TEACHERS' FACTORS RELATED TO THE TEACHING OF ART AND
CRAFT IN PRE-SCHOOLS IN KALOLENI AND KIKAMBALA DIVISIONS IN
KILIFI DISTRICT

BY

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DECLARATION FORM

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DEDICATION

This work (Thesis) is dedicated to my beloved husband, Sammy Gumo and our children Mlongo, Ndune, Dzidze, Mabishi and Machocho.
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My sincere and heartfelt gratitude goes to my supervisors, Dr. Barbara Koech and Dr. Wilson Kerich who tirelessly kept on guiding and correcting my work without any delays which resulted in completion of this work on time. I further thank my family members who gave me both moral, materialistic and financial support.

I am also grateful to my employer the Teachers’ Service Commission and the District Education Officer Kilifi District for granting me study leave which facilitated the “Security Needs” on my side. The Ministry of Education and the District Commissioner of Kilifi district are also recognized for granting the permit to carry out the research.

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ABSTRACT

Practical subjects such as Art and Craft are important in awakening hidden talents and enhancing creativity to human beings' (Guilford, 1968; Tudor, 1972). The role played by Art and Craft is for holistic growth and development of an individual, self-employment, independence and communication (Hendrick, 1980; Feinburg, 1993; McCupely, 1995). Hence Art and Craft teachers as well as children need to have skills and knowledge in teaching and handling the subject as well as children. However, this has not been the case.

Research revealed that Art and Craft teachers lack skills and knowledge in teaching the subject (Otieno, 1980; Sakwa 1996). Also, due to the academic oriented 8.4.4 curriculum and changes that occur in the curriculum, teachers opt to teach the academic or subjects such as mathematics, science and others. Since Art and Craft is non-Examinable in the current curriculum it faces the threat of not being taught. This study was prompted by the need to determine the relationship that existed between teachers' quality (performances) in teaching Art and Craft and teachers' factors such as academic level, experience, training level, attitudes and knowledge in Art and Craft.

The behaviouristic learning theories such as Reinforcement Theory, Classical Conditioning, and Social Learning Theory were adopted to guide the study. The study was descriptive, applying the correlation design since the study was focusing on relationships
between variables. The dependent variables were teachers' factors and the independent variables were the teachers' quality scores in teaching Art and Craft. The study was carried out in two divisions Kaloleni and Kikambala in Kilifi District. The population was 272 pre-school teachers with a sample of 51 subjects selected through multi-stage sampling method. The sample comprised all the teachers derived from ten percent (10%) or one tenth ($\frac{1}{10}$) of the 223 pre-schools in the two divisions. Data were collected through questionnaires completed by pre-school teachers gathered at two different central points.

The researcher observed and scored marks when Art and Craft teachers were teaching. The researcher used a modified Teaching Practice Observation Checklist form (TPOC) to score the marks. Data were then analysed using frequencies, percentages, tables, graphs and figures to summarise and describe the findings. The data were computed in the computer using Statistical Package for Social Sciences (SPSS) and application of Spearman Rank of Order (RHO) Correlation Statistics to test the hypotheses and determine the nature of the significance alpha $= 0.05$ and 0.01. The hypotheses were tested at significance alpha level $= 0.05$

The findings revealed that there were a positive correlation in the teachers' quality in teaching Art and Craft and the teachers' academic level, training attitudes, and knowledge. It was also found that there was no significance between the teachers' years of experience teaching.
Art and Craft and the quality of teaching. All the findings were discussed and recommendations made.
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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Art and Craft plays a major role in awakening and developing creative skills and knowledge in human beings (Guilford, 1968; Tudor 1972). The creative skills and knowledge are important for production of various goods that are required for human needs. For example, wares, utensils, furniture and others. Art and Craft has also been seen as a means of communication for both children and adults (McCupely, 1995). Therefore, importance of Art and Craft needs to be emphasized. However, studies revealed that people who embark on the works of Art and Craft are considered to come from families who had been doing Art and Craft and the same people who did Art and Craft were also viewed to be performing Art and Craft for pleasure and aesthetic purposes (Digolo, 1986; Feinburg, 1993). Hence, Art and Craft is perceived by the people as insignificant though human beings cannot do without Art and Craft products. That is why Art and Craft is included in Kenyan schools and colleges' curriculum for all school tiers and teachers Training colleges (Besy; report 1972 and Kamunge's report, 1988). Hence, the availability of Art and Craft in the curriculum is significant.

According to other research, it has been revealed that Art and Craft is not taught as expected since it is not examined at the national level,
though it is included in the schools' and teachers' training curriculum (Musonga, 1980; Otieno, 1980; Sakwa, 1996). Specifically it was found that, pupils who sat for the Kenya Certificate of Primary Education between 1985 and 2000 did Art and Craft at the National Examinations, but from the year 2001 pupils were not examined in Art and Craft. Before 1985, studies suggested that Art and Craft was not taught as expected because it was not examined. Now, it is again not being examined and there is a high chance for teachers not to teach Art and Craft.

Studies report that teachers and other factors impact upon the teaching of Art and Craft in primary and secondary levels (Guilford, 1968; Tudor 1972; Musango, 1982; Njoroge, 1986; Sakwa, 1996). For example, one of the teachers' factors cited was low academic level (achievement) (Mambo, 1986; Kabiru 1993). Also research suggests that positive attitudes enhance the teachers' performance in teaching (Whitebook, 1986). This study sought to determine whether and how teachers' factors were related to their teaching of Art and Craft in Kenyan pre-schools.

There have been studies done in pre-schools in Kenya but they did not cover Art and Craft. The studies generally researched on status and curriculum in pre-schools in Kenya and East Africa (Maleche, 1972;
Gakuru, 1976; Otaala, 1981; Kabiru, 1993). The above studies are important to this study because they addressed teachers' factors and other factors such as academic level, training and pre-school lesson planning, classroom, administration, material and pre-school children which are mentioned in the study. The studies done in Kenya in Art and Craft only focused on primary and secondary school levels (Gombe, 1992; Njoroge, 1985). It is important to focus on pre-school level since, teaching of Art and Craft has been facing negative pressures from the society and the implementers of the curriculum (Hendrick, 1980), and Art and Craft is the basis of developing creativity in early childhood development. Hence, there is a gap to be filled by this study.

1.2.0 Statement of Problem

Art and Craft is essential for human beings' daily activities (McCuperly, 1995). However, important Art and Craft is to the human race, research has revealed that there are factors that impact the teaching of Art and Craft (Guilford, 1968). These factors are both at the communities and schools, while others are personal or individual. For example at the community level, there are parents and other stakeholders; in schools there are school administrators, classrooms, materials, children and teachers. Personal or teachers' factors are such like academic qualifications, experience, training and knowledge in the subject and in this case, Art and Craft.
Also, studies done in Kenyan pre-schools have mainly researched in areas not linked to pre-school Art and Craft.

Research reveals that teachers avoid teaching Art and Craft due to pressures they receive from parents and administrators. In addition, teachers typically lack skills and knowledge, as well as have low academic level that hinder them from doing their work well. So, a study was needed to affirm the current status that exists in the teachers' factors in relation to teaching of Art and Craft in pre-school.

1.3.0 The Purpose of the Study

The study investigated the teachers' factors that were related to teaching of Art and Craft in pre-schools. It specifically focused on how the teaching quality scores (performance) in Art and Craft were related to teachers' academic level, training, teaching experience, attitudes and knowledge in Art and Craft.

1.4.0 Research Questions

1.4.1 What relationship exist between the teachers' number of years in schooling (academic level) and their achievements in teaching Art and Craft in pre-schools?
1.4.2 What relationship exist between teachers' number of years they have taught (experience) in a pre-school and their achievements in teaching Art and Craft in pre-schools?

1.4.3 What relationship exist between the teachers' number of years in training and their achievements in teaching Art and Craft in pre-schools?

1.4.4 What relationship exist between the teachers' attitudes towards teaching of Art and Craft and their achievements in Art and Craft pre-schools?

1.4.5 What relationship exist between the teachers' knowledge they have in Art and Craft and their achievements in Art and Craft in pre-schools?

1.5.0 Assumptions of the Study

The study was carried out under two assumptions. First, Art and Craft was being taught in pre-schools and second there were teachers who were knowledgeable in Art and Craft teaching for holistic development of the child.

1.6.0 Significance of the Study

The findings of the study will benefit the following groups of people: teachers, curriculum developers, policy makers and other stakeholders.
The study might also help the teachers to develop interest in observing other teachers who are experts or successful in teaching Art and Craft. This statement is supported by other studies which report that through observation and imitation one is likely to change his or her behaviour (Lierbert, & Spiegler, 1972; Bandura, 1977).

The study could also serve as a guide to the curriculum developers in understanding and considering teachers' factors that are related to teaching of Art and Craft. The curriculum developers can make a reference to the study as they develop curriculum for teachers who teach Art and Craft in order to improve their skills and knowledge in the subject.

The curriculum can be developed to be used by teachers who attend both in-service and short courses. By in-service courses, I am referring to the two years' pre-school teachers in-service course, while the Ministry's of Education Science and Technology, short course takes five weeks.

The policy makers might find the study useful in formulating a policy for Art and Craft, because it will provide them with information that will lead to seeing the differences that exist in the performance of teachers who were taught and sat for Art and Craft at National level and those
teachers who did not. Findings report that, those teachers who were taught and sat for Art and Craft at National level scored higher than those who never did Art and Craft during their final examination.

Similar to the policy-makers, the stakeholders such as community and the non-governmental organisations need to understand the importance of maintaining quality teaching and the role played by Art and Craft in the holistic development of the child. Thus, the stakeholders might sponsor teachers and provide materials that could be used in training, workshops and seminars planned to improve the teachers' skills and knowledge in teaching Art and Craft.

**1.7.0 Scope and Delimitations of the Study**

The study was only done in two divisions of Kilifi District, hence the findings may not be generalised to other divisions in any other districts unless they are similar.

Research has suggested various factors that may influence teaching in classrooms, some of these variables are the teachers' academic level, experience, training level, attitudes and knowledge in relation to the teachers' quality of teaching in Art and Craft.

The above mentioned teachers' factors were selected because studies done in Secondary schools revealed that the teachers' factors such as
academic, attitudes and knowledge had an influence on teachers' work (Kabiru, 1993; Mambo, 1992; Whitebook, 1989).

Other factors such as children, classrooms, materials and administrators also contribute towards the quality teaching. However, these factors were not within the scope of the study.

Only pre-school teachers were targeted as the sample of the study also the sample was small because the teachers were to be visited at their respective schools and each was observed while teaching Art and Craft.

1.80 Limitations

The researcher faced some limitations such as the teachers' strike which took almost one month and interfered with the running of some schools where the research was to be carried out. The researcher had to visit some of the pre-schools after the strike and especially those which were attached to primary schools. This called for a daily visit to the sampled schools and teachers. Twenty-two (22) schools out of the sampled twenty-three (23) schools, with fifty-one teachers out of fifty-two (52) were visited and observed while teaching Art and Craft. Thus, the researcher was able to administer the questionnaires and observe all the sample teachers, apart from one teacher from one school in Kaloleni Division who was sick.
1.9.0 Operational Definition of Terms

Academic level (Achievement) - the number of years of schooling

Art - drawing, painting, colouring and printing

Craft - creating things or manipulating raw materials to come up with something valuable, useful, meaningful objects e.g. models, baskets, pots etc.

Experiences - Total number of years a teacher has taught in pre-school

Knowledge - Previous understanding of a subject matter or content.

Teaching Score - Cumulative marks derived from Teaching Practice Observation Checklist.

Techniques of the content - Teaching method used in teaching the subject matter.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction
This chapter provides the theoretical framework that guided the study and then presents the empirical studies linked to variables identified for study. The conceptual framework and the research hypothesis are included.

2.1.0 Theories Guiding the Study
Theories are sets of researched ideas intended to explain facts or events (Horny, 1990). In this study, the theories adopted were the behaviouristic theories. These are the Operant Conditioning by B.F Skinner, Classical Conditioning Theory, works of Ivan Pavlov, and Bandura's Observational Learning Theory.

The behaviouristic theories identified have been used because, the variables studied were related to behaviours of teachers such as attitudes, teachers' training, experiences and knowledge are achieved through learning.
2.1.1 Operant Conditioning Theory

The theory of Operant Conditioning was B.F. Skinner's work. Skinner made many experiments with animals. He used animals such as rats and pigeons. The animals that did well in the trial and error learning were reinforced while the ones that did not succeed in the experiment were punished (Decker and Barry, 1985).

The Operant Conditioning theory is known as Reinforcement Theory. The Reinforcement theory suggests that learning occurs when behaviour exhibited through trial and error is reinforced or rewarded. Thus, behaviours leading to rewarding consequences are retained while those leading to punishing consequences are suppressed (Decker et. al; 1985). Hence, a behaviour that led to positive reinforcement was tried again while the response that resulted to a negative consequence (punishment) was not likely to be repeated. When applied to the current study, teachers would opt to teach those subjects which they received applause and praises or positive remarks from parents, other teachers and administrators. Thus teachers had offered to teach 3RS instead of teaching the practical subjects as suggested in the research. Teachers did this to fulfil their employers and parents' demand which acted as reward (Tûdor, 1972; Hendrick, 1980). The behaviour of teaching the
3R's could lead to new attitudes in teachers such as ignoring and disliking teaching other subjects such as Art and Craft. The change to new behaviour was supported by Decker et al (1985) who stated that:

There is evidence that if behaviour can be directly changed, there is a probability that new attitudes will be developed that are consistent with new behaviour.

Teachers can change their behaviour to acquire new attitudes, depending on the support they get from the parents, other teachers and administrators. Teachers can also change behaviour resulting in new attitudes when their own factors such as academic, experience, training and knowledge permit them. For example, a teacher who has skills and knowledge in doing Art and Craft but is not allowed to teach it in school, and later on transferred to a new school where Art and Craft is taught, the teacher is able to adopt quickly, in teaching the subject rather than a teacher who was unskilled and lacked knowledge in teaching Art and Craft. Therefore, teachers' factors that are rewarded could play a major role in changing of behaviour and acquisition of new attitudes, especially when the behaviours were rewarded. However, if the new attitudes and behaviours that are developed are negative, they can result in negative consequences such as teachers disliking teaching Art and Craft. Hence teachers require positive reinforcement or rewarding so as to enjoy and appreciate works of Art and Craft.
2.1.2 Classical Conditioning

Classical conditioning theory with the work of Ivan Pavlov who did an experiment with a dog. He found that the dogs salivated after being conditioned to the ringing of the bell while getting food, even when food was not provided (Bootzin et al., 1986). The two stimuli, food and the bell were paired at the same time. After the experiment was done for some time, the dog learned to associate the bell with food. The dog linked the salivating for food with what was going on in the animal's brain and related it to the bell. Hence the dog salivated when it heard the sound of the bell. These happened, because, the bell's sound caused excitation to spread to the food response centre (Bower, 1979).

In classical conditioning the unrealities (the sound of the bell) become realities to the hungry dog just as when some children see a person with white robes or dress and start crying because they link them to those who injected them when they were taken to hospital. Hence, in classical conditioning an organism learns to relate two specific events or stimuli the bell (a conditional stimulus and the food unconditional). The dog salivated when it saw the food. This was unconditional response or reflex reaction. And when food was paired with the ringing of the bell, the dog continued to salivate. Surprisingly when the bell was rung without the food, the dog went on salivating. That is the dog was now conditioned. Thus the dog has now learnt through association or
pairing stimuli. Classical conditioning can also be used in the learning and teaching profession.

Classical Conditioning was used in the study since teachers make use of the timetables, which they have to follow for smooth running of the school. The time is paired with a bell and a subject to be taught such that the bell is rung and the subject has to start and end at a given time. When the teacher is conditioned in entering and leaving the class in time, sometimes it becomes so automatic that the teacher does not require the sound of the bell but the mind intuitively tells her or him the time is over. Also when the bell rings, the teachers associate the starting or end of the lesson to the bell. They can tell whether it is time to go in or come out from class. Classical conditioning was necessary because all the teachers who taught Art and Craft had time tables to guide them.

2.1.3. Social Learning or Observational Learning Theory

Social learning theory is the work of Albert Bandura which mainly emphasises on observation as the major component in human learning (Bandura, 1977). Bandura viewed learning as a way of people using cognitive process to stimulus. In cognitive processes, the learner selects the stimuli, organises and transforms them. Hence, one observes, thinks, selects and imitates the behaviour (Bootzin et. al.
1986). Bandura believes that it is the people's interpretation of the stimuli and not the stimuli themselves that affect behaviour. He also believes in people's own motivation and reward as a result of the people's cognitive process in order to reward themselves (Bootzin et al, 1986). In brief, we can term it as intrinsic motivation since everything is being done from within the learner.

Observational learning can be acquired through four stages. These are attention, retention, motor production and motivation (Bandura, 1977). The attention to the model concentrates on factors such as attractiveness, emergence, personal qualities, prestige, one's age, race, sex, religious, beliefs, political attitudes, which are generally similar to the learner or observer's desires (Bootzin, et. al, 1986). However, the learner or observer selects what to imitate and what to ignore. Attention can take place but it is not the final learning unless the observer creates internal images or interpretations of the model's action, so as for behaviour to be retained. Learning can take place when attention is accompanied with mental processes, that are created. The mental processes help the learner or observer learn and remember more quickly.

Observational learning becomes complete when the motor reproduction and motivation take place. Thus, the learner needs to retrieve what one has learnt and retained, then puts it into actions. The learner produces
what had been observed from the significant others or role models. Significant others or role models are the people imitated by the learner or observer. However, the imitation or reproduction depends on the motivation process. That is, the learner has to gauge the consequences that befall the model and how useful they are to one's needs or life (Bootzin, et. al; 1985). This is so because one observes, remembers and looks for the feedback of the model's action either reinforcing or punishing. Learners are more likely to imitate model's action that are rewarding rather than those that are punished.

The observation learning theory has been applied in the study because the teacher acts as a role model to a child who is a learner. Children observe and learn what their teachers do. If a teacher likes teaching Art and Craft, there is likelihood for the child to have interest in learning the subject, and especially when the teacher presents the subject positively. According to observational learning theory, learning takes place more when there is a positive reinforcement outcomes from the model's action. If children see their Art and Craft and teachers are rewarded, they (children) will be at a position to like Art and Craft.

Teachers also imitate what other teachers do in Art and Craft. If the model observes a teacher teaching Art and Craft is receiving positive reinforcement, the observer teacher will like and enjoy teaching Art and Craft. However, if an observer teacher sees the teacher who teaches
Art and Craft is punished, such as reprimanded and, sacked then the observer teacher is likely not to teach Art and Craft. Hence, the observer teacher is likely to perform those acts that are rewarded and refrain from those acts that resulted in punishment of the observed teacher.

2.2.0 Related Literature

2.2.1 Nature and History of Art and Craft

Art and craft is seen in many faces in the existing world. Art and Craft work can be viewed in industries, schools, shops, music festivals as well as in our daily lives (Njoroge, 1985).

The works of Art and Craft in Kenya have been traced back in the early days when people needed to fulfil his/her daily requirement such as a need for communication, a pot for cooking, a wear to cover his/he body, a place to sleep (Digolo, 1986; Feinburg, 1993). Most of these needs were satisfied using Art and Craft. Some of the works of Art and Craft can be seen today in some parts of Kenya. For example, the Kambas are well-known for their curving, Kisii’s for their sculpturing and the Luos and Digos for their pottery work (Digolo, 1985). Thus, Art and Craft work has been there in the past (Guilford, 1968). Art and Craft is included in the Kenyan schools’ curriculum and supposed to be taught in school though not examined.
There are several factors that impact on teaching of Art and Craft. Following pages of this section have categorised the teachers' into two areas. First the factors that directly involve the teacher and which were the focus of the study. The teachers' factors were academic level, experience, training level, attitudes and knowledge towards teaching Art and Craft. Second the other factors were children, administrators, classrooms, materials and parents. Although these factors are mentioned in the study, they were not focused for researching.

2.2.2 Teacher's Academic Qualifications

One needs to acquire good scores in education so as to be able to solve the arising problems in life. For example, illiteracy can be overcome through education. However, due to unavoidable reasons, the level of education attained by each individual varies. This is the same with teachers. Studies have suggested that those who opt to teach, vary in their education levels. The high percentage of the primary school teachers in Kenya as well as pre-school teachers were dropouts from schools or had low education (Mambo, 1986; Kabiru, 1993). The low education in teachers had been found to have a negative impact on the teachers in comprehending the content while at college. Otalaa (1981, p 21), stated that:

It was during this time that it quite became obvious that trainees, most of whom had not completed more than seven years of primary education, found the actual training material above their comprehension and the suggestions for improvisation beyond their daily experiences.
Hence, low education can be a hindrance to a teacher's understanding and grasping the content taught in college. Thus, high education is necessary for understanding and scoring high scores in the teaching of Art and Craft.

2.2.3 Teachers’ Experiences

Past experiences can help an individual to learn new concepts which are somehow similar to the earlier ones (Liebert & Spieglar, 1972; Bandura, 1971, 1977). However, one can not acquire or learn new skills if one keeps on doing the same events in the same way (Kelly, 1955). Research suggests that experience can be a factor acting as a ‘Teacher’ and ‘Sharpener’ for better understanding of a subject to be learnt (Richet, 1994). The experience might be significant or insignificant to an individual depending on what one has acquired earlier and how one applies it to new learning. Given this scenario, this study was to establish the relationship that exists between teachers’ experience and quality teaching in Art and Craft.

2.2.4 Teachers’ Training

Training is important in the teaching profession because it enables the teacher to perform her/his duties effectively as well as keep the professional records well (Mambo, 1986; Kabiru 1993; Kindsvatter et. al; 1996). Training enables teachers to understand the content to be taught (Otieno, 1980; Otalaa, 1981). Thus, training equips the teachers
with skills and knowledge to enable them perform their duties effectively. Therefore, this study was necessary to be done to find out the teachers' training level in relation to their quality teaching in Art and Craft.

2.2.5 Teachers' Attitudes Towards Teaching of Art and Craft

Several studies reviewed reveal that teachers had negative attitudes towards Art and Craft (Guilford, 1968; McCupely, 1995; Sakwa, 1996). Research also suggests that mastery of teachers' work can be blocked if their customary beliefs and attitudes are threatened so as to defend themselves (Decker & Barry, 1985). This suggests that teachers need full support from parents, other teachers and administrators so as to avoid having excuses for not teaching subjects such as Art and Craft. Teachers also need encouragement so that they can have positive attitudes towards their work and children they teach (Whitebook, 1989).

This a study investigated the relationship between pre-school teachers' attitudes and their qualities in teaching Art and Craft.

2.2.6 Teachers' Knowledge of Art and Craft

Teachers teach what is laid down in the curriculum. They also teach using the knowledge they had attained while at school through experience (Richert, et. al. 1994). The teachers pass the knowledge to the learners or children who in turn construct it with what they previously learnt and link it to new skills and knowledge in order for learning to be
realized (Holmens & Mclean, 1996). Teachers also need to link the knowledge of content or general instructions to pedagogical content or specific strategies when teaching particular subject matter such as Art and Craft, so as to be effective in their work (Shulman, 1987; Deruiter and King, 1993).

However, studies reveal that some Art and Craft teachers in primary and secondary schools in Kenya have little or inadequate skills and knowledge in Art and Craft such that the teachers are forced to use drilling method when teaching the subject (Musango, 1982). Such teachers might have had little problems or no problems if they had acquired the knowledge in their earlier days at school. To understand the status of the pre-school teachers' knowledge in Art and Craft a study of this magnitude was carried out.

2.2.7 Teachers' Lesson Planning/Preparation

Planning a lesson is essential to a teacher, since it helps her or him be an effective teacher in his or her work. Lesson planning helps the teacher to be aware of what she/he is going to teach and prepared in advance on the content to be taught, as well as how to pass the content to the learner, and in this case refers to the child (Kindsvatter, et al. 1996). The planning and preparation also help the teacher to collect the
required teaching materials before the lesson starts. Despite the fact that lesson planning is important, research has found that only 20 percent of the teachers prepare their lesson notes or plans (Otalaa, 1981). Other teachers spend more time using imaginary lesson plans (Clark and Patterson, 1986).

2.2.8 Materials for Art and Craft

Pre-school children learn through play and need a conducive, rich and safe environment both at school and home, so that they can develop holistically. This is essential because a conducive environment, with many play materials, helps the child to communicate with others and the world around him (Mccupely, 1995). The learning facilities for children are important for their growth and development (Vickery, 1989; Feinburg, 1993.). Thus, it is important for children to be given sufficient Art and Craft materials so as to explore, discover and learn more about the world (Mccupely 1995; K.I.E. 1995).

Despite materials and equipment being an important stimulus for children's growth and holistic development, research shows that there are inadequate Art and Craft materials in schools, and especially in primary and secondary schools where the studies were mainly carried out (Otieno, 1980; Vickery, 1989; Gombe, 1990; Sakwa, 1996).
2.2.9 Administrators’ Factors

In Kenya, school administrators have various titles or names, including them headteachers or headmasters or principals. According to Oxford Advanced Learners Dictionary (Crowther 1998), the word “administrator” means “a person responsible for managing public or business affairs”. These are the overall runners of the schools at any level of education.

In any organization, there is need to have a head or manager who will look after or monitor the day-to-day activities in an institution (K.I.E, 1995). In Kenya, most of the pre-schools are attached to public primary schools. The headteacher of the primary school is the overall incharge of the activities in that school, both pre-school wing and primary section. The schools that are detached, but are under the parents and community have one pre-school teacher identified as a headteacher. In private schools they have managers and headteachers who are the overall administrators (Kabiru, 1993; K.I.E, 1995).

In Kenya, the pre-school education is often run in partnership between the Ministry of Education Science and Technology and the parents, community, churches and other stakeholders. The sponsors and managers of the schools vary. There are pre-schools run by parents and communities, private individuals, welfare organization, local authorities, government and non-governmental agencies. These employ
teachers, provide facilities and run the schools (Kabiru, 1993; K.I.E., 1995). The sponsors select some few members to form school committees except in individual or private schools, where, majority do not form these school committees. In the school committee, the headteacher or administrator is the secretary as well as the professional advisor. Hence, the schools mainly depend on the administrator (headteacher) for their daily school routine and smooth running of the institution.

The administrators make and suggest what to be bought in the schools and how to go about improving the educational standards of their institutions. Thus, the administrators play a great role in making sure that all the learning areas receive adequate support in provision of learning and teaching materials. This enhances teachers' performance in their work (Whitebook, 1986). Poor work performance sometimes was due to the attitude one had towards his/her work. Research suggests that some teachers avoided teaching Art and Craft due to their negative attitudes towards Art and Craft (Guilford, 1968; McCupely, 1995). Hence, administrators need to give all the support in teaching of Art and Craft.

2.2.10 Classrooms' Factors

Pre-schools need to have conducive learning classroom environment (McCupely, 1995). This means that the classrooms need to have
aesthetic, adequate and appropriate materials as well as be big to allow children do their activities well and move freely without interference caused by lack of space (K.I.E, 1995).

2.3.0. Conceptual Framework

The conceptual framework shows how the administrators, classroom, materials and teachers' factors relate to the teaching and learning of Art and Craft. For example administrators need to provide classroom and materials for teachers and children's use. Teachers use the facilities and their acquired skills and knowledge from colleges to teach children.

Apart from the teachers' academic level, experience, attitudes, training, skills and knowledge, and other factors such as administrator's support and attitude, classrooms and materials when put together might lead to a holistic development of the child. However, the study's main objective was to investigate the teachers factors' that were related to their quality of teaching in Art and Craft. The study was based on this area only not on the whole process as shown in Figure 1 below.
Figure 1

A Conceptual Framework Representing Teachers' Factors In Relation To Quality Teaching In Art And Craft.
2.4.0 Research Hypotheses

From the research review, the following hypothesis had been drawn.

H₁  The teachers' academic level is related to their teaching of Art and Craft.

H₂  The teachers' years of experience are related to their teaching of Art and Craft.

H₃  The teachers' years of training are related to their teaching of Art and Craft.

H₄  The teachers' attitudes are related to their teaching in Art and Craft.

H₅  The teachers' knowledge in Art and Craft is related to their teaching of Art and Craft.

Chapter two is proceeded by chapter three methodology.
CHAPTER THREE
METHODOLOGY

3.1.0 Introduction

The chapter highlights the following areas, the design of the study, the independent and dependent variables, site of the study, population, the sample and sampling procedure, the instruments, piloting, data collection methods, data analyses (results) and recommendations.

3.2.0 Study Design

The study employed descriptive research methods and using a correlation design because the study was investigating on the relationships between variables, and none of the variables were manipulated (Bless and Achola, 1987; Barry, 1981). The correlation design was used because the study was looking for relationships between the independent and dependent variables.

3.3.0 The Variables

The variables used in the study were categorised as independent variables and dependent variables. Independent variables are those items that can be manipulated and measured, while dependent variables are those that can be observed and measured to determine the impact on the independent variables. (Bless and Achola, 1987). In this study, the independent variables are teachers' factors such as
academic level, experience, training attitudes and knowledge, while the dependent variable was the teachers' quality scores in teaching Art and Craft.

The variables such as academic level, experience and training were measured using number of years one had been in school, taught in school and trained. While attitudes, teachers' knowledge and quality in performance were weighed using the scores derived from the Attitude score sheet, knowledge questions in the questionnaire and the Observation Teaching Report Form.

3.4.0 Site of the Study

The study was carried out in two divisions in Kilifi District, Coast Province of Kenya. The divisions are situated South of Kilifi District. Both have urban and rural setups. For example, Kaloleni Division has Kaloleni and Mariakani trading centre with an urban setup, and Kikambala Division has Mtwapa town. People in Kaloleni and Kikambala divisions are both traders and farmers. Trading is mainly found in the three trading centres Kaloleni, Mariakani and Mtwapa towns. While farming is found in the rural parts of the two divisions.

The natives in Kaloleni and Kikambala divisions are the Mijikendas. However, in town centres, it is multiracial, cosmopolitan. For example, there are Asians, Kambas, Kikuyus, Luos and others. The crops grown
in the two divisions are coconuts, cashewnuts, maize (as staple food), cassava and fruits such as mangoes, bananas, oranges and tangerines. The products from the farms are sold in Kaloleni, Mariakani, Mtwapa and in Mombasa City.

The two divisions vary in their number of educational zones and schools. Kaloleni Division had three educational zones: Mariakani, Kaloleni, Rabai. Kikambala Division had one educational zone, Shariani. The variation in the number of zones has been brought about by the administrative boundaries in Kikambala. Kikambala does not follow the same boundaries but Education was assumed to be both administrative and educational division. Kikambala division is an Administrative Division but it is not an Education Division. According to Education boundaries it is a zone.
3.5.0 Population

Table 1: Total Number of Teachers in The Two Divisions Kaloleni and Kikambala

<table>
<thead>
<tr>
<th>Division</th>
<th>Teachers</th>
<th>Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaloleni</td>
<td>186</td>
<td>167</td>
</tr>
<tr>
<td>Kikambala</td>
<td>86</td>
<td>56</td>
</tr>
<tr>
<td>Total</td>
<td>272</td>
<td>223</td>
</tr>
</tbody>
</table>

The population of the study comprised the pre-school teachers, found in Kaloleni and Kikambala divisions. Kaloleni Division had a total of 186 teachers and Kikambala Division had 86 teachers. The teachers from Kaloleni Division taught in 167 pre-schools and those in Kikambala worked in 56 pre-schools.

3.6.0 Sample

The sample of pre-school teachers was drawn from one tenth of the pre-schools in each division. All the teachers selected from the above schools made up the sample. The number of schools sampled were 23 schools being one tenth of the schools in the two divisions but one school was exempted due to a sick teacher. All the teachers who taught in the remaining 22 schools became the sample that was studied. The total number of subjects studied were 51 teachers derived
from 22 schools. The breakdown of schools and teachers is shown in Table 2 on page 40.

3.6.1 Sampling Procedures

The researcher employed stratified random sampling to select the divisions, schools and the pre-school teachers. The purposive sampling was used because the divisions' studied were close to each other and their pre-schools were not scattered like the pre-schools in the other unselected divisions. Hence, this avoided the researcher from consuming more time in reaching the schools. The selected divisions had similar sponsors of pre-schools.

The stratified random sampling was used because it was easier to get a sample of teachers from a small number of schools than getting teachers direct from the schools in the whole divisions. Stratified sampling is also time saving in getting samples from huge populations of varied institutions (Fowler, 1993).

3.6.1.1 Selecting Divisions

The researcher purposively selected Kaloleni and Kikambala divisions. The reason for this was that the divisions, were close to one another, were in the same geographical site, and were in an area where the researcher had prior professional contacts. This helped the researcher to reach the identified schools without much problem. The divisions had
also the same sponsors of pre-schools: public, religious and private (individuals or Non Government Organizations).

3.6.1.2 Selecting the Schools

The researcher randomly selected one tenth of the schools in each division as follows: Kaloleni 17 schools and Kikambala Division 6 schools.

3.6.1.3 Selecting the pre-school teachers

The pre-school teachers were drawn from the 22 selected schools. All the teachers teaching in the selected schools were used for the study.

3.7.0 Instruments

The instruments used were questionnaires and a modified observation check list, known as Teaching Practice Observation Checklist (TPOC).

3.7.1 Questionnaires

The questionnaire was used to collect data from teachers. It contained sections 1 to 5 which aimed at finding out the school background, teacher's background, teacher's professional records, teacher's knowledge in teaching Art and Craft and the teachers' attitudes towards teaching of Art and Craft.
The questionnaire had two formats. The first format was of answering the question asked and the second type was a semantic differential format on a 5 point scale to test the attitudes of teachers towards the teaching of Art and Craft. This instrument is located in Appendix IV.

The instrument was completed by teachers when gathered in one area according to their divisions. Each division was gathered separately. In Kaloleni Division, they gathered at Kizurini Primary school and in Kikambala division, they were in Kikambala Primary school. The gathering of teachers in one place assured the researcher of getting all the instruments and was also time saving.

3.7.2 The Teaching Practice Observation Checklist

The Teaching Practice Observation Checklist comprised the following information: the school, teachers’ number of years of schooling, experience and professional qualifications, preparation and implementation of the Art and Craft lesson plans. The instrument was a modification of the Teaching Practice Observation Report from Kenyatta University. It had been modified by the researcher under the supervision of her supervisors to fit pre-school level. A copy of the instrument is in Appendix V.
The observation scoring was derived by the researcher who used the Teaching Practice Observation Checklist as the teacher taught Art and Craft. A total of 20(twenty) ticks was appropriately ticked by the researcher in the box for each item listed on the Teaching Practice Observation Checklist (TPOC). From these ticks a total score was obtained by adding all the scores obtained in each item as ticked under the box scored by every teacher.

The attitude scores in the Semantic Differential were scored according to the teachers’ selection. The total maximum scores was 35 marks in case one scored all the marks in each item at a highest score of 5 while the minimum score was 7 marks if the teacher ticked the column one.

3.8.0 Piloting

Piloting was done to enhance validity and reliability of the instruments for data collection. Piloting of the study was done at Kambe Baptist Pre-school in Kaloleni Division and Vipingo A.I.C. pre-schools in Kikambala Divisions of Kilifi District. The schools were selected randomly and since each school had one teacher, both the two teachers were observed teaching and they also filled the questionnaires. These schools were not included in the main study.
3.9.0 Data Collection

The researcher used the improved instruments to collect data. The instruments were questionnaires that were filled by teachers gathered in one area. The Teaching Practice Observation Checklist was scored by the researcher in the classroom while the teachers were teaching Art and Craft in their respective schools.

The data collection exercise took 1½ months due to the teachers' strike. The procedure used to gather data followed the nature of piloting. However, the schools where piloting was done were excluded during the sampling. All data collected from the subjects were treated confidential.

3.9.1 Procedure for Collecting Data

The researcher obtained the research permit from the Ministry of Education Science and Technology. She took the permit and was given an introduction letter to take to the District Commission and the District Education Officer. The two officers in these offices were very welcoming. The researcher started making her visits to schools after being given letters by the District Commissioner (D.C) to take to the District Officers (D.Os) in the two Divisions, Kaloleni and Kikambala.

After visiting the D.C's office, the researcher visited the District Education Officer (D.E.O) who introduced her to the Education Officers of the areas of study. The researcher got the support of both the D.Os,
Divisional Educational Officers, Zonal Officers, school administrators as well as from the subjects studied.

The researcher visited one school per day in case a school had more than three teachers. But where there was one teacher per school and the schools were close to each other, she was able to visit three schools per day.

3.9.2 Scoring the Marks

The researcher typically visited one school once on the day the teacher(s) was (were) teaching Art and Craft. The researcher sat at the back of the classroom to observe and score marks according to how the teacher taught the subject. Each column in the Teaching Practice Observation Checklist (TPOC) was ticked according to the teacher's performance. After which the teacher's total marks was awarded out of a total score of a 100 marks. The total marks obtained by the teacher determined her performance or quality scores in teaching Art and Craft.

3.10.0 Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to calculate the data, and tables and graphs used to present the analysed data. The following were the statistical hypotheses tested at the significance level of alpha=0.05 and alpha=0.01.
HO₁  There is no significant relationship between the teachers' number of years taken in an academic level and the quality scores obtained in teaching Art and Craft.

HO₂  There is no significant relationship between the teachers' number of years of teaching in pre-schools and the quality scores obtained in teaching Art and Craft.

HO₃  There is no significant relationship between the teachers' number of years taken to be trained as a pre-school teacher and the quality scores obtained in teaching Art and Craft.

HO₄  There is no significant relationship between the teachers' attitudes towards teaching of Art and Craft and the quality scores obtained in teaching Art and Craft.

HO₅  There is no significant relationship between the teachers' knowledge in Art and Craft and the quality scores obtained in teaching Art and Craft.

Each hypothesis was tested using Spearman's Rank Order of Correlation Coefficient to determine the significance of the relationship between the Variables.

Tables and graphs were used to summarise the information gathered as indicated in the next chapter.
CHAPTER FOUR
RESULTS

4.1. Introduction

The results for the study are presented in two sections in this chapter. The first section is the Descriptive Statistics and the second section is the Inferential Statistical Analysis. In the descriptive analysis section, tables, graphs, frequencies and percentages have been used to describe the distribution of the teachers' academic level, professional qualifications, experiences, attitudes and knowledge and the teachers' teaching performance which had been defined as teaching quality scores.

In the Inferential Statistical Analysis in section two, the results of the hypotheses were tested to show the direction and significance of the relationship between the teachers' variables and teaching performance are presented.
Section One

4.2 Descriptive Analysis

4.2.1 Schools and Sample Distribution

Table 2: Number of Schools and Sample of Teachers

<table>
<thead>
<tr>
<th>Division</th>
<th>No. of Schools</th>
<th>Teachers Sampled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>freq</td>
<td>% (10.21)</td>
</tr>
<tr>
<td>Kaloleni</td>
<td>16</td>
<td>(10.21)</td>
</tr>
<tr>
<td>Kikambala</td>
<td>6</td>
<td>(10.71)</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

The sample of 51 teachers from the two divisions is indicated in Table 2. The number of teachers were derived from $\frac{1}{10}$ (one tenth) of the preschools selected randomly from Kaloleni and Kikambala divisions. The percentages shown in the tables in the column of schools represent the $\frac{1}{10}$ (one tenth) of the total number of schools in each division excluding one school from Kaloleni Division that is 16 (10.21%) schools out of 156 (100%) schools were selected from Kaloleni division, and 6 (10.71%) schools out of 56 (100%) schools were picked from Kikambala Division.
4.2.2 Teachers' Academic Level

Table 3: Teachers' Distribution According to Academic Level.

<table>
<thead>
<tr>
<th>Academic level (No of Years of Schooling)</th>
<th>Kaloleni</th>
<th>Kikambala</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>freq.</td>
<td>freq.</td>
<td>Freq.</td>
<td>%</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>3</td>
<td>11 (21.57)</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>1</td>
<td>5 (9.80)</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>1</td>
<td>2 (3.92)</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>1</td>
<td>3 (5.88)</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>4</td>
<td>7 (13.73)</td>
</tr>
<tr>
<td>12</td>
<td>18</td>
<td>5</td>
<td>23 (45.1)</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>15</td>
<td>51 (100%)</td>
</tr>
</tbody>
</table>

Results reveal that the teachers' academic level mean was 10.16, the range was from 7-12 years and the mode was 12. That is, the lowest level in academic training was 7 years and the highest was 12 years as shown in Table 3 below. As it can be reported from the table, the highest number of teachers taken per division were 12 years of schooling. This means that they were 23 (45.1%) of the teachers with Kenya Secondary School Certificate of Education ('O' Level). However, more than half of the teachers 28 (59.9%) were below 'O' level. This
suggests that most of the teachers who teach in pre-schools were primary school-leavers 16 (31.5%) and secondary school dropouts 12 (23.5%).

The standard deviation of teachers' academic level was 2.09, and 45.1% were "O" levels while primary level and secondary school dropouts were 59.9%. Hence, the number of teachers who had completed "O" level were less as compared to the number of teachers who were below "O" level. This shows that there was some difference among the teachers' academic level distribution.

The percentages for each division were computed from the total sample of teachers in each division. As can be noted from Table 3 there are more teachers in Kaloleni who completed secondary school level (50%), while only 33.33% of those in Kikambala Division had completed secondary education.
4.2.3 Teachers' Experiences

The mean was 7.31 years while the standard deviation was 4.26. This suggests that the teachers' number of years in teaching could be distributed into a normal curve of 2-tailed.

The Figure 1 bar graph above shows the teachers' experience distributed according to years and percentages. As can be seen on figure 1, the majority of teachers are those who have taught for five years and above. This suggests that there are more experienced teachers than inexperienced teachers in the pre-schools within the divisions.
The mode of years of experience is 5 (17.65%). There are more young teachers who had taught for five years as compared to any other group of teachers (see Appendix ii that shows Teachers' Distribution According to Experience per division.

4.2.4 Teachers' Distribution According to Training Level

<table>
<thead>
<tr>
<th>Division</th>
<th>Trained Freq</th>
<th>On-training Freq</th>
<th>Not-trained Freq</th>
<th>Total Freq</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaloleni</td>
<td>26</td>
<td>6</td>
<td>4</td>
<td>36</td>
<td>(100%)</td>
</tr>
<tr>
<td>Kikambala</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>15</td>
<td>(100%)</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>11</td>
<td>5</td>
<td>51</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Teachers' distribution according to professional qualifications are presented in Table 4 above. The table show that there were more trained teachers (68.63%) than those on-training and not trained (31.37%) when put together. Those on training were 21.57% while those not trained were (9.80%).

The standard deviation was 0.67 and the range is between 12 months and 24 months, which is 12 months. And the mean of teachers'
professional qualifications was 1.59 years and the mode was 2 years. This suggests that there were fewer untrained teachers in the two divisions and especial in Kikambala zone.

All the trained teachers and those on training had undergone or were attending the 2 years DICECE course. Thus, it appears many teachers had or were acquiring professional qualifications.

4.2.5 Teachers' Attitudes towards Teaching Art and Craft.

Table 5: Teachers Categorised According to Attitudes Towards Teaching of Art and Craft.

<table>
<thead>
<tr>
<th>Very positive</th>
<th>Positive</th>
<th>Mixed</th>
<th>Negative</th>
<th>Very negative</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>freq %</td>
<td>freq %</td>
<td>Freq %</td>
<td>freq %</td>
<td>Freq %</td>
<td>Freq %</td>
</tr>
<tr>
<td>16 (31.37)</td>
<td>30 (58.82)</td>
<td>0</td>
<td>4 (7.84)</td>
<td>1 (1.96%)</td>
<td>51 (100)</td>
</tr>
</tbody>
</table>

Teachers' attitude scores towards teaching Art and Craft were computed from the Semantic Differential scale completed by teachers. The Attitude scores ranged from 7 to 35. The scores were categorised as indicated in Table 5 above.

The teachers' ranged from very negative to very positive. Those with very positives attitudes had an Attitude scores from 28 and above (31-37%), while those who obtained from 22 to 27 (58.82%) were considered to be positive, the teachers who scored 21 were considered to be having mixed attitudes 0(0%) and those who scored 20 but not,
less than 14 (7.84%) were termed as having negative attitude. Teachers who scored less than 14 were referred to as 'very negative' (1.96%).

Table 5 above indicates that a large number of teachers (58.82%) have at least positive attitudes followed by those with very positive attitudes (31.37%). At least 90.2% of the teachers had positive or very positive attitudes towards teaching of Art and Craft. It is important to note that all the teachers with positive or very positive attitudes did Art and Craft at school (90.2%). All the teachers with negative attitudes (7.84%) and those with very negative attitudes (1.96%) indicated that they had not done Art and Craft at school. This suggests that attitude towards teaching of Art and Craft may have been influenced by their learning or lack of learning Art and Craft at school. Regardless of having positive attitude, 45 out of 51 teachers (88.23%) indicated that teaching Act and Craft is "demanding".
4.2.6 Teachers' Knowledge in Art and Craft

Table 6: Teachers' Categorised According to Knowledge Scores in Art and Craft.

<table>
<thead>
<tr>
<th>Knowledge Scores</th>
<th>Highest knowledge</th>
<th>High knowledge</th>
<th>Average knowledge</th>
<th>Low knowledge</th>
<th>Lowest knowledge</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>freq %</td>
<td>freq %</td>
<td>freq %</td>
<td>freq %</td>
<td>freq %</td>
<td>freq %</td>
<td>freq %</td>
</tr>
<tr>
<td>33 (64.71)</td>
<td>7 (13.73)</td>
<td>7 (13.73)</td>
<td>2 (3.92)</td>
<td>2 (3.92)</td>
<td>51 (100)</td>
<td></td>
</tr>
</tbody>
</table>

Teachers' knowledge scores were derived from answering four close-ended questions which were in the teachers' questionnaire. Each correct answer was awarded four marks (scores). The total marks or scores was 16 marks. Teachers who scored all (4) questions right were termed as having highest knowledge while teachers who obtained three (3) questions right were considered to be with high knowledge. Teachers who answered two (2) questions right were referred to as with average knowledge, that is neither high nor with low knowledge. Teachers with low knowledge are those who got one (1) question right while teachers who missed all (4) the questions were grouped under those with lowest knowledge in Art and Craft. The above categories of teachers are shown in Table 6 above.
As can be seen, the teachers' knowledge scores ranged from 0 to 16 marks. The mean for the knowledge scores was 13.6 and the mode was 16 while the standard deviation was 4.42. This suggests that the knowledge scores shown were highly positive. Table 6 above shows that there were more teachers who were highest knowledgeable in Art and Craft 33 (67.71%) and those with high knowledge were 7 (13.73%), the average knowledge were 7 (13.73%). Teachers with low knowledge 2 (3.92%) and those with lowest knowledge 2 (3.92%) had a score of 0. The teachers with highest knowledge and low knowledge 40 (78.43%) were more than those who were with low knowledge 4 (21.57%) and lowest knowledge. Teachers who were knowledgeable scored from 12 and above knowledge scores while teachers who obtained from 4 in knowledge scores (7.89%) were those with low knowledge. Teachers with average knowledge (13.73%) were those who were neither on high or low knowledge score categories. They were termed as with average knowledge because they were on the borderline.

The number of teachers who were identified as having high and highest knowledge were among the 47 (92.6%) who did Art and Craft in school and sat for it at their Kenya Certificate of Primary Examination during the 8.4.4. Education system when Art and Craft was being examined at the National level. It appears that their previous knowledge in Art and Craft during their schooling had helped the teachers to score high in
knowledge in Art and Craft in this study. Those teachers with mixed knowledge indicated that they had done Art and Craft at college, but not at primary schools level. This finding suggests that the knowledge the teachers obtained in college may have assisted them to get the two questions right with a knowledge score of 8 marks. The teachers with low knowledge (3.92%) and those with lowest knowledge (3.92%) indicated that they had not done Art and Craft at school or at college since they were not trained.

Section Two

4.3.0 Inferential Statistical Analysis

Section Two Presents the results from the testing of the five hypotheses. The following were the results of each hypothesis as tested using Spearman’s Rank Order of Correlation Coefficient.

The hypotheses were tested at significance level $\alpha = 0.05$

Hypothesis 1-5 were tested at significance level $\alpha = 0.05$

$H_0$: There is no relationship between teachers’ academic level and teaching quality scores in Art and Craft.
Table 7: Correlation Significance of Teachers' Academic Level and Performance (Achievement) in Teaching Art and Craft

<table>
<thead>
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<th>N</th>
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<td>0.3224*</td>
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*Significance level = 0.05

Figure 3: Position of the critical value and the $r_s$ value

The study had hypothesised that there would be no significant correlation between teachers' academic level and teaching quality scores in teaching Art and Craft. The results obtained after testing the hypothesis suggested that there was a positive significant correlation between the teachers' academic level and quality scores in teaching Art
and Craft. Hence the hypotheses was rejected. The information is indicated on Table 7 above. Table 7 and Figure 3 shows that the null hypothesis is rejected because the $r_s$ values were greater than the critical value or 2-tailed significance which was obtained by reading a table on Spearman’s Rank Order of Correlation Coefficient on critical values for $r_s$ values (Appendix vi) (Siegel & Castellan, 1988). This suggests that teachers’ performance in teaching Art and Craft improves with higher academic levels.

$H_{o_2}$  There is no relationship between teachers’ number of years one had taught in pre-school and the teaching quality scores in Art and Craft.

**Table 8: Correlation significance of Teachers’ Experience and Performance (Achievement) in Teaching Art and Craft.**

<table>
<thead>
<tr>
<th>N</th>
<th>$r_s$ Value</th>
<th>df</th>
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**Figure 4:** Position of the critical value and $r_s$ value
The study had hypothesised that there would be no significant correlation between the teachers' experience and performance in teaching Art and Craft. The results presented in Table 8 and Figure 4 above show that there is no significant correlation in teachers' years of experience and quality scores in teaching Art and Craft since the null hypothesis was accepted because the $r_s$ value was less than the critical value. However, there was a linear positive relationship between the two variables since the $r_s$ value was lying between 0 (zero) and +1 (plus one). The significant correlation might not have been realised because those teachers who were highly experienced had low academic levels and lower knowledge in Art and Craft.

Although the relationship was not significant, results suggest that performance in Art and Craft might improve with higher academic level added to experience. This may be due to the fact that low academic level of the experienced teachers had resulted to the null hypothesis being accepted. It suggests that performance lowers as a number of years in teaching increases.

There was no significant relationship between teachers' number of years of training and teaching quality scores in Art and Craft.
Table 9: Correlation significance in Teachers' Length of Training and Teachers' Performance (Achievement) in Art and Craft

<table>
<thead>
<tr>
<th>N</th>
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*Significant level = 0.05

Figure 5: Position of the critical value and $r_s$ value.

The null hypothesis stated that there was no significant relationship between number of years a teacher has been trained and the teachers' performance in teaching Art and Craft. When the hypotheses was tested, it revealed that there was a significant positive correlation between the length of training and the performance in teaching Art and Craft. Hence, the null hypothesis was rejected because the $r_s$ value 0.3541 was greater than the critical value of 2-tailed significance which was 0.282 at significant level $\alpha = 0.05$. See Table 9 and figure 5 above. This result suggests that the quality of performance in teaching increases with length of training.
There was no significant relationship between teachers' attitudes towards teaching of Art and Craft and teaching quality scores in Art and Craft.

Table 10: Correlation Significance of Teachers' Attitudes and Teaching Performance (Achievement) in Art and Craft

<table>
<thead>
<tr>
<th>N</th>
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<th>df</th>
<th>2-tailed significant (critical-value)</th>
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<tr>
<td>51</td>
<td>0.3768**</td>
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<td>0.366</td>
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</table>

**Significant level = 0.01

Figure 6: position of the critical value and rs value

The hypothesis stated that there was no significant correlation in teachers' attitudes towards teaching Art and Craft and the teaching performance in Art and Craft. However, when the null hypothesis was tested, it was rejected as shown on Table 10 and Figure 6 above. There was a significant positive correlation in teachers' attitudes towards teaching of Art and Craft and performance in teaching Art and Craft. The study suggested that quality of teaching performance
increases or was high as teachers' attitudes were positive. This is indicated in the Table 10 below which shows that the $r_s$ value 0.3768 was greater than the critical value or 2-tailed significant 0.366 at significant alpha $= 0.01$ at degree of freedom (df) 49.

$H_0$: There was no significant relationship between knowledge in Art and Craft and teaching performance in Art and Craft.

Table 11: Correlation Significance of Teachers' knowledge and Teaching Performance (Achievement) in Art and Craft.

<table>
<thead>
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<th>N</th>
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</table>

**significant level = 0.01.

Figure 7: Position of the critical value and $r_s$ value

The hypothesis was stated that there was no significant relationship between teachers' knowledge in Art and teaching performance. When the hypothesis was tested, it was rejected because the $r_s$ value 0.8302 was greater than the critical value or 2-tailed significant value 0.366 when tested at significant alpha $= 0.01$ and read at df 49 as indicated above in Table 11 and Figure 7. Hence it was concluded that there was
a significant positive relationship between teachers' knowledge in Art and Craft and their performance. Thus, in teaching the quality of teachers' performance increases as their knowledge scores in Art and Craft increased.
5.0 Introduction

Chapter Five includes a discussion of the findings in relation to the tested hypotheses, the implications of the findings and finally the recommendations based on these findings.

5.1.0 Discussions of the Findings

The main purpose of the study was to find out the relationship that existed between the teachers' teaching performance (achievement) in Art and Craft and teachers' factors, such as academic level, teaching experience, training level, attitudes towards Art and Craft and knowledge of Art and Craft. The following were the findings arrived at after the data were analysed, evaluated and interpreted.

1. There was a significant positive correlation between the teachers' academic level and their quality scores in teaching Art and Craft.

2. There was no significant correlation between teachers' experiences and their quality scores in teaching Art and Craft. However, there was a linear positive relationship.

3. There was a significant positive correlation between the number of years the teachers had been trained and quality scores in teaching Art and Craft.
4. There was a significant positive correlation between teachers' attitude towards teaching Art and Craft and their quality scores in teaching Art and Craft.

5. There was a significant positive correlation between the teachers' knowledge in Art and Craft and their quality scores in teaching of Art and Craft.

5.1.1 Teacher's Academic Level

Results in the study suggests that there was a positive significant relationship between teachers' academic level and the performance in teaching Art and Craft. These finding agrees with Otalaa (1981) who cited that low education can hinder teachers from comprehending the content during training. Several reasons for teachers low academic may have been due to having fewer years in schooling and also lack of exposure in skills and knowledge pertaining to Art and Craft.

5.1.2 Teachers' Experience

The results suggested that there was no significant relationship between the number of years a teacher had taught and the teaching of Art and Craft. This statement disagrees with Bandura's findings (1971, 1977) that stated that one can use his or her past experiences or other people's experiences that she has observed to gain new knowledge and skills. The difference had occurred because 11 (21.51%) of all the teachers' studied in this study had taught for more than ten years but
had average knowledge, low and lowest knowledge in Art and Craft which barred them from applying it during teaching. That is, they either had limited skills and knowledge in Art and Craft or had no skills at all. Also Art and Craft is a practical subject that needs a practical approach while teaching it. When teachers have limited skills and methodological knowledge, it becomes difficult to teach it and rely on drilling methods (Musonga, 1982). Researches revealed that teachers who teach for a long time and are not ready to change their methods of teaching are not able to change their behaviour (Kelly 1955).

The results reported that there was instead a positive linear correlation between experiences of teachers' and teaching of Art and Craft. This means that if experience can be added to other factors, such as knowledge, attitude, training and academic, better results can be arrived at. However, experience in teaching or the number of years of teaching alone without other factors cannot improve performance. For example, one can be a very good football player for many years and not be a successful football coach unless one has been trained as a coach. Also, one can be a good singer but not having skills and knowledge on how to put the song into tonic solfas or theoretical form. Hence experience alone in teaching is not adequate to make one become a good teacher in Art and Craft.
5.1.3 Teachers' Level of Training

The results suggest that there were more trained teachers 35 (68.63%) than those teachers' who were on-training (21.57%) and not trained 5 (9.80%). It is important to have trained teachers because training equips teachers with skills and knowledge on how to handle children as well as teaching young ones, and planning their work effectively (Kindsvatter, et al, 1996). The results also revealed that there was a positive significant relationship between training and performance in teaching Art and Craft. This is supported by the result in the study which shows that those 35 teachers who were trained, which represented 68.63% of the sample, only three attained lower than the mean score of 75% in the teaching quality score. In contrast, the five teachers who were not trained scored less than the mean score of 75%. (see appendix vii)

This finding is supported by the research done by Otieno, (1980), Digolo (1980), Gombe (1992) and Sakwa (1996) who found Art and Craft was poorly taught due to lack of skilled or trained teachers.

5.1.4 Teachers' Attitudes Towards Teaching of Art and Craft

The study reported that 46 (90.2%) of the teachers had shown positive attitude towards the teaching of Art and Craft. (see appendix vi). All the teachers who had positive attitude scored higher than the mean score of 75% in the teaching quality score. This finding is supported by
studies done by Whitebook, (1989); Kindvatters, et. al (1996) who cited that the teachers' positive attitudes are essential for teaching.

The study also suggested that only seven teachers 13.73% had negative and very negative attitudes. This agrees with studies done by Tudor (1972); Aurea (1973); Morah (1979) and Sakwa (1996) that noted that teachers have negative attitudes towards teaching Art and Craft.

5.1.5 Teachers' Knowledge of Art and Craft

The study revealed that when the hypothesis was tested, there was a positive relationship between knowledge and performance in teaching Art and Craft. Also it was found that teachers who learnt Art and Craft in primary school were 46 (90.2%) while those who sat for the subject during K.C.P.E. were 44 (86.28%) and those who sat for Art and Craft at college were 35 (68.63%). This suggests that there were more teachers who had a background of Art and Craft than those without. The study also reported that there were 7 (20%) out of the trained teachers 35 (68.63%) in college who had not done Art and Craft at school. These teachers all scored less than 74% marks which is below the mean score of 75 marks. This is supported by Musonga (1982) who found that Art and Craft was poorly taught because teachers started learning Art and Craft at its initial stages in colleges and this forced them to use drilling method when teaching it. Previous knowledge is important for future use since knowledge and skills are acquired through
assimilation and accommodation (Piaget, 1952). Thus, knowledge facilitates high scores or high performance in teaching Art and Craft, because teachers link what they have learnt to come up with new skills and knowledge (Holmens & Mclean, 1996).

5.2.0 Implications of the findings

5.2.1 Implications to teachers

The study has revealed that there is a positive relationship between teachers’ factors such as academic level, training, attitude and knowledge, the teachers with low academic levels, training, negative attitudes and lack of knowledge in Art and Craft were not able to perform as well as their counterparts who had high levels of academic, level, training, knowledge and positive attitudes towards Art and Craft. This suggests that there is a gap existing between teachers’ knowledge, and experience within Art and Craft that requires attention.

5.2.2 Implications for Curriculum Developers

The study reports that knowledge, training, positive attitudes and academic level enhance performance in teaching Art and Craft. Hence, curriculum developers need to come up with a curriculum for Art and Craft that will help those teachers who have no skills and knowledge in teaching Art and Craft. This can be improved through a curriculum developed in such a way that it aims at improving the teachers academic level that will enable them to understand the content in
training. Also, teachers with negative attitudes, can be encouraged to observe other teachers who are performing well in Art and Craft.

5.2.3 Implication for Policy-Makers

Policy makers need to understand the differences that exist between teachers who sat for Art and Craft at their National examination. For example study reports that earlier knowledge gained by teachers during school days assisted in scoring more in the teaching performance.

Also, the study reports that (90.2%) of the teachers had shown very positive and positive attitudes towards teaching of Art and Craft. These teachers are those who were taught and sat for Art and Craft at school. Hence, there is need for policy makers to revive the system of education within the teaching of Art and Craft at all levels of education and that it be examined in national examinations since in the current system it is not examined. So that teachers do not relax in teaching Art and Craft. The policy makers can suggest to start an education board that deals with Art and Craft work in all levels of education.

5.2.4 Implication for stakeholders

The stakeholders such as parents and administrators, to understand that Art and Craft is essential for holistic development and creativity of the child. Thus, they should praise and reward teachers who teach Art and Craft. Teachers can teach Art and Craft without fear when the
stakeholders give emphasise and view the teaching of Art and Craft like other disciplines in the curriculum such as mathematics and science. Stakeholders such as parents need to provide moral support to teachers and the necessary materials for teaching Art and Craft.

5.3.0 Recommendations

5.3.1 Recommendations for Teachers

1. Teachers with low academic level and lack skills and knowledge in Art and Craft can improve their levels of education and skills and knowledge in Art and Craft by engaging themselves in courses offered in such areas.

2. Teachers with negative attitudes towards teaching Art and Craft need to change their attitudes since positive attitudes enhance the performance in the work they do. They should give time to Art and Craft just like they do to other subjects.

3. Teachers who are not trained need to be trained so that they can perform their work effectively.

5.3.2 Recommendations for Curriculum Developers

1. There is a need for short courses and workshops for Art and Craft to be organised for those teachers who had not done Art and Craft at school.
2. There is a need also to have a refresher course in curriculum for Art and Craft to be made available in workshops or short courses for those teachers who did Art and Craft at schools and colleges. These courses can be organised after every 2 years.

3. Brochures showing the impact of Art and Craft to both children and teachers to be printed and sent to schools as well as to stakeholders.

5.3.3 Recommendations for Policy- Makers

1. Since Art and Craft is vital to holistic development of children and creativity, it should be taught and be examined in all levels of education and especially at national examinations such as K.C.P.E. and K.C.S.E.

2. Art and Craft should be compulsory in all levels of education and especially from pre-school to secondary school level.

3. Art and Craft should be considered as a special subject. Hence, the teachers teaching it should be given special allowances.

4. National exhibitions for Art and Craft from all levels of education to be organised every year and the best performers among both children and teachers should be rewarded.

5. Policy makers also should support people who are ready to carry research in Art and Craft by providing a guiding policy and funds to the researchers.
5.3.4 Recommendations for Stakeholders

1. Art and Craft requires a lot of materials and stakeholders such as parents, business people and others should support teachers by providing the materials and equipment to schools.

2. Industries can also support in provision of materials that seem to be a waste. For example, empty cartons, polythen bags, tins, bottles and such like.

3. Stakeholders such as parents should be guided through awareness meetings to develop positive attitudes towards teaching of Art and Craft.

5.3.5 Recommendations for Further Research

1. The study was done in one district of Kenya hence other studies can be done in other districts of Kenya to find out the relationship that exists between teachers' factors and other Art and Craft factors.

2. More studies need to be carried out in establishing the parents' attitude towards teaching of Art and Craft in schools.

3. A research can be carried out on the status of Art and Craft in Kenyan pre-schools.

4. Further studies can be done to find out if there are other factors that influence or are related to teachers and the teaching of Art and Craft in pre-schools.
REFERENCES


Guilford, J.P. & Merriefield). 'The structure of the intellect model'. Reports from the psychology laboratory. California: University of South Carilifornia.


Njoroge, M.G. (1985). Relating primary schools art to the world of works at Undugu basic schools in Nairobi. Nairobi:


### Teachers' Scores Distribution

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**Total** 51  100  100

Mean  74.71
Std dev  10.63
Appendix ii

Teachers' Distribution According to Experience as Per Division

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<td>36</td>
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<td>100</td>
<td>51</td>
<td>100</td>
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</table>
Appendix iii

Teachers' Distribution According to Training

<table>
<thead>
<tr>
<th>Value Label</th>
<th>Frequency</th>
<th>Valid Percent</th>
<th>Cum Percent</th>
<th>Percent</th>
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<tbody>
<tr>
<td>One year</td>
<td>11</td>
<td>21.57</td>
<td>21.57</td>
<td>21.57</td>
</tr>
<tr>
<td>Two years</td>
<td>35</td>
<td>68.63</td>
<td>78.43</td>
<td>100.0</td>
</tr>
<tr>
<td>Not trained</td>
<td>5</td>
<td>9.8</td>
<td></td>
<td>Missing</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100.00</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>
Appendix iv

Teachers who did and did not do Art and Craft at School

<table>
<thead>
<tr>
<th></th>
<th>No. of Teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Art and Craft at School</td>
<td>46</td>
<td>90.2%</td>
</tr>
<tr>
<td>Did not do Art and Craft at School</td>
<td>5</td>
<td>9.8%</td>
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</table>
QUESTIONNAIRE FOR PRE-SCHOOL TEACHERS

The following information is needed in order to improve our pre-schools' status in Kenya. Your co-operation in giving correct information is highly needed and appreciated. All information will be treated confidential.

A. Background information of the school

Name of District ..............................................

Division ..............................................

Zone .........................................................

School .....................................................

Enrolment .................................................. Boys..............

Girls ..............

Sponsor/Ownership

(1) Public  [/ ] Tick where applicable

(2) Religious  [/ ]

(3) Private  [/ ]
B. (i) What is your sex?  Female  [ ]  Male  [ ]

1. (a) Training

Are you

(i) a trained pre-school teacher?  [ ]

(ii) On-training?  [ ]

(iii) Not trained?  [ ]

(b) If trained for how long did your course take?

(i) 1 month  [ ]

(ii) 2 months  [ ]

(iii) 3 months  [ ]

(iv) 6 months  [ ]

(v) 1 year  [ ]

(vi) 2 years  [ ]

(vii) 2 1/2 years  [ ]

(viii) 3 years  [ ]

(ix) If others specify  ________________________________

(x) During training were you taught Art and Craft?

Yes  [ ]  No  [ ]  Tick where applicable
(xi) For how long have you taught as
Trained teacher? □ □ and Untrained teacher □ □

2. (a) Academic qualifications

(i) University □ □ Tick where applicable □ □

(ii) A-level □ □

(iii) O-level □ □

(iv) K.J.S.E. □ □

(v) C.P.E./K.C.P.E. □ □

(vi) Below class 8 □ □

(vii) Others specify.................................................................

(b) (i) During your school years were you taught Art and Craft?
Yes □ □ No □ □ Tick where applicable

(ii) Did you do it in your National Examination of any level of education?
Yes □ □ No □ □ Tick where applicable
Specify the level(s) of examination done.

3. (a) How often do you teach Art and Craft a week?

(i) once

(ii) twice

(iii) thrice

(iv) four times

(v) five times

(vi) If none of the above specify

(b) How often do you plan art lesson in a week

(i) once

(ii) twice

(iii) thrice

(iv) four times

(v) five times

(vi) If none of the above specify

(c) At what time does it appear on your timetable?

(i) From...to...a.m./p.m.

(i) How much time is allocated for each lesson?

............ Minutes.
(ii) Specify the problems encountered

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(xiii) Do you keep a record of children's Art and Craft work?

Yes ☐ No ☐

(xiv) If yes specify where you keep it.

(a)

(b)

(c)

(d)

(e)

(f)

(g)

4. (a) What age of children are you teaching? Tick where applicable

(i) Infant 0-2 years ☐ ☐
(ii) Toddlers 2-4 years

(iii) Pre-schoolers above 4 years

(iii) Infant and toddlers

(iv) Toddlers and pre-schoolers

(v) All ages

(b) (i) Do you have a classroom for pre-schoolers

Yes ☐ No ☐

(ii) Do you have an Art and Craft corner?

Yes ☐ No ☐  ☐ Tick  where applicable

(iii) Do you have Art and Craft materials?

Yes ☐ No ☐

If yes list fifteen (15) of them

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

(i)
(j)

(k)

(l)

(m)

(n)

(iv) If no. How much time should it be given? ......................

(b) Modelling is an activity in Art and Craft. Name two methods used in modelling.

(i) Spatter and coil

(ii) Slab and coil

(iii) Slab and spatter

(c) Making a picture by pasting and sticking one piece of material is known as

(i) Mosaic

(ii) Collage

(iii) Glueing

(c) Chuma is 3 years old and wants to cut out pictures from a newspaper. She can use

(i) Razor blades

(ii) Free hand

(iii) Scissors that are pointed

(iv) Razor blades and scissors.
(e) What activity in Art and Craft will you give to 2\(\frac{1}{2}\) years children who have come to school at the first time.

(i) Drawing a given picture

(ii) Sewing

(iii) Modelling

(iv) Cutting pictures using scissors

6. Select and tick the column that agrees with your opinion

Attitudes of pre-school teachers towards teaching of Art and Craft.

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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<tbody>
<tr>
<td>easy to teach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>need to be taught in schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>need earlier planning</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>given more time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>be examined</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>not demanding</td>
<td></td>
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</tr>
<tr>
<td>competent</td>
<td></td>
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</table>

Difficult to teach

Need not be taught

Need not earlier planning

Given less time

Not examined

Demanding

Not competent

\[ 5 - 3 = \text{highest scores} \]

\[ 2 - 1 = \text{lowest scores} \]

The total scores will be 35 Marks.
Appendix vi

Modified Teaching Practice Observation Report

Quality of Art and Craft teaching by pre-school teachers.

Date: 

School: 

Class teachers' name: 

Age of Children: 

Enrolment: 

No. of years of schooling: 

No. of years of teaching at pre-school: 

No. of years trained as a pre-school teachers: 

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>SCORES</th>
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<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>a) PREPARATIONS</td>
<td></td>
</tr>
<tr>
<td>(i) Schemes of work</td>
<td></td>
</tr>
<tr>
<td>(ii) Lesson plan objectives</td>
<td></td>
</tr>
<tr>
<td>b) INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>(i) Arousing interest</td>
<td></td>
</tr>
<tr>
<td>(ii) Link with learner's experience</td>
<td></td>
</tr>
<tr>
<td>c) INTERACTIONS</td>
<td></td>
</tr>
<tr>
<td>(i) Learner's participation</td>
<td></td>
</tr>
<tr>
<td>(ii) Use of groups varied Activities</td>
<td></td>
</tr>
<tr>
<td>(iii) Content</td>
<td></td>
</tr>
<tr>
<td>(iv) Teacher's language</td>
<td></td>
</tr>
<tr>
<td>(v) Questioning types</td>
<td></td>
</tr>
<tr>
<td>(vi) Techniques</td>
<td></td>
</tr>
<tr>
<td>(vii) use of feedback</td>
<td></td>
</tr>
<tr>
<td>(viii) Reinforcement</td>
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<td>(ix) Effective learning</td>
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<tr>
<td>d) RESOURCES</td>
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</tr>
<tr>
<td>(i) Use of materials for Demonstration</td>
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<tr>
<td>(ii) Improvisation</td>
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</tr>
<tr>
<td>(iii) Adequance in material</td>
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<tr>
<td>(iv) Display of finished work</td>
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<tr>
<td>PERSONALITY</td>
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<tr>
<td>(i) Mastery of content</td>
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<tr>
<td>(ii) Confidence</td>
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<tr>
<td>(iii) Conducive learning Atmosphere</td>
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Total teaching score marks
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<th>α</th>
<th>0.025</th>
<th>0.01</th>
<th>0.005</th>
<th>0.0025</th>
<th>0.001</th>
<th>0.0005 (one-tailed)</th>
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<tbody>
<tr>
<td>N α</td>
<td>0.20</td>
<td>0.10</td>
<td>0.05</td>
<td>0.025</td>
<td>0.01</td>
<td>0.005 (two-tailed)</td>
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Table Q (continued)

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<th>α</th>
<th>0.025</th>
<th>0.01</th>
<th>0.005</th>
<th>0.0025</th>
<th>0.001</th>
<th>0.0005 (one-tailed)</th>
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</thead>
<tbody>
<tr>
<td>N α</td>
<td>0.20</td>
<td>0.10</td>
<td>0.05</td>
<td>0.025</td>
<td>0.01</td>
<td>0.005 (two-tailed)</td>
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