginning teachers have high levels of TSE. This finding confirms earlier research which reveals that beginning teachers enter the profession with high levels of TSE (Pendergast, Garvis & Keogh, 2011). It appears to decline slightly between 5 and 10 years, then increases dramatically between 10 and 15 years and continues as the teachers gain more experience (see table 4.4). The decline might well be a result of a ‘reality shock’ experienced by the teachers, after gaining practical experience in a classroom setting (Pendergast, Garvis & Keogh, 2011). The increase, on the other hand, could be due to mastery experiences, which, according to Bandura (1997), typically provide the largest contribution to perceptions of efficacy and are the most influential source of teacher efficacy. A study by Hoy and Spero (2005) demonstrated that mastery experiences are very important in maintaining high levels of TSE.

4.3.8 Scores on TSE by language used for instruction

An analysis of table 4.4 shows that those teachers who use English as the medium of instruction have the highest scores on TSE, followed very closely by those who use mother tongue. Those who use Kiswahili are at par with those who use a mixture of all the languages (see table 4.4). There is a discrepancy in this finding, which can be explained by the fact that the majority of pre-school teachers who use English as the
medium of instruction are in private schools which are well endowed with resources. This could be an effect of the context of teaching environment (Pendergast, et. al, 2011).

4.3.9 Scores on TSE by type of institution

The findings of this study show that pre-school teachers in private schools are slightly more efficacious than those from public schools (see table 4.4). This is the case in both Nairobi and Kiambu counties. After running ANOVA, the difference was not significant. On the other hand, it is possible that the resources available in private schools influence self-efficacy beliefs. After all, self efficacy beliefs are influenced by the content and context (Pendergast, et. al, 2011)

4.3.10 Scores on TSE by counties

Although the difference in minimal and insignificant (0.5 and 0.2% respectively), pre-school teachers in Nairobi county appear more efficacious than those from Kiambu county (see table 4.4). The scenario holds true for both private and public schools. This difference could be attributed to the teaching environment and maybe the characteristics of the learners under these teachers.

4.4 Demographics for the subsample in the second phase

The scores were ranked in descending order to enable the respondents to be categorized into the top 25% and the bottom 25%, indicating those with high teacher efficacy and those with low teacher efficacy. This is illustrated in table 4.5
The cutoff scores for the upper and lower quartiles were calculated to be 85.64 and 102.41 respectively (see 3.6.3). These were taken to be the limits for categorizing the respondents into those with low and high TSE. Any respondent scoring 86 and below had low TSE, while any respondent scoring 102 and above had high TSE.

Purposeful deviant-case sampling was used to select information-rich cases whose study would illuminate the questions under study (Patton, 1990). Considerations for inclusion were based on gender, years of teaching experience at pre-school, age and extreme scores on TSE. The rationale was that the criteria for inclusion would control for the intervening variables as explained in section 3.3.3. In the current study, deviant cases included two extremely high and one extremely low score on TSE, two teachers who had long teaching experience and two who were relatively new in the profession and three male teachers. The rest were randomly sampled. The researcher ended up with a total of twenty-six teachers for the second phase of the study.

The demographic data for the respondents in the second phase of this study is presented in Table 4.6.

### Table 4.5 Lower and upper quartiles with regard to levels of TSE

<table>
<thead>
<tr>
<th>Class</th>
<th>Exact limits</th>
<th>Number of teachers</th>
<th>Cf$_b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>61-72</td>
<td>60.5-72.5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>73-84</td>
<td>72.5-84.5</td>
<td>36</td>
<td>42</td>
</tr>
<tr>
<td>85-96</td>
<td>84.5-96.5</td>
<td>68</td>
<td>110</td>
</tr>
<tr>
<td>97-109</td>
<td>96.5-109.5</td>
<td>72</td>
<td>182</td>
</tr>
<tr>
<td>109-120</td>
<td>109.5-120.5</td>
<td>12</td>
<td>194</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>194</strong></td>
<td><strong>194</strong></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.6 Demographic characteristics for the second sample

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<th></th>
<th>High TSE</th>
<th></th>
<th>Low TSE</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td></td>
<td>%</td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.8</td>
<td>7.7</td>
<td>11.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>46.2</td>
<td>42.3</td>
<td>88.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>50.0</strong></td>
<td><strong>13</strong></td>
<td><strong>50.0</strong></td>
<td><strong>26</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Age ranges of the respondents</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 20 yrs</td>
<td>3.8</td>
<td>11.5</td>
<td>15.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-30 yrs</td>
<td>15.4</td>
<td>19.2</td>
<td>34.6</td>
<td></td>
<td></td>
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<tr>
<td>30-40 yrs</td>
<td>23.1</td>
<td>11.5</td>
<td>34.6</td>
<td></td>
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<tr>
<td>Over 40 yrs</td>
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<td>7.7</td>
<td>15.4</td>
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<tr>
<td><strong>Totals</strong></td>
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<td><strong>13</strong></td>
<td><strong>50.0</strong></td>
<td><strong>26</strong></td>
<td><strong>100.0</strong></td>
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<tr>
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<td>Diploma</td>
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<td><strong>Total</strong></td>
<td><strong>50.0</strong></td>
<td><strong>13</strong></td>
<td><strong>50.0</strong></td>
<td><strong>26</strong></td>
<td><strong>100.0</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach used in instruction</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
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<tr>
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</tr>
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<td>Over 15 yrs</td>
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<td><strong>26</strong></td>
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<td>26.9</td>
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<td>Kiswahili</td>
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<td>Mother tongue</td>
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<td>and Kiswahili</td>
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<td><strong>50.0</strong></td>
<td><strong>26</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Type of institution</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>26.9</td>
<td>26.9</td>
<td>53.8</td>
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</tr>
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<td>Public</td>
<td>23.1</td>
<td>12</td>
<td>46.2</td>
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</tr>
<tr>
<td><strong>Totals</strong></td>
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<td><strong>13</strong></td>
<td><strong>50.0</strong></td>
<td><strong>26</strong></td>
<td><strong>100.0</strong></td>
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<tr>
<td>County</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nairobi private</td>
<td>7.7</td>
<td>11.5</td>
<td>19.2</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nairobi Public</td>
<td>11.5</td>
<td>5</td>
<td>19.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiambu private</td>
<td>15.4</td>
<td>8</td>
<td>30.8</td>
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</tr>
<tr>
<td>Kiambu Public</td>
<td>15.4</td>
<td>8</td>
<td>30.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50.0</strong></td>
<td><strong>13</strong></td>
<td><strong>50.0</strong></td>
<td><strong>26</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>
4.4.1 Gender

Of the 10 male respondents, 2 had high TSE and 1 had low TSE (see table 4.6). The 3 were purposively selected for inclusion in the second phase of the study.

4.4.2 Age

The age-ranges were quite representative of the original sample, with most falling between 20 and 40 years.

4.4.3 Levels of ECE training

Most of the respondents were Diploma holders, with the rest taking approximately half of the subsample. Two of the teachers was untrained (see table 4.6).

4.4.4 Approach Used in pre-schools

A majority of the respondents used DICECE approach in teaching in pre-schools. This approach is basically thematic, with an emphasis on integration.

4.4.5 Teaching experience

The majority of the respondents had a teaching experience of between 5 and 15 years, with a mean of 8 yrs (see table 4.6).

4.4.6 Language used for instruction

English and Kiswahili were the prominent languages used for instruction by the respondents. It possibly accounted for the fact that most of the music activities were in English.

4.4.7 Type of Institution

The majority of respondents for this phase of the study were from private schools (see table 4.6). This was a relatively normal distribution since there are more private pre-schools than public pre-schools in Nairobi and Kiambu Counties.
4.5 TSE and frequency of use of music activities

The second task for this study was to determine whether there is a significant difference in the frequency of usage of music activities between teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties. The period of observation was standardized to approximately one and a half hours for each respondent, though not continuous, regardless of the activity areas that were being taught at the time. If there were breaks in between, the researcher remained in class while the children went outside. Most of the teachers were engaged in mathematics, language or religious education activities during the time of observation. A few were engaged in science activities. The frequency of the use of music activities in the classrooms was recorded in the observation schedule in actual number of activities used (see appendix v). The classroom observations results on frequency of use of music activities are shown in Table 4.7

*Table 4.7 Frequency of use of music activities*

<table>
<thead>
<tr>
<th>Teachers with high TSE</th>
<th>Number of Music Activities</th>
<th>Teachers with Low TSE</th>
<th>Number of Music Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>K001</td>
<td>11</td>
<td>N006</td>
<td>7</td>
</tr>
<tr>
<td>K002</td>
<td>6</td>
<td>N007</td>
<td>8</td>
</tr>
<tr>
<td>K003</td>
<td>8</td>
<td>K009</td>
<td>5</td>
</tr>
<tr>
<td>K004</td>
<td>5</td>
<td>K010</td>
<td>4</td>
</tr>
<tr>
<td>K005</td>
<td>6</td>
<td>K011</td>
<td>6</td>
</tr>
<tr>
<td>K006</td>
<td>8</td>
<td>K012</td>
<td>8</td>
</tr>
<tr>
<td>N001</td>
<td>9</td>
<td>K013</td>
<td>3</td>
</tr>
<tr>
<td>K007</td>
<td>6</td>
<td>N008</td>
<td>5</td>
</tr>
<tr>
<td>N002</td>
<td>5</td>
<td>N009</td>
<td>5</td>
</tr>
<tr>
<td>N003</td>
<td>4</td>
<td>K014</td>
<td>4</td>
</tr>
<tr>
<td>K008</td>
<td>8</td>
<td>K015</td>
<td>6</td>
</tr>
<tr>
<td>N004</td>
<td>9</td>
<td>N010</td>
<td>5</td>
</tr>
<tr>
<td>N005</td>
<td>7</td>
<td>K016</td>
<td>4</td>
</tr>
<tr>
<td>Mean</td>
<td>7.08</td>
<td>Mean</td>
<td>5.4</td>
</tr>
</tbody>
</table>

N = Nairobi K = Kiambu
There were two independent samples with a variance assumed to be roughly equal. The sample sizes were small and observations were independent of each other. The researcher therefore used students’ t test for the hypothesis that there is no significant difference in the means of the frequency of use of music activities between teachers with low TSE and those with high TSE. The formula for the t-test is shown here:

\[
t = \frac{\overline{x}_1 - \overline{x}_2}{\sqrt{\left(\frac{(N_1 - 1)s_1^2 + (N_2 - 1)s_2^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}
\]

Where \(x_1\) and \(x_2\) are the means of the two samples

\(N_1\) and \(N_2\) are the sample sizes for the two samples

\(S_1^2\) and \(S_2^2\) are the variances for sample one and two respectively

4.5.1. Procedure

This task started with the statement of the hypothesis:

i. \(H_{01}\): There is no significant difference in the means of the frequency of use of music activities between teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

ii. \(H_{A1}\): There is a significant difference in the means of the frequency of use of music activities between teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

iii. Level of significance: 0.05, chosen to reduce the chances of type one error due to small sample size.

iv. Degrees of freedom (df) 24.

After running the t test using SPSS (ver.21) the p value was found to be 0.02322 at alpha =0.05. This result was therefore found to be significant.
This is an important finding from this study. Hallam, Price and Katsarou (2002) stated that little is known about the extent to which children are exposed to music in their everyday lives or its effects on their mental functions. It can be interpreted to mean that teachers with high TSE use significantly more music activities than do those with low TSE. Research has shown that teachers with high TSE are more likely than teachers with a low TSE to implement instructive innovations in the classroom and to use classroom management approaches and adequate teaching methods that encourage students' autonomy (Guskey, 1988), to manage classroom problems (Chacon, 2005; Korevaar, 1990), and to keep students engaged on the task (Poddell & Soodak, 1993). Teachers with high TSE try various teaching strategies with students. These findings support the assertion that self-efficacy is a strong predictor of behavior (Bandura, 1997). Teachers with a higher sense of efficacy exhibit greater enthusiasm for teaching (Allinder, 1994) and have greater commitment to teaching (Coladarci, 1992).

The researcher did further analysis on frequency of use of music activities in a bid to understand the findings. The analysis is shown in Table 4.8.
Table 4.8 Frequency of use of music activities by demographic characteristics

<table>
<thead>
<tr>
<th></th>
<th>High TSE</th>
<th>Mean of music activities</th>
<th>Low TSE</th>
<th>Mean of music activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Male</td>
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</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>7.16</td>
<td>11</td>
<td>5.63</td>
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<tr>
<td><strong>Totals</strong></td>
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<tr>
<td><strong>Ages of the respondents</strong></td>
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<td>11</td>
<td>3</td>
<td>4.3</td>
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<tr>
<td>20-30 yrs</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>4.6</td>
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<tr>
<td>30-40 yrs</td>
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<td>6.7</td>
<td>3</td>
<td>6</td>
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<tr>
<td>Over 40 yrs</td>
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<td>8</td>
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<td><strong>Totals</strong></td>
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<td>13</td>
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<td></td>
</tr>
<tr>
<td><strong>Level of ECE training</strong></td>
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<td>0</td>
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<td>Certificate</td>
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<td>4</td>
<td>5.4</td>
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<td>13</td>
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<tr>
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<td>5.5</td>
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<td>KHA</td>
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<td>6.7</td>
<td>1</td>
<td>6</td>
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<tr>
<td>Montessori</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13</td>
<td>13</td>
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<td></td>
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<tr>
<td><strong>Teaching experience</strong></td>
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<tr>
<td>1-5 yrs</td>
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<td>6.3</td>
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<td>10-15 yrs</td>
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<tr>
<td>Over 15 yrs</td>
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<td><strong>Total</strong></td>
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<td></td>
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<tr>
<td><strong>Main language used for instruction</strong></td>
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<td>English</td>
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<td>9.5</td>
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<td>6.3</td>
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<tr>
<td>Kiswahili</td>
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<td>7.0</td>
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<td>Mother tongue</td>
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<td>6.3</td>
<td>3</td>
<td>5.0</td>
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<td>Mixture of English and Kiswahili</td>
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<td>9.0</td>
<td>3</td>
<td>5.0</td>
</tr>
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<td>13</td>
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<td></td>
</tr>
<tr>
<td><strong>Type of institution</strong></td>
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<td>7.7</td>
<td>7</td>
<td>5.0</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>County</strong></td>
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<td></td>
</tr>
<tr>
<td>Nairobi private</td>
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<td>8</td>
<td>3</td>
<td>5.7</td>
</tr>
<tr>
<td>Nairobi Public</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>6.5</td>
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<td>Kiambu private</td>
<td>4</td>
<td>7.6</td>
<td>4</td>
<td>4.5</td>
</tr>
<tr>
<td>Kiambu Public</td>
<td>4</td>
<td>6.7</td>
<td>4</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13</td>
<td>13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.5.2 Frequency of use of music activities by gender

The researcher was also interested in frequency of usage of music activities by demographic variables. An analysis is shown in table 4.8. An examination of table 4.8 reveals that female teachers use more music activities than male teachers. This holds true even for teachers deemed to have lower levels of TSE. This finding could be due to other personal factors, since research indicates that awareness and training are the two most crucial factors that affect music integration within the curriculum (Shuck, 2005).

4.5.3 Frequency of use of music activities by age ranges

Usage of music activities appears to vary directly with increase in age for teachers with higher levels of TSE (see table 4.8). For teachers with lower levels of TSE, the opposite holds true: the higher the age, the lower the frequency of usage of music activities.

4.5.4 Frequency of use of music activities by level of ECE training

Certificate holders use more music activities than diploma teachers for those with higher levels of TSE. The situation changes with the teachers deemed to have lower levels of TSE: here the diploma holders use more music activities than certificate holders (see table 4.8). Exposure during the training years could be a contributing factor.

4.5.5 Frequency of use of music activities by approach used for instruction

The frequency of use of music activities is highest with those who use DICECE approach in instructing pre-school children. Those teachers who use DICECE and KHA approaches appear to use more music activities than those who use Montessori
approach. This is true for teachers with different levels of TSE (see table 4.8). The emphasis in DICECE centers on music and movement is reflected in the use of music activities in the classroom.

4.5.6 Frequency of use of music activities by teaching experience

A significant finding is that frequency of use of music activities increase with increasing teaching experience. This holds true for teachers with different levels of TSE (see table 4.8). Even though connections between number of years of teaching experience and teachers’ use of music activities has not been found (Giles & Frego, 2004), it can be argued that the repertoire of music activities increases with teaching experience and this may be able to explain this finding.

4.5.7 Frequency of use of music activities by language used for instruction

An examination of table 4.8 reveals that those teachers who use a mixture on languages use more music activities than those who use single language in instruction. There is likelihood that the repertoire of music activities available influences the frequency of their use. The implication is that if a teacher uses mixed languages, then the teacher has more music activities at his/her disposal. The teacher may therefore end up using more music activities than one who uses a single language for instruction.

4.5.8 Frequency of use of music activities by type of institution

The findings from this study show that teachers in private schools use music activities more frequently than those in public schools (see table 4.8). In line with the finding that they were more efficacious, a relationship, though not causal exists between TSE and use of music activities.
4.5.9 Frequency of use of music activities by counties

A general analysis reveals that teachers in Nairobi county use more music activities than do teachers in Kiambu county (see table 4.8). The difference in frequency of use of music activities is infinitesimal and not significant. It could be attributed to chance.

4.6 Variety of music activities used in pre-schools

The third task for this study was to determine whether there is a significant difference in the variety of music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties. The varieties observed were songs, rhythms, poems, rhymes, chants, dances and raps. The variety of music activities used in pre-schools in Nairobi and Kiambu counties was recorded in the observation schedule in actual number of activities used (see appendix v). If a teacher used two different activities within the period of observation, this was recorded as 2. The period of observation was standardized to two hours for each participant, regardless of the activity areas that were being taught at the time. The classroom observations results concerning variety of music activities are shown in Table 4.9
Table 4.9 *Variety of music activities used in pre-schools*

<table>
<thead>
<tr>
<th>Teachers with high TSE</th>
<th>Types of Activities</th>
<th>Teachers with Low TSE</th>
<th>Types of Music Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>K001</td>
<td>2</td>
<td>N006</td>
<td>3</td>
</tr>
<tr>
<td>K002</td>
<td>3</td>
<td>N007</td>
<td>2</td>
</tr>
<tr>
<td>K003</td>
<td>4</td>
<td>K009</td>
<td>2</td>
</tr>
<tr>
<td>K004</td>
<td>2</td>
<td>K010</td>
<td>1</td>
</tr>
<tr>
<td>K005</td>
<td>2</td>
<td>K011</td>
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</tr>
<tr>
<td>K006</td>
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<td>K012</td>
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</tr>
<tr>
<td>N001</td>
<td>1</td>
<td>K013</td>
<td>2</td>
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N = Nairobi  
K= Kiambu

The researcher tested the hypothesis that there is no significant difference in the variety of music activities used by teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

4.6.1. Procedure

i. **$H_{01}$**: There is no significant difference in the variety of music activities used by teachers with low TSE and those with high TSE in pre-schools in Nairobi and Kiambu counties.

ii. **$H_{A1}$**: There is a significant difference in the variety of music activities used by teachers with low TSE and those with high TSE teachers in pre-schools in Nairobi and Kiambu counties. In other words, the means are not equal.

iii. Level of significance: 0.05

iv. Degrees of freedom (df) 24.
After running the t test, the p value was found to be 0.8122 and the T value was 0.24. This result was not significant at p= 0.05. An interpretation is that there is no significant difference in the variety of music activities used by teachers with different levels of TSE.

4.6.2 Variety of music activities

Teachers in pre-schools in Nairobi and Kiambu counties mainly used songs, poems, chants and rhythms. The differences in the variety of music activities used were not statistically significant. They ranged from a low of 1 to a high of 4. Majority of the teachers mixed types of music activities, be they poems, chants or songs. Although the difference was not significant, there were some findings that are worth noting:

i. Female pre-school teachers use more variety of music activities than males in pre-schools in Nairobi and Kiambu counties.

ii. The more the age of the teacher, the less the variety of music activities used.

iii. Diploma holders use more variety of music activities than certificate holders

iv. DICECE trained teachers use less variety of music activities than do Montessori Pre-school teachers

v. The teachers with more experience use more variety of music activities than newly trained teachers

vi. Teachers who used mother tongue for instruction used the least variety of music activities, while those teachers who used a mixture of languages used the most variety.
vii. Pre-school teachers deemed to have low TSE in private schools used the lowest variety, while those with high TSE in private pre-schools used the highest variety of music activities.

viii. Public pre-school teachers in Kiambu county used the least variety of music activities, while pre-school teachers in private schools in Nairobi county used the highest variety of music activities.

These findings are shown in Table 4.10.
Table 4.10 Variety of music activities by demographics

<table>
<thead>
<tr>
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4.7 Music activities in pre-schools and how they are used

The fourth task for this study was to find out the actual music activities used by teachers with different levels of TSE in pre-schools Nairobi and Kiambu Counties. The thirteen teachers with high TSE and the thirteen teachers with low TSE were subjected to observations in their classrooms. Each teacher was observed for approximately one and a half hours, which was not continuous. It included observations over the breaks between the sessions. The observations were all done during the morning sessions. In seven of the pre-schools, the researcher started the day with the teachers.

The data from the observation was recorded on the observation schedule sheet. The teachers in Nairobi and Kiambu counties used a lot of music activities, similar to the findings of the study by Almodovar (2010) that more time was spent on musical activities than any other art form. The different types of activities such as songs, rhythms, movements, dances, rhymes, chants and musical games were recorded on the observation schedule sheet. At the same time, all the activities taking place in the classroom were audio recorded. This helped in cross checking the information recorded in the observation schedule. The audio records were also very crucial in the transcription of the melodies to staff notation. After transcribing the music activities used by pre-school teachers in Nairobi and Kiambu counties, the researcher listened to the songs again and analyzed their lyrics and the way they were used in class. By and by, dominant themes began to emerge. Further cross checking concretized the thematic areas. The main themes emerging out of the analysis coincided with the three factors in the teacher efficacy scale developed by Tschannen-moran and Woolfolk Hoy in 2001. In their factor analysis, Teacher Efficacy had three moderately correlated factors, namely student engagement, classroom management
and efficacy for instructional practices. These are the themes used in this study to organize the multiplicity of uses of music activities in the pre-school classrooms. The music activities collected are outlined below, followed by a qualitative description of how they were used in class.

4.7.1 Music activities used for Student engagement

Student engagement refers to all the strategies that teachers use to keep the student on task. It represents the time and effort students devote to activities that are empirically linked to desired outcomes of the school and what teachers do to induce students to participate in these activities (Kuh, 2009b). In this study, student engagement refers to all the strategies a teacher employs to ensure the learner is kept on task, that is the degree of attention, curiosity, interest, optimism, and passion that learners show when they are learning or being taught. Teachers have the responsibility of ensuring learners remain focused on task. Pre-school teachers were found to use varied music activities in a bid to keep the learners engaged.

4.7.2 Songs used for Student engagement

In almost all the pre-schools, song was the dominant music activity used to motivate and re-energize the learners. Some representative songs used in pre-schools in Nairobi and Kiambu counties are presented here.

Figure 4.1 I am drawing
This was a wonderful song (figure 4.1) for student engagement. It was sung quietly in one pre-school (N001) as the children were drawing and kept them focused on the task. This is in line with the observation that music activities lead to increased productivity and motivation to learn and work (White, 2007). The researcher interpreted the use of this song as student engagement.

![Figure 4.2 Father, Mother](image)

This song (figure 4.2) was sung in the middle of a religious activity session. The topic was “Child Jesus”. The children stood up and sang the song together with the teacher, clapping in time with the rhythm. Then they sat down again and continued with the discussion. This was interpreted as student engagement.

![Figure 4.3 Welcome our visitor](image)

The song “Welcome our visitor” (figure 4.3) was sung as the researcher entered the class. The children stood up and sang the song loudly looking pointedly at the researcher. The researcher responded by saying thank you. It was a wonderful way
of welcoming visitors and gave the researcher time to greet the learners. It served the purpose of managing the learners and student engagement.

Humpty Dumpty sat on a wall
Humpty Dumpty had a great fall
All the King's horses and all the King's men couldn't put Humpty together again

Figure 4.4 Humpty Dumpty

This little song (figure 4.4) served to remind the learners about the misfortunes that can befall them when they climb up fences and other such structures. Indeed, it did help to reinforce the instruction not to climb up fences. It was performed in the middle of lesson, when the learners seemed bored. It reenergized them and refocused them in the activity. This was interpreted as student engagement.

The wheels on the bus go round and round round and round round and round

Figure 4.5 The wheels on the bus

The song “The wheels on the bus” (figure 4.5) was performed in the middle of an English lesson apropos of nothing. It served the purpose of re-energizing the children. They stood up and swung round and round, and honked and bounced in time with the song and then sat down and continued with the lesson. This was interpreted as student engagement.
This is my commandment that you love one another that your joy may be full

**Figure 4.6** This is my commandment

This song (figure 4.6) was used to introduce a religious activity session, focusing the learners’ attention on the subject matter of the lesson. This was interpreted as both student engagement and instructional strategy.

**Figure 4.7** If you are happy

This song (figure 4.7) was performed as the starting song in one preschool in the morning. The learners happily sang, clapped and stamped their feet in time with the song. It set up a good mood for the start of the day, making the learners relaxed. This was interpreted as student engagement. It mirrors a study, in which 93% of students interviewed said music relaxed them and helped them stay on-task (White, 2007).
These little songs (figures 4.8, 4.9 and 4.10) were all used as greeting songs in the morning at different settings in different preschools. At the start of the day in preschool N002, the teacher began the song (figures 4.8). The children joined in and happily greeted each other, moving from one friend to the next. The other two songs (figures 4.9 and 4.10) were performed in the same way but in different preschools (N007 and K013). They set up very nice moods for the start of day. These songs
catered for student engagement. They correspond to where teachers may take active steps to make students feel welcomed, accepted, safe, and valued (Trowler, 2010).

Figure 4.11 welcome our visitor

This song (figure 4.11) was sung in pre-school K009 as the researcher entered the class. The pupils stood up and sang the song loudly spontaneously, without any cue from the teacher. It appeared like it was a classroom routine. It was a wonderful way of welcoming visitors. It gave the researcher time to greet the learners. It helped the visitor-class interaction and served the purpose of learner engagement.

It is worth noting that the first 6 songs (figures 4.1 to 4.6) were used in classrooms managed by teachers deemed to have high efficacy and figure 4.7 to figure 4.11 were used in the classrooms of teachers deemed to have low self efficacy. Except for the frequency, there was no difference whatsoever in the way teachers with different levels of efficacy integrated the songs in the classroom.

4.7.3 Chants used for Student engagement

A chant is a repeated rhythmic phrase, typically one shouted or sung in unison by a group of learners: to say or shout repeatedly in a singsong tone. The researcher encountered several chants used in the course of instruction. Following the procedure outlined in 4.6 above, the researcher classified the chants into student
engagement, classroom management and instructional practices. The researcher was interested in how teachers bring about student engagement and limit the disruptions in the classroom in line with observations by Kaliska (2002). Some of the chants used by pre-school teachers in Nairobi and Kiambu counties for student engagement are outlined here:

Chant i) *Balance the ball*

*Balance the ball, balance the ball (balance the ball, balance the ball)*  
*Balance the ball, balance the ball (balance the ball, balance the ball)*  
*I pick the ball (I pick the ball)*  
*I put it here (I put it here)*  
*I put it here (I put it here)*  
*I put it here (I put it here)*  
*I pepeta (I pepeta)*  
*I pepeta (I pepeta)*

The exercise above was performed in a pre-school in the middle of a lesson using a sing song melody that could only be classified as a chant. The children were becoming restless and one could sense the energy levels going down. The teacher (K010) requested the children to stop what they were doing and “pepeta” the ball. The children stepped out of their sitting area and spread out in all the empty spaces in the classroom and began the “pepeta” chant, skipping and shaking various parts of the body in response to the song. In the chant, they imagined placing a ball on different parts of their bodies (example, knees, shoulders etc) and then juggling the ball using that particular body part. It was a very enjoyable activity to the children. By the time they sat down again, they were rejuvenated and the session continued on normally. It was interpreted as student engagement.

Chant ii) *The picture of a cow*

*The picture of a cow, the word cow*  
*The picture of a goat, the word goat*  
*The picture of a pen, the word pen*  
*The picture of a chair, the word chair*
This kind of chant (chant (ii)) was used in very many pre-schools. The teacher (or a child) would point at matched pairs of pictures and words and the rest chanted as they read through. It was quite rhythmical, and the pulse was constant throughout the chant. It catered for student engagement. This chant was used in all classes whether the teacher had low or high TSE.

Chant iii) *Esther, Hallo teacher*

*Esther, Hallo teacher*

*Shake your body, body twice*

This chant above (Esther, Hallo teacher!) was used to re-energize learners when their energies seemed low in the middle of a social studies lesson. As the teacher turned to write on the BB, one learner started the chant and the other learners joined in, standing up and shaking their bodies. This was interpreted as learner engagement.

Chant iv) *Well done*

*Well done! Well done!*

*Shake your collar shake your collar, Wow! Wow! Wow!*

Chant (iv) was used severally in almost all the pre-schools the researcher visited. There were slight variations in the wording, but they all captured the same essence. After a learner had responded to a question from the teacher, the rest of the class would immediately start on this chant, half singing, and half speaking rhythmically through the text. This was an aspect of learner engagement. This made the learning more focused, effective, memorable, and enjoyable to the learners (White, 2007).

Chant v) *Punda*

*Punda.......... alibeba*

*Mzigo.......... wapi*

*Sana ..........e-he*

*a-рiуuuuu*

“Punda alibeba” (chant (v)) was another chant used by children in two different pre-schools visited on 19.9.15 (N008) and 28.9.15 (K009). It was performed in a sing
song style, in a call and response style. It ended with the children making the sound of a donkey farting. In the two occasions when it was used, the children ended up laughing hilariously at their own joke. This was a good way to help pre-schoolers develop emotionally and socially. Within the classroom setup, this chant helped to keep the learners focused on the lesson. The two teachers had different levels of TSE, yet used the same chant in the same way.

Chant vi) Nani alisema

Nani alisema sisi sio manyangax2 Huyo
Nani alisema sisi sio manyangax2 Huyo
Mpaka wapi? Mpaka chini, Mpaka chini, Mpaka down
Mpaka wapi? Paka juu, paka juu, paka up.

Nani alisema walimu ni wabaya – huyo
Nani alisema walimu ni wabaya – huyo
Mpaka wapi? Mpaka chini, Mpaka chini, Mpaka down
Mpaka wapi? Paka juu, paka juu, paka up.

Translation

Who said we are not digital? X2 that one
Who said we are not digital? X2 that one
Until where?
Until down, until down, until down
Until where? Until up, until up, until up.

Who said teachers are bad? X2 that one
Who said teachers are bad? X2 that one
Until where?
Until down, until down, until down
Until where? Until up, until up, until up.

In one pre-school (K003) when the children were working in groups, the first group to finish started on this chant (chant (vi)). Then the second group to finish recited the same and danced to the chant, shaking their bodies rhythmically. It served to invigorate and reenergize the children. This was certainly an aspect of student engagement.
Chant vii) *The shapes I know*

*Square, rectangle*
*Oval, circle*
*Oval, circle*
*Triangle, star*

*The shapes I know X 2*

In one pre-school (N008) when the teacher was introducing a number work session, the learners were requested to recite the chant “the shapes I know” (chant (vii)). It was a singsong chant as the learners reminded themselves about the shapes they knew. This was using music activities for student engagement, just like the chant “Elephant, Elephant” (chant (viii)) which was used in the middle of a number work lesson. The teacher requested the learners to stand up and they chanted as they moved their hands and body to show the bigness and the tallness of the animals. They then sat down and continued with the number work session. This was an aspect of teacher innovativeness at its best, and used for student engagement. Chant (viii) is shown here:

Chant viii) *Elephant! Elephant*

*Elephant! Elephant!*
*Go to the bus*
*No! no! no!*

*Because I’m too big*
*Giraffe! Giraffe!*
*Go to the bus*
*No! no! no!*
*Because I’m too tall*

A commonly used way of starting the pre-schoolers’ day was the use of own created chants like “and I like children” (chant (ix)). This chant was used in pre-school K010, at the start of the lesson. The teacher judiciously used it to engage the learners. This particular teacher used this chant severally during the lesson.
Chant ix) and I like children

    And I like children
    And I like teacher!
    And I like children
    And I like teacher

Chant x) Baby baby crying

    Baby baby crying
    Mother in the kitchen cooking chapati
    How many do you want?

One pre-school teacher (K007, visited on 22.9.15) asked the class to recite this chant (chant (x)) when one child started crying. The child took this as a cue to stop crying and joined the rest when they recited the same for the second time. By the time it was repeated for the third time, the child was laughing jovially. It catered for classroom management and student engagement.

In the use of chants for student engagement, there was no noticeable difference between teachers with different levels of TSE.

4.7.4 Poems used for Student engagement

A poem is a piece of writing that partakes of the nature of both speech and song that is nearly always rhythmical, usually metaphorical, and often exhibits such formal elements as meter, rhyme, and stanzaic structure. Due to their characteristics, poems are lumped together as music activities. Teachers in pre-schools in Nairobi and Kiambu counties made use of this genre of music activities for student engagement.

A collection of the poems used during the observation sessions is outlined here:

Poem i) I wake up in the morning

    I wake up in the morning
    I make my bed
    I wash my face
    I brush my teeth
    I comb my hair
    I take a cup of tea
    I take my bag
    Bye Bye Mummy, Bye Bye Daddy
This poem (poem (i)) was used in a pre-school classroom first thing in the morning, possibly reminding the children of the process of morning preparation and getting to school. The children recited it loudly, trying to outdo one another and mimicking the actions suggested by the lyrics. It served the purpose of student engagement, focusing them on the class activities that were to follow.

Poem ii) I wish I could

I wish I could
I wish I could
I wish I could

I think I can
I think I can
I think I can

I said I could
I said I could
I said I could

I knew I could
I knew I could
I knew I could

This poem (poem (ii)) was used during the introduction of a number work session. While writing numbers on the blackboard for a number work activity, the teacher started the poem and the children joined in and recited in groups. After one group had ended another would begin, and so on. By the time all the groups had done it, the teacher had finished writing. It served the purpose of introducing the lesson and keeping the learners engaged as teacher wrote. It was a very interesting activity and it boosted the morale of the learners. The poems outlined above were used in classrooms with teachers deemed to have high TSE. It is worth noting that teachers deemed to have low TSE did not use any poem for student engagement during the course of the observation.
4.7.5 Rhythms used for Student engagement

Another common musical activity was rhythmic clapping during the lesson. Rhythm is defined as a particular type of pattern formed by strong, regular, repeated pattern of movement or sound, especially when played on drums or clapped with the hands. Rhythmic clapping was observed in almost all the pre-schools. Teachers exploit the strengths of musical intelligence during class time, especially when reinforcing those who have given correct responses. Some of the rhythms were quite challenging and contributed to physical development, even as they served to reinforce learners in class. They kept the learner focused on the lesson. In pre-school N003, where the teacher was deemed to have high TSE, the rhythmic figure 4.12 was used severally in class. It was used for learner reinforcement, when the learners gave correct responses. It was quite rhythmical and musical in nature. The researcher interpreted this as student engagement, to keep the learners focused on the lesson and keep hoping the teacher would request other learners to clap for them.

Figure 4.12 Rhythm 1

Figure 4.13 Rhythm 2
This rhythm (figure 4.13) was also used for learner reinforcement in a class where the teacher was deemed to have low TSE. It was also associated with counting backwards. The learners were given a number and they clapped that number of claps, paused for one crotchet, then clapped one less than that number, paused for a crotchet, then one less than the preceding number of claps and so on until they got to only one clap. It was like what mathematicians call “Factorial”. As can be seen, the difference in the usage is not noticeable. Teachers with different levels of TSE do use rhythms in the course of instruction.

4.7.6 Music activities used for classroom management

Classroom management refers to a systematic instructional process used by teachers to guide students toward successful rule compliance in the classroom (Marzano & Marzano, 2003). It is the sum total of all the teachers’ efforts to ensure lessons run smoothly without any disruption. It includes how the teacher or facilitator delivers the curriculum, and also how the students interact with the teacher and with others in the classroom, and extends into the classroom environment in which students learn.

4.7.7 Songs used for classroom management

As noted earlier, songs were the most widely used music activity within the preschools in Nairobi and Kiambu counties. This finding is similar to the study by Almodovar, (2010) which found that, in general, teachers used music more than other arts in their classrooms. Some representative songs are outlined here.
This song (figure 4.14) is an adaptation of “Brother Joseph” tune. It was used by a teacher (N002) deemed to have high TSE to make the learners sit down in the middle of a lesson. They were excitedly standing up in class, which the researcher found to be quite common in pre-school classrooms. The teacher then started the song and the learners clapped as they sang. By the end of the song, all learners were quietly seated. This was interpreted as using music activities for classroom management. Effective classroom management will decrease disruptive behavior, and make good use of instructional time, resulting in a classroom full of students staying on task, remaining quiet while working and staying calm which are all part of good classroom management (White, 2007).

Figure 4.14 Will you sit down?

Figure 4.15 Baa Baa Black sheep
This piece (figure 4.15) was performed as the learners started getting into class after morning break in pre-school K004 (teacher with high TSE) on 14.9.15. It was started when some were still outside and they sang as they got into class. By the time it ended, all the learners were at their desks. The teacher later explained that by the end of the song all learners should be settled down at their desks. It served the purpose of managing the transition into the next session.

Figure 4.16 Pease porridge hot

This song (figure 4.16) was sung apropos of nothing. The teacher (K010) simply started the song in the middle of the lesson, and the learners joined in. It was during a number work session and seemed to serve the purpose of keeping the children on task and to re-energize them. Later the teacher explained it was a warning about hot porridge. That, when learners made noise in class, the song reminded them of the consequences, that is, landing into hot porridge. It was therefore interpreted as a classroom management strategy.

Figure 4.17 Who was number one
This action song (figure 4.17) and was performed with a lot of dramatization and served to reinforce those children who had arrived earliest in the morning. It was performed at the beginning of the lesson, in a classroom with a teacher deemed to have high TSE, and names of the first ten learners to arrive that morning were input into the songs. The children smiled self consciously when their names were mentioned, as the rest of the class pointed at them. This was a very good way of classroom management. Later on, this particular teacher explained this ‘own composed’ song had helped in ensuring learners arrived early enough.

Figure 4.18 Baby Jesus

The “Baby Jesus” song (figure 4.18) was quite common in pre-schools and across the levels of TSE. It was mainly used to introduce or conclude CRE lessons and to manage transitions between lessons. Managing transitions and ensuring smooth changeovers is part of classroom management.

Figure 4.19 Put your finger on your lips
This song (figure 4.19) was started by the teacher at a time when the learners were busy modeling in groups. The class was getting quite noisy. The children joined in almost subconsciously. As the text suggests, the learners were to put their fingers on their lips and keep very quiet. By the end of the song, all the learners had their fingers on their lips and had kept quiet. As soon as they paid attention, the teacher explained what the learners were expected to do. This song was used for classroom management. This is in line with a study on social aspects of attention and perseverance by Scott (1992) showed that participation in music activities leads to major achievement in measures of self-regulation leading to discipline and order in the classroom.

![Sheet Music](image)

Figure 4.20 Sanya, Sanya

*Sanya, sanya, sanya wee
Vitu vya mwali mu, sanya wee*

The literal translation of the song Sanya, sanya is to return the “teachers’ learning materials back to the storage point. This particular song (figure 4.20) was performed in a pre-school when the learners were tidying up after a modeling session. As they sang the song over and over again, they were busy returning the modeling to its storage place. They moved in time with the singing thus improving coordination.

This song was used for giving instructions and directing the learners. It also helped in managing the transition into the next activity. This was an aspect of classroom management.
Figure 4.21 Attention please!

This short song (figure 4.21) was started by the teacher at a time when the learners were busy with their counters in groups. The class was getting quite noisy. The children responded by joining in the song, in the form of call and response. As soon as they paid attention, the teacher explained a concept on the blackboard. This song was used for giving instructions and directing the learners, an aspect of classroom management.

Figure 4.22 Tidy up

This song (figure 4.22) is an adaptation from the common Christmas song “Jingle Bells”. The teacher used it when the learners were cleaning up after free time in a Montessori classroom, moving in time with the song. The song served the purpose of managing transitions, which is an aspect of classroom management.
In most pre-schools, the children have to line up when going out or getting into the classroom. The element of lining up is therefore crucial at this level of learning. As the learners prepared to line up during break time up to get their porridge in preschool K001, they sang this little song (figure 4.23) over and over and in a very orderly way, they all got into the line and trooped out. It was also used in another pre-school when the children were lining up to wash their hands during lunch break. This was a good way of managing the class.

**Figure 4.23** In the line

In most pre-schools, the children have to line up when going out or getting into the classroom. The element of lining up is therefore crucial at this level of learning. As the learners prepared to line up during break time up to get their porridge in preschool K001, they sang this little song (figure 4.23) over and over and in a very orderly way, they all got into the line and trooped out. It was also used in another pre-school when the children were lining up to wash their hands during lunch break. This was a good way of managing the class.

**Figure 4.24** Going outside

The activity for the session was over and teachers had collected the learners’ books. Then the teacher started this song (figure 4.24) which was performed as a cue for the learners to go out for break. They all sang loudly as they put back their books and...
ran outside. The teacher therefore gave instructions using this song. This was interpreted as classroom management.

Figure 4.25 Hallo Hallo

This is how one teacher (K011) greeted the class in the morning (figure 4.25). The pupils also turned to one another and greeted each other, shaking hands in time with the song. As soon as they were through with one friend, they immediately turned to the next. This went on until most of the pupils in the class had greeted each other. This was a very good song for student engagement.

Figure 4.26 Clap your hands

This song “clap your hands” (figure 4.26) was enthusiastically performed in the middle of a CRE session to re-energize the students. It catered for student
engagement.

Figure 4.27 London’s burning

This song “London’s burning” (figure 4.27) was performed for enjoyment at the beginning of a session. The children performed it in rounds and though it was not very well performed musically, the enjoyment was evident. It was classified under songs for student engagement.

Figure 4.28 Twapenda mambo yote ya shule

This song (figure 4.28) was performed at the beginning of a day in a pre-school for student engagement. The children enthusiastically joined in the song and clapped along. It appeared to create a good mood and the learners were enthusiastic in the lesson after it.
4.7.8 Chants used for classroom management

A chant refers to rhythmic speaking or singing of words or sounds, often primarily on one or two main pitches. Chants can also be seen as a repeated rhythmic phrase, typically one shouted or sung in unison by a group of learners. To chant is to say or shout repeatedly in a singsong tone, half speaking, and half singing. Chants are a common way of communicating and teaching in the pre-school classrooms. When the learners read in unison, or respond in unison to the teachers cue, they use chants. Chants, by their very nature are music activities, and so they too serve the purposes of classroom control, student engagement and as instructional strategies. Some of the chants used by pre-school teachers in Nairobi and Kiambu counties are outlined below.

Chant (xi) Pre-school angels

In pre-school, Somebody says,  
“Keep quiet, Little angels!”

During one social science lesson, the class got a bit noisy and the teacher used this little beautiful chant (Chant (xi)) to make the children quiet. The teacher chanted the first part and all the children joined in with “Keep quiet little angels!” Then all kept quiet and waited for the next set of instructions from the teacher. This was a good way of using a chant for classroom management.

Chant xii) Lia lia mtoto

Lia lia mtoto, Mama anakuja  
Akupe maziwa mnyonyi  
Utanyonya aje  
Mm mm mm mm mm

Chant xiii) Sungura amelala

Sungura amelala  
Na jicho moja wazi  
wee sungura wee x2
The two chants above (Chant (xii) & (xiii)) were used to maintain order and discipline in the class: “Lia lia mtoto” was used to mock a child who cried in class and “Wee Sungura wee” when a child slept in class. They helped in maintaining student engagement and also for classroom control. One notable observation was that chants were used equally by teachers with different levels of TSE.

4.7.9 Poems used for classroom management

Poems were also used for classroom management. Some representative poems are outlined here, with a brief description of how they were used.

Poem iii) *Johnny Johnny ... Yes papa*

> Johnny Johnny ... Yes papa
> Eating sugar.....No papa
> Telling lies.....no papa
> Open your mouth...Ah ah ah
> Shut your mouth...Mm mm mm

At some noisy moment in a pre-school class, the teacher (N004) asked the children to recite the chant above (poem (iii)). The last line ends with all the mouths closed. It turned out very well in terms of noise control in an enjoyable learning environment. This was interpreted as classroom management.

Poem iv) Rain rain, go away

> Rain rain, go away
> Come again another day
> Sunshine’s here to stay
> Now we can go out to play

The poem above (poem iv) was used as the children prepared to go for break on a rainy day. It served as a cue for the children to keep their books away and go out. This was interpreted as using poems for classroom management.
4.7.10 Rhythms used for classroom management

Music activities also involved rhythm, whether used consciously or unconsciously. A rhythm is a particular type of pattern formed by strong, regular, repeated movement or sound, especially when played on drums or clapped with the hands. Rhythm is a common activity in pre-schools. At times the teachers do not seem to realize it is a music activity and that it caters for aspects of holistic development. During one observation session, the learners had gone out of class and could be seen playing in the field. The teacher needed to call the class to attention and clapped. The learners repeated after the teacher. It required keen listening and coordination and therefore had aspects of motor and cognitive development. But it served the purpose of class management. The rhythm that was tapped is shown in figure 4.29.

![Figure 4.29 Rhythm 3](image)

One pre-school teacher needed to catch the attention of the learners when they were busy modeling in groups. The teacher clapped to attract attention. The rhythm the teacher clapped is shown in figure 4.30. Since rhythm is an aspect of music, the teacher was using music activities for classroom management.

![Figure 4.30 Rhythm 4](image)
The rhythm in figure 4.31 (Rhythm 5) was used by a pre-school teacher for learner reinforcement. The first time it was used, the teacher requested the learners to “clap for themselves”. The whole group then clapped the rhythm again. Later during the lesson, it was used severally to appreciate learners who had given the correct responses. It served the dual purpose of classroom management and student engagement.

Rhythm 6 (figure 4.32) was used for managing a science activity on filling and emptying. The learners were in two groups and had selected representatives to empty a container of sand using a smaller container. As they competed on emptying as fast as they could, the rest of the class clapped rhythmically to urge them on. It was used for both student engagement and classroom control.

4.7.11 Music activities used as instructional strategies

4.7.12 Songs used as instructional strategies

Music activities were also used as instructional strategies. This observation supports a study by Shuck, (2005) who found that teachers consider music integration to be
helpful to students’ academic achievement. The content of the lesson was enhanced by use of the music activities. Sometimes the music activities served the purpose of set induction as lesson introduction. At other times, they were used to summarize the lesson. Mostly, however, they were used to aid in passing the learning content, especially the counting during number work activities and in setting the tone in story telling time. Some typical examples are outlined here.

![Music notation](image1.png)

**Figure 4.33 Outside all the giants**

The song “Outside all the giants” (figure 4.33) was performed during story telling time. After narrating a story about giants, the teacher taught the learners this little song. They sang it with a lot of fear and trepidation. It served as an instructional resource and involved deep emotional attachments.

![Music notation](image2.png)

**Figure 4.34 This is the way we wash our hands**
This song “This is the way we wash our hands” (figure 4.34) was used to summarize a lesson on washing hands. The teacher had adapted the lyrics of the song to the lesson for the day. As the teacher concluded, she taught the learners the song which was an excellent way of concluding the lesson. The learners mimicked the actions of washing hands as they sang. This was interpreted as instructional practice, and served the purpose of concretizing the subject matter.

Figure 4.35 *My family is very nice*

Verse 2

Mother father sister brother
Sister Brother Sister Brother
Mother father sister brother
Sister Brother and our little baby

This song (figure 4.35) introduced the learners to the members of their family during a social science lesson. It was used as a strategy to pass information, and was therefore classified as an instructional strategy.

Figure 4.36 *One little finger*
The teacher in pre-school N005 used this song “One little finger” (figure 4.36) in a science lesson to teach the parts of the body. The pupils stood up and sang and moved to the cue of the lyrics in the song. At one little finger, they held up one finger, the gently tapped their foreheads. They then put up one hand with the finger pointing upwards at the roof, and then put the hand down with the finger pointing at the floor. They then tapped their finger on various parts of the body as the teacher directed them: the eyes, nose, mouth, ears etc. This was seen using music activities as instructional strategy.

This song (figure 4.37) was performed by pre-school children as they changed from a Kiswahili lesson to a CRE lesson. As they sang the song, they pointed at themselves at the words “I am a child” and to the heavens at “G-O-D”. The song was very instrumental in creating an appropriate mood for the CRE lesson and for set induction. This was interpreted as managing transitions, which is an element of classroom control. But later, the teacher concentrated on the spellings in the lyrics of the song and due to this, the researcher classified it as an instructional strategy.
This song (figure 4.38) was used in a number work lesson in introducing counting. The teacher called out several children, who lined up at the front of the class and counted in time with the song. This was a good example of a music activity used as an instructional strategy.

Figure 4.39 What is your name?

This little game (figure 4.39) started with the teacher asking one child her name. She answered in song and passed the question to the next child, who answered and passed the question over to the next and so on until all the children had both asked and answered the question. It was very instrumental in getting the correct intonation and pronunciations and in keeping both rhythm and tune. The teacher was busy drawing on the blackboard. This was an ingenious way of managing the class and keeping the learners engaged. The teacher later dealt with the sentence: What is your name? The activity was therefore classified under instructional strategies.

Figure 4.40 Finger one

This song “Finger one” (figure 4.40) was performed as an instructional strategy in a lesson on number recognition in one pre-school. The teacher (K005) (deemed to
have high TSE) had written numbers on cards which were mixed up in a box. One child would come to the box and select the particular number as the rest of the children sang this song. It catered for cognitive development and as an instructional strategy.

This old man
He played one he played knick knack on my thumb
with a ding dong dong dong dong give the dog a bone this old man came walking home

Figure 4.41 Water melon

This song (figure 4.41) was used to summarize a lesson on fruits. The children had been on the theme “fruits” for the whole week and were taught this song as the concluding activity. This was seen as use of music activity for intellectual development and as an instructional strategy.

The song (figure 4.42) was used for counting during a number work session. Upon subsequent repeats, the children would count one number higher, thus
This old man, he played one
This old man, he played two
This old man, he played three... etc

This was interpreted as use of music activities used as instructional strategies.

Figure 4.43 Ten little ducks

This song (figure 4.43) was used for counting backwards. Every time the ducks went over the hills and far away, one would disappear, so they would be one less upon return. The song would continue until they had counted down to zero. It was accompanied with a lot of movement simulating duck movement. It was quite taxing physically. This was using music both for student engagement and as an instructional strategy.

Figure 4.44 One like a stick

This song “One like a stick” (figure 4.44) was used to help the children conceptualize the shape of numerals one to ten. The learners usually dramatized the shape of the numerals as they sang. In two of the pre-schools visited by the
researcher, the song was used as an introductory activity to number work sessions.

Figure 4.45 I am brushing

This song (figure 4.45) was used to summarize a science lesson on brushing teeth. It was very well received by the children. They performed it with movement and dramatization. A good example of music activity for cognitive development and therefore as an instructional strategy.

Figure 4.46 One two three

This song (figure 4.46) was used in a toddler class. It is an echo song and they repeated after the teacher. It was done over and over again for intellectual/cognitive
development. This was use of music activity as an instructional strategy. Music activities cater for the diverse learning styles of the learners. In most of our classrooms, teachers concentrate on linguistic intelligence, but as Howard Gardner in Milner & Milner (2003) pointed out, this is only one of nine or more distinct types of intelligences.

Figure 4.47 I am a C

The song above (figure 4.47) was used in a pre-school classroom in a CRE lesson. The teacher concentrated on the spellings in the song. The song served as an instructional strategy, especially when the learners started spelling the word C-H-R-I-S-T-I-A-N and making reference to the song.

Figure 4.48 Was a mother

This little song (figure 4.48) is an adaptation from BINGO, which is about the name of a dog. It had been adapted to help in the spelling of the names of the learners in
the class. The example shown above had to do with the name of a boy called Peter. As his name was spelt out by the rest of the class, he looked self consciously around, feeling very good about himself. Several other names of learners were selected at random and the class participated in the spelling game. It was a good way of using a music activity as an instructional strategy.

Figure 4.49 Hickory Dickory Dock

This song (figure 4.49) was used for counting. There was a long pause after the word ‘one’ in ‘the clock struck one’, where the learners clapped once, then continued with the song. The song was then repeated for other numbers, two three four etc., and for each number, a corresponding number of claps were given. It was a good way of using songs as instructional strategies.

Figure 4.50 Point to the roof

Point to the roof (figure 4.50) was judiciously used to teach various names of parts of the body and buildings. It was teacher-composed and not very well performed
musically. However, the teacher used it very effectively, with the learners trying to point to the required part of the body as quickly as possible. It was a very enjoyable game. It catered for intellectual/cognitive and was used as an instructional strategy. The importance of the use of games for learning can be deduced from Krashen (1985) who notes in his ‘affective hypothesis’ that language acquisition can be inhibited if there are negative emotions like fear. Music activities therefore create a conducive environment for language acquisition.

4.7.13 Chants used as instructional strategies

Teachers in preschools in Nairobi and Kiambu counties also used chants as instructional strategies. Here, two examples are given of chants used for this purpose.

Chant xiv) *Tusome a, a, a.*

*Tusome a a a
Tusome b b b
Tusome c c c
Tusome d d d....... (all the way to Z)*

This chant (Chant (xiv)) was used in helping the children to get through the letters and sounds in preparation for reading in a class with a teacher with low level of TSE. One of the children pointed at each letter on a chart on the wall of the class as the others chanted rhythmically and danced and shook their bodies in time with the chant. It was an interesting way to engage learners in the content of the lesson. This finding complements research findings which indicate that early childhood teachers who take the time to integrate music and movement activities optimize possibilities for increased academic learning time (Sandberg, Cory & Kathleen, 2013).

There was also the use of a “spelling game” where the teacher would request for spellings for various words. The learner would initiate the chant in a musical way,
involving the rest of the class as they spelt out the word required. The chant below was very well used for an intellectual exercise that kept the learners focused on the lesson. This was using a music activity as an instructional strategy.

Chant xv) *Give me letter M*

- *Give me letter M.......M*
- *Give me letter O.......O*
- *Give me letter N.......N*
- *Give me letter D.......D*
- *Give me letter A.......A*
- *Give me letter Y.......Y*

This chant was used in a class where the teacher had high TSE. There was no discernible difference in the way these chants were used by teachers with different levels of TSE.

### 4.7.14 Poems used as instructional strategies

A poem is a piece of writing that partakes of the nature of both speech and song that is nearly always rhythmical, usually metaphorical, and often exhibits such formal elements as meter, rhyme, and stanzaic structure. Due to their characteristics, poems are lumped together as music activities. As a music activity, poetry was quite prevalent in the pre-school classrooms. Short poems were recited at different times during the lessons. A few of those poems are presented here together with a description of how they were used.

Poem v) *woodchuck*

- *How much wood would a woodchuck chuck*
- *If a woodchuck could chuck wood?*
- *It would chuck as much wood as a woodchuck could,*
- *If a woodchuck could chuck wood*

This tongue twister (Poem (v)) helped to get the children ready for reading exercises. The teacher recited the poems and the children repeated after the teacher, one group
at a time and then one child at a time. They served the purpose of intellectual/cognitive development and as an instructional strategy.

Poem vi) *One potato two potatoes*

*One potato, one tomato.*
*Two potatoes, two tomatoes.*
*Three potatoes, three tomatoes.*
*More potatoes, more tomatoes*

*Four potatoes, four tomatoes.*
*Five potatoes, five tomatoes.*
*Six potatoes, six tomatoes.*
*More potatoes, more tomatoes*

*Seven potatoes, seven tomatoes.*
*Eight potatoes, eight tomatoes.*
*Nine potatoes, nine tomatoes.*
*More potatoes, more tomatoes*

*Ten potatoes, ten tomatoes*

This poem (poem (vi)) was used during a number work session. The children were actually counting up to ten. They were using real potatoes and real tomatoes and reciting as they counted physically. It served for language, mathematics and musical development, all part of intellectual development. It was used as instructional strategy.

And for keeping the learners engaged and on task, pre-school teachers device short poems which the children recite before the beginning of the day. Such poems include “One two Ta la la” (poem (vii)) which was used as an instructional strategy, while ‘crooked man’ (poem (viii)) was used for language development.

Poem vii) *One two Ta la la*

*One two Ta la la*
*Three four mo! Moo! Moo!*
*Five six miao! Miao!*
*Seven eight gu! gu!*
*Nine ten say it again!
Poem viii) Crooked man

There was a crooked man, and he walked a crooked mile  
He found crooked six-pence upon a crooked stile  
He bought a crooked cat, which caught a crooked mouse  
And they all lived together in a crooked little house

This poem (poem (ix)) was common in a number of pre-schools. It was performed with gestures and dramatization and catered for language development and coordination. This was use of music activities as instructional strategies. After all, children need multiple and repetitive opportunities, such as learning rhymes and singing songs to help with the formal process of mastering the mechanics of reading (Thares, 2010).

Poem ix) two little birds

Two little birds, standing on a wall  
Fly away peter, fly away John  
Come back Peter, come back John

One pre-school (N01) teacher used this poem (poem (x)) when on the topic ‘weather’. It was a good way of starting the lesson and catered learner engagement and as instructional strategies.

Poem x) Sunny Rainy

Sunny Rainy  
Cloudy Windy  
That is our weather  
Weather chart!

Poem xi) Betty Botter bought some butter

Betty Botter bought some butter,  
But the butter Betty Botter bought was bitter.  
So Betty Botter bought a bit of better butter  
To make the bit of bitter butter better
This poem (poem (xi)) was used during a language lesson. It helped in pronunciation and cognitive development. It also helped in social development, since each child recited it in turn, one after the other. It was an innovative way of using music activities as instructional strategies.

For brainstorming and revising learned content, teachers in pre-schools sometimes use the poem “consultation” (poem xii). This is an aspect of intellectual/cognitive development. It keeps the learners on task and is also used as an instructional strategy.

Poem xii) Consultation! Consultation

Consultation! Consultation! ....... Consultation
Consultation! Consultation! ....... Consultation
Name family members!
Response (Father, mother, brother, sister)

Consultation! Consultation! ....... Consultation
Consultation! Consultation! ....... Consultation
Name wild animals!
Response (Lion, elephant, zebra, leopard)

In language classes, pre-school teachers are very innovative. In order to keep the children active, they try a variety of techniques. One such device is the use of poems. After a short interval children are asked to recite the poem again as stimulus variation. Poems (iii), (iv) and (v) were used in this way. They served the purpose of keeping the learner engaged and as instructional strategies.

Poem xiii) Peter piper

Peter piper picked a pack of pickled peppers
A pack of pickled peppers peter piper picked
If Peter piper picked a pack of pickled pepper, 
Where is the pack of pickled pepper Peter Piper Picked?
Poem xiv) I went to the China

I went to the China  
Shop shop shop  
To buy a loaf of bread bread bread  
Chinese people are very fine  
This is the way they brush their teeth  
Busha busha ballala bush

The following poems were used to concretize the content of the lessons in preschool classrooms. In “thirty days have September” (poem (xv)), the teacher used it while teaching the months of the year, while “five little Monkeys” (poem (xvi)) was used during number work sessions to advance the concept of numbers. They recited subsequent verses reducing the numbers, from five little monkeys to four little monkeys to three little monkeys etc. They catered for cognitive development. Specifically, it was use of music activities as instructional strategies.

Poem xv) Thirty days have September

Thirty days have September,  
April, June and November.  
All the rest have thirty-one days,  
Except February alone,  
which has twenty eight days,  
And twenty nine days in a leap year.

Poem xvi) Five little monkeys

Five little monkeys jumping on a tree  
One fell down and broke his leg  
Mother called the doctor, doctor said  
No more monkeys jumping on a tree

Four little monkeys jumping on a tree  
One fell down and broke his leg  
Mother called the doctor, doctor said  
No more monkeys jumping on a tree

Three little monkeys jumping on a tree  
One fell down and broke his leg  
Mother called the doctor, doctor said  
No more monkeys jumping on a tree
4.7.15 Rhythms used as instructional strategies

There was minimal use of rhythms as instructional strategy. The researcher however observed one instance where the teacher (K04) clapped the rhythmic figure shown (4.49) and asked the learners to tell the exact number of claps in the rhythm. The children tried to repeat the rhythm as they counted and it was quite a vigorous mental activity. This rhythm was well used for intellectual/cognitive development. The first part of the rhythm was nicknamed ‘karabati’ and the second part was nicknamed ‘sinyorita’. The researcher interpreted this as use of music activities as instructional strategies.

Figure 4.51 Karabati and Sinyorita

Teachers indicated that they used music everyday in numerous ways with a variety of purposes, and they viewed music integration as a tool to fulfill students’ needs (Almodovar, 2010).

Music activities cater for the diverse learning styles of the learners. In most of our classrooms, teachers concentrate on linguistic intelligence, but as Howard Gardner pointed out, however, this is only one of nine or more distinct types of intelligences (Milner & Milner, 2003). Teachers should use as many of these intelligences as they can in their classrooms. According to Rivers (1987) songs are the means in the
course of which educational topics are presented successfully. They are valuable resources to expand students' abilities in listening, speaking, reading, and writing.

Games on the other hand are liked by students of all ages because they combine language practice with fun and excitement. The importance of the use of games for learning can be deduced from Krashen (1985) who notes in his ‘affective hypothesis’, that language acquisition can be inhibited if there are negative emotions like fear. Music activities therefore create a conducive environment for language acquisition.

A comparison of the music activities used by teachers with high and those with low levels of TSE revealed that both categories of teachers do use music activities in the course of teaching. In reality there is almost no difference at all in the actual use of music activities in the pre-school classrooms.

4.8 Reasons for use of music activities

The fifth task for this study was to compare reasons for use music activities based on levels of TSE among pre-school teachers in Nairobi and Kiambu Counties. The pre-school teachers had been grouped into two using their levels of TSE. The researcher held face to face interviews with the respondents immediately after the classroom observation and recording. The interviews sessions were audio recorded using a Sony IC recorder with prior consent of the respondents. The researcher made every attempt possible to make the respondents feel at ease and assured the them that their responses would not be used for any other purpose except as research findings, nor would their actual names be used anywhere in the research report or their identities revealed.
The interviews were based on the music activities the teachers had used in the classroom and the teachers were expected to justify the use of specific music activities at certain points within their lessons. Analysis of interview data from the two groups (high and low TSE) followed the guidelines by Babbie (2014) where the transcriptions from the interviews were read about four times to capture the main themes, and then coded and catalogued by topics. Axial coding followed next and the researcher identified the core concepts in the interview data. The data was then grouped into main themes. The actual procedure used was:

i. The audio recorded information was transcribed.

ii. The information was read at least four times word for word.

iii. Words that captured ideas and themes were coded.

iv. Then the researcher sorted through the data identifying similar themes.

v. The researcher interpreted the data using these broad themes

The qualitative analysis revealed three recurrent themes: keeping students on the task, ensuring there is order in the classroom and using music activities as tools for instruction. These categories correspond to those revealed by Tschannen-Moran and Hoy (2001) on the construct of teacher efficacy in the OSTES tool: that is, classroom control, student engagement and instructional practices. The researcher consequently grouped the reasons given by the respondents into one or the other of the three categories. In a study by Schuck (2005), it had been found that awareness and training were the two most crucial issues that affected music integration. Would this be the situation among pre-school teachers in Nairobi and Kiambu counties?

4.8.1 Theme one: Classroom control

The reasons which fall under this theme are compared across levels of TSE
4.8.2 Teachers with high TSE

The respondents deemed to have high TSE gave a number of reasons which could be grouped under this theme. For example respondent (K007) interviewed on 22/9/15 said, “When the children make noise in class, I start a song and they join in, thus controlling the noise. I use any song that comes to mind, any song that the children know well”. The music activities this teacher used ended with the children either standing attentively or with the finger on the lips or even with their mouths shut, thus affording another set of instructions. Such activities included ‘put your finger on your lips’ (Figure 4.19), ‘baby baby crying’ (lia, lia motto) (chant xii) and ‘in the line’ (Figure 4.23). In response to why “Sanya, sanya” was used, the teacher (N005) responded “after the end of an activity, I start the song ‘Sanya, sanya’ and the children start collecting the materials and putting them in their storage boxes as they sing. It helps in keeping the class orderly”.

Some music activities for classroom control were very thoughtfully used. Teachers appeared to have a good grasp of when to use music activities. For example, respondent (K001) interviewed on 16/9/15 remarked that, “When the children have a lot of energy and are standing up in class, I start the song ‘Will you sit down, will you sit down’ (figure 4.14). They sit down at cue of the song”. Another respondent (K006), interviewed on 14/9/15 who used a song to control the class observed that the song ‘Attention please! Attention Please’ (Figure 4.21) was very effective in classroom control. Every time the class borders on being noisy, the teacher leads the other learners in this song and brings back order in the class.

One teacher (N004) interviewed on 7/9/15 appeared to have a good grasp of the use of music for classroom management. The teacher observed that, ‘Children are very
noisy and get easily distracted. I therefore use the song “Put your finger on your lips, keep very quiet” (figure 4.19) to make the children keep quiet and listen to the next set of instructions. When the children join in and follow instructions, then they all put their fingers on their lips and keep quiet”

4.8.3 Teachers with low TSE

This group of the respondents gave reasons based on various aspects of classroom control. Indeed, they insinuated that music activities are used very well to control noisy classroom environments. Respondent (N007) observed that ‘when the class is noisy, I start the chant “in pre-school we say” … and the children reply “Little angels keep quiet”. (Chant (xi)). They therefore end up very quiet. Participant (K016) added:

In my class, the end of an activity is marked by the song “Tidy up, tidy up” (Figure 4.22) All the children sing as they tidy up their desks and working places.

Another teacher (N006) interviewed on 18/9/15 at around 10.30 am displayed very judicious understanding of the use of music activities for controlling movement out of class. The respondent commented that:

When I want the children to get into a line as they go out for their morning break, I start the song “In the line, in the line” (figure 4.23). The children join in and then get into the line ready to go out. It is one of the best ways to control the class.

The same respondent (N006) volunteered that she had established a classroom routine where the song ‘in the line’ was always followed by ‘going outside’ (figure 4.24):
When I start the song “Going outside, going outside”, the children know it is time for outdoor activities and immediately march out of class. This is after the ‘in the line song’.

Altogether, teachers were quite aware of the use of music activities for classroom management. Almost all had learned the activities from other teachers and none appeared to have learnt them from their teacher training course. The reasons given by these teachers were almost similar and there appears to be no difference at all in the way teachers with differing levels of TSE use music activities for classroom management.

4.8.4 Theme two: student engagement

This theme consisted of all those endeavors teachers use to keep the learners working on the assigned tasks. It also includes all attempts to make learners interested in the classroom proceedings. The reasons are analyzed based on levels of teacher self efficacy.

4.8.5 Teachers with high TSE

Nearly all the respondents were in agreement that music activities are very useful in keeping the learners engaged on the task. One respondent, K002, interviewed on 24/9/15 was very enthusiastic and observed:

I cannot do without music activities in my class. They serve so many useful purposes. For example when the children get to class in the morning, they sing and chant together as they wait for others to arrive. They engage in activities like “nani alisema watoto sio manyanga?” (Chant vi) Children cannot concentrate for long. Within the lesson, the teacher needs to keep them engaged. One way to do this is to have short music activities to use during the
lesson. That could be why another respondent (K004) interviewed on 25/9/15 added “every now and then, I notice the energy levels going down and I request the children to sing a song which involves vigorous activity. As they sing, they get re-energized”.

Another teacher (N003) interviewed on 15/9/15 observed that music is used to regulate and create desired moods. The teacher said:

Music is used to create desired moods-- to make us happy, to enjoy movement and dance, to energize, to bring back powerful memories, to help us relax and focus.

Some of the respondents showed a deep understanding of the use of music activities. Respondent (K002) interviewed on 24/9/15for example noted that ‘When I meet the children in the morning, I usually start with a hello song like “good morning, good morning, how are you today” (figure 4.8). It is very effective as the children move around the classroom greeting one another and laughing….’

One teacher (N003) interviewed on 15/9/15commented that “when we receive a visitor in our class, the children always greet the visitor with the song ‘welcome, welcome our visitor’ (Figure 4.11). The visitor is forced to respond in song!” On the same theme, respondent (K006) interviewed on 14/9/15 observed that:

Because I know the children are very musical, I use rhythmical clapping for learner reinforcement. I have names for these rhythms, for example “Karabati” and “Sinyorita” which are Ta-te-ti, Ta-te-ti, Ta and Ta-te-ti, Ta-te-ti, Ta-te-ti, Ta-te-ti, Ta (figure 4.49)

While expounding further on the use of music activities, another respondent (N004) interviewed on 7/9/15 noted that ‘for reinforcement, the children chant “Well done, Well done, shake your collar, collar, very good, keep up, Excellent!”(chant vi) It
makes the children very happy and they compete to answer and perform the requested learning activities’.

One pre-school teacher (N001) displayed a deep understanding of the uses of music, and referred to learning in both hemispheres of the brain. Another teacher noted some children develop confidence and feel very good when they sing for the others so ‘I always encourage them to sing for the whole class’ (N003). There were other non-musical reasons like ‘increasing the esteem of children, especially those who are not good in class work’ (K007) and that ‘when children perform music activities in groups, they learn how to work together and cooperate’ (K004). Altogether, the pre-school teachers displayed a deep understanding of the philosophy behind use of music activities in the classroom.

4.8.6 Teachers with low TSE

Respondent (N009) interviewed on 7/9/15 had some observations on use of music activities for student engagement:

When the children are painting or drawing, I usually request them to sing “I am drawing/painting, can’t you see can’t you see...” (figure 4.1)

While respondent (K015) had devised a good away of keeping the learners engaged on task:

When I have something to draw or write on the blackboard, I request one child to lead the others in a song. As they sing, I write what I have to write on the blackboard.

Another participant (N010) interviewed on 8/9/15 noted that with the energy levels the children have, it is difficult to have time to yourself. So when the teacher needs a few minutes to himself, he requests the children to sing ‘sometimes, I just like the
energy levels when the children sing, and I just request them to sing to feel the life in them and get re-energized myself. Another teacher (K012) noted that when the children appear to be in low spirits, ‘I have them sing a song, for example “If you are happy and you know it cap your hands”. According to White (2007), using music activities can help the students relax, increase their motivation to learn, and help them stay on-task. These are elements of student engagement. This agrees with Aguirre, Bustinza & Garvich (2016), who revealed that songs create a favorable environment in the classroom and encourage students to be more committed to class activities.

4.8.7 Theme three: Instructional practices

Music activities render themselves for use as teaching tools. In almost all the preschools visited in Nairobi and Kiambu counties, music activities were used for instructional purposes or as instructional strategies as evidenced by the following excerpts. The findings are reported based on levels of teacher self efficacy.

4.8.8 Teachers with high TSE

There were many instances when pre-school teachers used music activities for instructional purposes or as instructional strategies. Respondent (N001) interviewed on 11/9/15 noted that poems are very good in increasing the memory capacity. ‘I always request children to recite poems to keep their memories alive. I also use them as tongue twisters to help in preparation for reading’. Another teacher noted that tongue twisters serve to prepare the class for a reading lesson. The teacher (N005) commented:
I use tongue twisters to prepare my class for new words. For example “Peter piper” is the favorite for my class. The learners sometimes recite this poem even on their own.

Respondent (K004) was at first hesitant in responding about music for instructional purposes, but at last remarked that ‘music is a way in for the pupils, a way for them to learn about you and for you to learn about them’. This observation was seconded by respondent (K005) who observed that ‘one can understand children through the music activities’. Respondent (K003) interviewed on 10/9/15 noted that:

Music is a good way to find out what new things the children have learnt. On Monday mornings, I ask them to sing for me the new songs they learnt in Sunday school. Most of these new songs have content for religious activities. I later use the same as instructional strategies.

Most of the teachers said they changed the text in the songs and poems to fit the content of their lessons. One respondent had even requested the learners to create their own songs. This respondent N014 added that children are very musical and love music a lot. This is in agreement with an observation by Thares (2010) that children’s innate love for music makes it appropriate for use as a motivational tool.

4.8.9 Teachers with low TSE

Most teachers used in this category used music activities as introduction during the lessons. The activities help as set induction, preparing the learner mentally for the lesson. The following responses summarize some of these findings.

Participant (N010) was very enthusiastic about the use of music activities as teaching tools. The enthusiasm is captured in the teachers’ own words

I introduce number work sessions through counting songs. For example, “shake, shake the mango tree” has served my class very well in transitioning
to number work activities. As the learners sing, they are busy getting their counters and number work materials.

Another teacher, (K012) noted that music activities were indispensable in the number work sessions. This teacher added ‘music helps me to organize myself. As I organize myself, I ask my class to sing the long songs like “ten green bottles”. It is worth noting that this particular song had not been used in her classroom during the observation period. Other similar and representative observations are outlined below:

Respondent (K014):

If the content of the lesson can be captured in song, especially for the CRE lessons, I request or sometimes teach the children songs related to the content. For example, on the birth of Jesus, I will use “Baby Jesus, Baby Jesus”

Respondent (K010):

I have often used a melody to carry the content of the lesson, for example “This is the way we brush our teeth”

One teacher (N009) interviewed on 7/9/15

I teach the alphabet through song. I have discovered it is an effective way over the years.

Pre-school teachers in Nairobi and Kiambu counties appear to have a deep understanding of the necessity for use of music activities within the classroom settings. They use the music activities for a variety of reasons within the course of the lesson. As stated earlier, these reasons can be grouped under classroom management, student engagement and as instructional strategies. This is the case for both categories of teachers- that is those with high TSE and those with low TSE.
It was evident from the responses that pre-school teachers were well acquainted with reasons for use of music activities at pre-school level. Just as there can be no music without learning, no education is complete without music (Anderson, Henke, McLaughlin, Ripp & Tuffs, 2000). Teachers were in agreement that music enhances learning, supporting White (2007) who observed that using music in the classroom not only contributes to the development of musical intelligence, but also enhances the learning process overall. There is no noticeable difference between the reasons given by teachers with different levels of TSE. The teachers appear to use the music activities purely as aids in the learning activities.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings of the various issues revealed in the foregoing chapter, in line with Kenyatta University Guidelines (2013), Bak (2004) and Glaithorn & Joyner (2005). It also draws conclusions and makes recommendations emanating from the inferences. It ends by making suggestions for further research.

5.2 Summary

The purpose of this study was to examine the levels of teacher self efficacy and use of music activities in pre-schools in Nairobi and Kiambu Counties. The study was grounded on the self efficacy theory by Bandura (1977) and complemented by MI theory by Gardner (1983). The study was guided by the following objectives:

i. To examine the levels of TSE among pre-school teachers in Nairobi and Kiambu counties.

ii. To determine whether there is a significant difference in the frequency of usage of music activities between teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

iii. To determine whether there is a significant difference in the variety of music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.

iv. To find out the music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu counties.
v. To compare reasons for use music activities based on levels of TSE among pre-school teachers in Nairobi and Kiambu counties.

The researcher attempted to find answers within the confines of a mixed methods approach consisting of a two phase data collection procedure. Data was collected using a modified OSTES, complemented by classroom observation and interviews. The summary of the findings for this study is organized according to the order of objectives.

5.2.1 Demographics

The 194 respondents for the quantitative phase of the study were mainly females aged between 20 and 40 years with a teaching experience of between 5 and 20 years. Almost all of them were trained at various colleges, attaining certificates, diplomas and degrees in ECE. An overwhelming majority used DICECE approach in teaching and used English, Kiswahili or a mixture of both for instruction in pre-schools. The 26 respondents for the qualitative phase of the study reflected the same demographics as the first group, with most being females aged between 20 and 40 years with a teaching experience of between 5 and 20 years. Again, almost all were trained at various institutions and used DICECE approach for instruction in their schools.

5.2.2 Levels of TSE

The first task was to find out the levels of TSE among pre-school teachers in Nairobi and Kiambu counties. The questionnaires had 24 items, which had a likert scale ranging from 1 to 5. The scores for each of the 24 items were added up. The highest possible score was 120. After analyzing the 194 questionnaires which were returned, the study established that pre-school teachers in Nairobi and Kiambu Counties have
relatively high levels of TSE, averaging 77%. The teachers believed in their ability to teach, and were confident enough to use music activities within the course of instruction. Levels of TSE also varied as follows:

i. Female teachers scored higher on TSE, approximating about 5% more than the males.

ii. There was a noticeable increase in levels of TSE with increase in age of the respondents.

iii. The study found increasing levels of TSE by level of education from untrained through certificate to diploma level.

iv. Teachers who were trained using DICECE approach exhibited the highest levels of efficacy, followed by Montessori and the KHA.

v. Beginning teachers have high levels of TSE. It appears to decline slightly between 5 and 10 years, then increases dramatically between 10 and 15 years and continues as the teachers gain more experience.

vi. Teachers who use English as the medium of instruction have the highest scores on TSE, followed very closely by those who use mother tongue. Those who use Kiswahili are at par with those who use a mixture of all the languages.

vii. Pre-school teachers in private schools are slightly more efficacious than those from public schools.

viii. Pre-school teachers in Kiambu County are more efficacious than those from Nairobi County.

5.2.3 Frequency of use of music activities
The second task was to establish whether there existed a statistically significant difference in the frequency of use of music activities between teachers with different
levels of TSE. The mean frequencies for use of music activities were 7.1 for teachers with high TSE and 5.4 for teachers with low TSE. This difference proved to be statistically significant at p=0.05. Further, the study established that:

i. Female teachers use more music activities than male teachers. This holds true even for teachers deemed to have lower levels of TSE

ii. Usage of music activities appears to vary inversely with increase in age for teachers with higher levels of TSE. For teachers with lower levels of TSE, the opposite holds true: the higher the age, the lower the frequency of usage of music activities.

iii. Those teachers who use DICECE and KHA approaches appear to use more music activities than those who use Montessori approach. This is true for teachers with different levels of TSE.

iv. Frequency of use of music activities increases with increasing teaching experience. This holds true for teachers with different levels of TSE.

v. Teachers who use a mixture on languages use more music activities than those who use single language in instruction.

vi. Teachers in private pre-schools use more music activities than those who teach in public pre-schools.

vii. Pre-school teachers in Nairobi County use more music activities than do pre-school teachers in Kiambu County.

5.2.4 Variety of music activities

The third task for this study was to establish whether there existed a statistically significant difference in the variety of music activities used by teachers with different levels of TSE. Teachers with high TSE had a mean of 2.29, while teachers with low TSE had a mean of 2.14. The study found no statistically significant
difference in the variety of music activities used by teachers with different levels of TSE. However, the study established that:

i. Female pre-school teachers use more variety of music activities than males in pre-schools in Nairobi and Kiambu counties

ii. The more the age of the teacher, the less the variety of music activities used

iii. Diploma holders use more variety of music activities than certificate holders

iv. DICECE trained teachers use less variety of music activities than do Montessori Pre-school teachers

v. The teachers with more experience use more variety of music activities than newly trained teachers

vi. Teachers who used mother tongue for instruction used the least variety of music activities, while those teachers who used a mixture of languages used the most variety.

vii. Pre-school teachers deemed to have low TSE in private schools used the lowest variety, while those with high TSE in private pre-schools used the highest variety of music activities

viii. Public pre-school teachers in Kiambu county used the least variety of music activities, while pre-school teachers in private schools in Nairobi county used the highest variety of music activities.

5.2.5 Music activities used in Nairobi and Kiambu counties

The fourth task was to find out the actual music activities used by teachers in Pre-schools in Nairobi and Kiambu Counties. The study documented quite a number of these activities, which were grouped into songs, poems, rhythms and chants. Song was found to be the predominant music activity used in pre-schools in Nairobi and Kiambu Counties. Teachers with different levels of TSE used almost the same
activities with a noticeable overlap. However, teachers with high levels of TSE used more songs within their lessons than did those with lower levels of TSE.

5.2.6 Reasons for use of music activities

The fifth and final task was about reasons for use of music activities. The reasons given were many and varied. Most reasons however were based on classroom interaction and learning. There was no difference in the reasons given by teachers with different levels of TSE.

5.3 Conclusions

The conclusions from this study are organized according to objectives:

5.3.1 Levels of TSE

As pointed out in 5.2.2, the study found out that levels of TSE are generally high, especially among trained teachers. This is especially so for teachers with Diploma certificates. Based on this finding, the pre-school teachers in Nairobi and Kiambu Counties are quite confident in their ability to impart knowledge, skills and proper attitudes to the learners and try hard enough to reach even the slow and difficult learners. They should also be in a position to try out and employ novel methods in their teaching. This is confirmed through the use of music activities. All teachers observed used music activities in the course of instruction.

5.3.2 Frequency of use of music activities.

The next task was to determine whether there was a statistically significant difference in the frequency of usage of music activities between teachers with different levels of TSE in pre-schools in Nairobi and Kiambu Counties. Student’s t test revealed a significant difference in the frequency of music activities used by
teachers with different levels of TSE. This is one of the major findings of this study, and the researcher concluded that the higher the level of TSE, the more the music activities used in the classroom.

5.3.3 Variety of music activities.

The final task was to determine whether there was a statistically significant difference in the variety of music activities used by teachers with different levels of TSE in pre-schools in Nairobi and Kiambu Counties. Student’s t test showed no statistically significant difference between levels of TSE and variety of music activities in pre-schools in Nairobi and Kiambu Counties. The study further established that songs were the most widely used music activity in the pre-schools. Based on this finding, it can be concluded that teachers lack variety in music activities. The TTCs and colleges are therefore not efficient in providing alternatives to the teachers.

5.3.4 Music activities used in pre-schools

This research unearthed and documented a number of music activities used by teachers in pre-schools in Nairobi and Kiambu Counties. Although the list of activities is not exhaustive given the observation limitations, this study brought out judicious ways of using these activities at very opportune moments during the course of the lesson. Based on this finding, it can be concluded that teachers in pre-schools in Nairobi and Kiambu Counties actually use music activities to varying degrees during their lessons.
5.3.5 Reasons for use of music activities.

The study also sought to compare the reasons teachers with different levels of TSE give for using music activities in pre-schools in Nairobi and Kiambu Counties. The teachers in pre-schools in Nairobi and Kiambu Counties have a deep understanding of the necessity for use of music activities in the pre-school classrooms. Although there were a number of overlaps, the reasons given by teachers with high TSE were deemed to be more holistic in outlook than those from teachers with low TSE. This is a very significant conclusion, since TSE has somehow been associated with a more holistic outlook from the teacher.

5.4 Recommendations

Based on the observations made during the course of this study and an analysis of the findings, the researcher felt there were gaps that needed to be addressed. The researcher therefore made the recommendations that follow.

5.4.1 Recommendations to Practitioners

i. Teachers should learn and use more music activities in the course of teaching. Any chance for use of music activities should be utilized to the maximum.

ii. Encourage learners to experiment with and use a variety of music activities in the pre-school classrooms.

5.4.2 Recommendations for Policy Makers

i. Policy makers should devise ways of ensuring more music activities are used in the course of teaching.
ii. Resource materials on music activities for pre-schools should be made readily available to the teachers.

5.5 Suggestions for Further Research

This research targeted levels of TSE at pre-school level and the use of music activities in Nairobi and Kiambu Counties. The researcher suggests other studies as follows:

i. A study of the same nature in other Counties in Kenya would be beneficial for the sake of comparison.

ii. A study of levels of TSE at other levels of education. To this end the researcher proposes a study of levels of TSE and academic performance at primary and secondary school levels.

iii. A study exploring how music activities are used at other levels of the education system might shed more light on how teachers utilize the strengths of musical intelligence in the course of teaching.
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Appendix i

Questionnaire for teachers

Directions: This questionnaire is designed to help me gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Your answers are confidential.

Please provide the information required by ticking in the appropriate box.

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<thead>
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<tbody>
<tr>
<td>1. Gender</td>
<td>Female</td>
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<td>2. Age (in yrs)</td>
<td>Under 20 yrs</td>
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<td>3. Do you have any children under the age of 8 years?</td>
<td>Yes</td>
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<td>4. Level of Early Childhood Education Training</td>
<td>Untrained</td>
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<td></td>
<td>Certificate</td>
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<td>Masters</td>
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<td>5. Where did you receive your training (Institution)?</td>
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<td>6. Which approach do you use in teaching?</td>
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<td>DICECE</td>
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<td>Kenya headmistress Association</td>
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<td>Montessori</td>
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<td>Any other………………………………………………………</td>
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<td>7. Teaching experience (in yrs)</td>
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<td></td>
<td>10-15 yrs</td>
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<td>8. Your institution is (tick as appropriate)</td>
<td>Public</td>
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<td>9. Which language do you use for instruction?</td>
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</tbody>
</table>
For this section, please indicate your opinion about each of the statements that follow by ticking in the appropriate box. The boxes are marked as shown:

N=Nothing, VL= Very little, SI= some influence, QB= Quite a Bit,QL= Quite a Lot

<table>
<thead>
<tr>
<th></th>
<th>Statement</th>
<th>N</th>
<th>VL</th>
<th>SI</th>
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<tbody>
<tr>
<td>1</td>
<td>How much can you do to get through to the most difficult learners?</td>
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<td>2</td>
<td>How much can you do to help your learners think critically?</td>
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<td>3</td>
<td>How much can you do to control disruptive behavior in the classroom?</td>
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<td>4</td>
<td>How much can you do to motivate learners who show low interest in school work?</td>
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<td>5</td>
<td>How much can you do to make your expectations clear about learner behavior!</td>
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<td>6</td>
<td>How much can you do to get learners to believe they can do well in school work?</td>
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<td>7</td>
<td>How much can you do to respond well to difficult questions from your learners?</td>
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<td>8</td>
<td>How much can you do to establish routines to keep activities running smoothly?</td>
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<td>9</td>
<td>How much can you do to help your learner’s value learning?</td>
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<td>10</td>
<td>How much can you do to gauge learner comprehension of what you have taught?</td>
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<td>11</td>
<td>How much can you do to craft good questions for your learners?</td>
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<td>12</td>
<td>How much can you do to foster learner creativity?</td>
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<td>13</td>
<td>How much can you do to get children to follow classroom rules?</td>
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<td>14</td>
<td>How much can you do to improve the understanding of a learner who is failing?</td>
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<td>15</td>
<td>How much can you do to calm a learner who is disruptive or noisy?</td>
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<td>16</td>
<td>How much can you do to establish a classroom management system with each group of learners?</td>
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<td>17</td>
<td>How much can you do to adjust your lessons to the proper level for individual learners?</td>
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<td>18</td>
<td>How much can you do to use a variety of assessment strategies?</td>
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<td>19</td>
<td>How much can you do to keep a few problem learners from ruining an entire lesson?</td>
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<td>20</td>
<td>How much can you do to provide an alternative explanation or example when learners are confused?</td>
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<td>21</td>
<td>How much can you do to respond to defiant learners?</td>
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<td>22</td>
<td>How much can you do to assist families in helping their children do well in school?</td>
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<td>23</td>
<td>How much can you do to implement alternative strategies in your classroom?</td>
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<td>24</td>
<td>How much can you do to provide appropriate challenges for very capable learners?</td>
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</table>

Thank you for your cooperation. In case you would like a copy of the research findings, please take down this email for future correspondence. Kihoromuya@hotmail.com

Yours, Muya Francis Kihoro
Appendix ii

Interview guide for the teacher

The interview guide will be an outline of the main themes to follow up on during the course of the interview. The main themes in this study will be:

i. Reasons for music in pre-schools

ii. How teachers use music activities in class

iii. The specific music activities used in class

iv. How music activities help learners in other activity areas

v. How music activities are used for class management

vi. How music activities are used for learner engagement

vii. How music is used as an instructional strategy

viii. How teachers learn the music activities to use in class
### Observation guide

<table>
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<th>S/no.</th>
<th>Musical activity</th>
<th>Nature of activity</th>
<th>Purpose for which used</th>
<th>Student activity</th>
<th>Comments</th>
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Appendix iv
Permission letter

College of Education Phone 614-292-3774
29 West Woodruff Avenue www.coe.ohio-state.edu/ahoy FAX 614-292 7900
Columbus, Ohio 43210-1177 Hoy.17@osu.edu
Anita Woolfolk Hoy, Ph.D. Professor
Psychological Studies in Education

September, 2015

Dear Mr. Muya

You have my permission to use the *Teachers’ Sense of Efficacy Scale* in your
research. A copy of both the long and short forms of the instrument as well as
scoring instructions can be found at: http://www.coe.ohio-
state.edu/ahoy/researchinstruments.htm

Best wishes in your work,

Anita Woolfolk Hoy, Ph.D.
Professor
Appendix v

Introduction letter

Muya Francis kihoro
E83/CE/22494/10
Box 192, Limuru
Tel 0722274953
Email:kihoromuya@hotmail.com
September, 2015

Dear teacher,

My name is Muya Francis Kihoro, a student at Kenyatta University. I am currently undertaking a research on teaching and learning in the pre-schools in Nairobi and Kiambu Counties. I welcome you to be part of my study. Participation will be entirely voluntary and all your responses will be confidential and used only for the purposes of this research. If you are willing to become part of my study, please append your signature at the bottom of this introductory letter.

Thank you in advance.

Respondents’ signature:……………………………..date………………

Muya Francis kihoro: signature……………………………..date………………
Appendix vi
Research permit
Permission letter from County Director of Education, Kiambu County

MINISTRY OF EDUCATION SCIENCE & TECHNOLOGY
State Department of Education

COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY
P. O. Box 2300
KIAMBU
2ND OCTOBER, 2015

FRANCIS KIHORO MUYA
KENYATTA UNIVERSITY
P. O BOX 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION
Reference is made to the National Commission for Science Technology and Innovation letter Ref. No NACOSTI/P/15/8344/7639 dated 30th September 2015.

The above named has been authorized to carry out research on “Levels of teachers self efficacy and use of music activities for holistic development among preschool children in Kiambu County” for a period ending 28th September, 2016.

We expect that the findings of your research will be shared with this office to help in making our county better.

KOIGI KARUKU
FOR COUNTY DIRECTOR OF EDUCATION
KIAMBU COUNTY
Appendix viii

Permission letter from Nairobi County

NAIROBI CITY COUNTY

GL/NC/141 VOL.V/191
30th September 2015
Muya F. Kihoro
Mobile No. 0722274953

RE: AUTHORITY TO CARRY OUT RESEARCH

We are in receipt of your letter dated 30th September 2015, requesting for authority to carry out research in ECDE schools in Nairobi County.

I wish to inform you that authority has been granted to carry out the research in the schools.

Liaise closely with respective Headteachers for the success of your research. On completion, this office expects a copy of the research finding.

JECINTA CHARLES
CHIEF ADVISOR TO SCHOOLS

"The City of Choice to Invest, Live and Work in"
Appendix ix

Permission letter from Kiambu County

MINISTRY OF INTERIOR AND CO-ORDINATION OF NATIONAL GOVERNMENT
COUNTY COMMISSIONER, KIAMBU

Telephone: 066-2022709
Fax: 066-2022644
E-mail: countycommissionerkiambu@kenya.go.ke
When replying please quote

ED.12/1/VOL.III/31 2nd October, 2015

Francis Kihoro Muya
Kenyatta University
P.O. Box 159-00144
NAIROBI

RE: RESEARCH AUTHORIZATION


You have been authorized to conduct research on “levels of teachers self efficacy and use of music activities for holistic development among preschool children in Kiambu County, Kenya” for a period ending 28th September, 2016.

You are requested to share your findings with this office upon completion of your research.

MUGO GICHIRI FOR: COUNTY COMMISSIONER KIAMBU COUNTY

Cc The County Director of Education
KIAMBU COUNTY

National Commission for Science, Technology and Innovation
P.O. Box 30623-00100
NAIROBI
Appendix x

Map of Nairobi County
Appendix xi

Map of Kiambu County