FACTORS INFLUENCING THE SELECTION AND
UTILIZATION OF LEARNING RESOURCES BY TUTORS IN
THREE SELECTED PRIMARY TEACHERS’ COLLEGES IN
KENYA

Nzioka John Nzomo

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Declaration

This research thesis is my original work and has not been submitted anywhere else for the Masters Degree in any other university.

NZIOKA JOHN NZOMO

DATE__________________________ SIGNATURE___________________________

This research thesis is submitted with our approval as university supervisors

DR. NDICHU GITAU

DATE__________________________ SIGNATURE _____________________________

DR. V.W. KIMUI

DATE__________________________ SIGNATURE _____________________________

Department of Educational Communication and Technology

Kenyatta University

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Abstract

The overall goal of this study was to establish the factors influencing the selection and utilization of learning resources by the tutors in three selected Primary Teachers’ Training Colleges (PTTCs) in Kenya. This was for the purpose of investigating the selection and utilization of learning resources
in order to improve the quality of academic results. The researcher endeavored to answer the question; what was the background information for the tutors, available learning resources, the role, criteria for, challenges faced and factors promoting the selection and utilization of learning resources. The literature review was reviewed from related studies and relevant texts to establish the selection criteria and the utilization of the same learning resources in Primary Teachers Training Colleges. The data for this study was collected utilizing questionnaires, interviews schedules, focus group discussion (FGD) and checklists. The study was a survey that used both qualitative and quantitative study designs. The researcher used convenient and purposive sampling techniques. The data was analyzed utilizing frequencies and percentages and presented in form of tables. In the findings, the researcher established that, a six point parameter was pertinent in the selection and utilization of learning resources regardless of the training levels of the tutors. These were: lesson objective(s), availability of the learning resources, length of the lecture sessions; the size of the class, accessibility of the learning resources and utilization of the learning resources influenced the selection and utilization of the learning resources. The researcher concluded that, in deciding the selection and utilization of learning resources, it is important to appreciate the crucial role played by the learning resources in the teacher training and make it a tradition to select and utilize learning resources frequently and occasionally during the lecture sessions in the training of the teachers. In addition, it is important to utilize improvised learning resources so as to close the gap where some learning resources are not readily available. The researcher recommended that it is necessary for the PTTCs to nurture a culture of the selection and utilization of learning resources from the beginning to the end. The heads of these institutions need to appreciate the role played by the tutors and the teacher trainees in the selection and utilization of learning resources. Improvisation of learning resources needs to be embraced by these institutions. This will enhance simplicity of resources, reduce cost of buying and ensure availability of the learning resources. There is need for public and private partnership in equipping the PTTCs with the learning resources.

TABLE OF CONTENTS

Declaration................................................................................................................................................. 1
Acknowledgement........................................................................................................................................... 3
Abstract......................................................................................................................................................... 3
Table of contents .......................................................................................................................................... 3
CHAPTER ONE
INTRODUCTION

1.0 Introduction
1.1 Background of the study
1.2 Statement of the problem
1.3 Objectives of the study
1.4 Significance of the study
1.5 Assumptions
1.6 Limitations and delimitations
1.7 Conceptual framework
1.8 Definition of terms

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction
2.1 Meaning of learning resources
2.2 Categories of learning resources
2.3 Selection of learning resources
2.4 Value of learning resources
2.5 Selection and utilization of learning resources in the learning process in the PTTCs
2.6 Related studies on learning resources

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction
3.1 Study design
3.2 Study location
3.3 Research population
3.4 Sampling procedure .................................................................................18
3.5 Research instruments ..............................................................................19
  3.5.1 Interviews .............................................................................................19
  3.5.2 Checklist ...............................................................................................20
  3.5.3 Questionnaires ......................................................................................20
  3.5.4 Focus group discussion ......................................................................20
3.6 Piloting ........................................................................................................20
3.7 Validity and reliability .............................................................................21
3.8 Data collection procedure ......................................................................21
3.9 Data analysis ..............................................................................................22

CHAPTER FOUR ........................................................................................................23
DATA PRESENTATION AND ANALYSIS ..................................................................23
4.0 Introduction ..................................................................................................23
4.1 Tutors’ and teacher trainees’ biographical information .........................23
  4.1.1 Tutors’ age ............................................................................................23
  4.1.2 Tutors’ qualifications ..........................................................................24
  4.1.3 Tutors’ teaching experience .................................................................25
4.2 Availability of learning resources in the PTTCs ......................................26
  4.2.1 Print learning resources .......................................................................26
  4.2.2 Display learning resources ...................................................................27
  4.2.3 Audio-visual learning resources ............................................................27
4.3 The role and criteria for the selection and utilization of learning resources .........................................................................................28
  4.3.1 The role of the learning resources .........................................................28
  4.3.2 Criteria for the selection and utilization of the learning resources .......29
  4.3.3 Selection and utilization rates .................................................................31
    4.3.3.1 Print learning resources: selection and utilization rates .............31
    4.3.3.2 Display learning resources: selection and utilization rates .........33
    4.3.3.3 Audio-visual learning resources: selection and utilization rates .36
List of figures

Figure 1: Edgar Dale’s Cone of Experience ................................................................. 6
List of tables

Table 3.1 Sampling rid ............................................................................................................. 19
Table 4.1 Tutors’ age .............................................................................................................. 24
Table 4.2 Tutors’ qualifications ............................................................................................. 24
Table 4.3 Tutors’ teaching experience .................................................................................... 25
Table 4.4 Print learning resources available per PTTC ........................................................ 26
Table 4.5 Display learning resources available per PTTC ...................................................... 27
Table 4.6 Audio-visual learning resources available per PTTC ............................................. 27
Table 4.7a The role of learning resources: tutors’ responses ................................................ 29
Table 4.7b The role of learning resources: teacher trainees’ responses ................................ 29
Table 4.8a Criteria for the selection and utilization: tutors’ responses .................................. 30
Table 4.8b Criteria for the selection and utilization: teacher trainees’ responses................ 30
Table 4.9a Print learning resources: tutors’ selection and utilization ..................................... 31
Table 4.9b Print learning resources: teacher trainees’ selection and utilization ...................... 31
Table 4.10a Display learning resources: tutors’ selection and utilization .............................. 33
Table 4.10b Display learning resources: teacher trainees’ selection and utilization ............... 35
Table 4.11a Audio-visual learning resources: tutors’ selection and utilization ....................... 37
Table 4.11b Audio-visual learning resources: teacher trainees’ selection and utilization ......... 38
Table 4.12 Chalkboard: selection and utilization ................................................................. 39
Table 4.13a Challenges faced: tutors’ responses .................................................................. 40
Table 4.13b Challenges faced: teacher trainees’ responses .................................................. 40
Table 4.14a Hindering factors: tutors’ responses .................................................................. 41
Table 4.14b Hindering factors: teacher trainees’ responses .................................................. 42
Table 4.15a Enhancing factors: tutors’ responses ............................................................... 42
Table 4.15b Enhancing factors: teacher trainees’ responses .................................................. 43
Table 4.16a Number of workshops/ seminars or courses attended by tutors ....................... 43
Table 4.16b Number of workshops/ seminars or courses attended by teacher trainees ........ 44
CHAPTER ONE

INTRODUCTION

1.0 Introduction

Learning resources are vital tools in any learning situation. In light of this, this chapter gives the biographical of the study, a statement of the problem, objectives, the significance of the study, assumptions made, limitations and the conceptual framework and definitions of terms used in the study.

1.1 Background of the study

Learning resources have been selected and utilized in Primary Teachers’ Training Colleges (PTTCs) as a medium. The selection and utilization of learning resources reinforces learning and ensures the delivery of content by the tutors. It also makes the teacher trainees understand more of the content.

According to Wringe (1995), learning resources add value to the motivating effect of both the teacher and the learner and this makes learning experience effective. Any educational experience that does not select and utilize learning resources cannot achieve content delivery to the levels of making quality educational experience.

Indeed Court et al. (1985) documented the necessity to improve the quality of education through the selection and utilization of learning resources for effective learning by the tutors and the teacher trainees. The selection and utilization of learning resources therefore facilitates effective learning. According to Heinich Molenda and Russell (1990), the selection and utilization of learning resources ensures concrete learning experiences, acquisition, and retention of content being passed across.

Reports on education express the need to acquire, maintain and store learning materials in which learning resources are among them. Books and other educational resources are the basic tools for educational development according to the Gachathi (1976) report. These resources must be available at the time they are required at a cost friendly to the stakeholders.

The supply of adequate learning materials is important in the management, provision of quality education and training. It is therefore necessary for the PTTCs to select and utilize the available learning resources to enhance and improve on the quality of education (Kamunge Educational

As a result of tremendous expansion of education, the government is not able to meet the needs of schools as far as learning resources are concerned. There is need for cost sharing between the government, parents, and the communities.

From the Kamunge Report (1988), it is evident that learning resources are paramount in the expansion and development of the quality of education. These learning resources help in content delivery and are important in any learning experience that makes impact in the quality of education in our schools.

On the same note, Kamunge (1988) makes it clear that learning resources are indispensable tools in any learning experience at every level of education. Well-known educationists such as Agun (1976) and Dale (1977) assert that learning resources are selected and utilized because of their utility of making things clear to teacher trainees. They enable the teacher to make his/ her teachings lively and motivating and thus stimulate the teacher trainees’ desire to learn. The selection and utilization of learning resources help in involvement of our senses and thus make it efficient in delivering content and getting content in a learning experience by the tutor and the teacher trainee respectively.

In addition, Ayot (1984) observed that we forget what goes through our ears if we do not involve our senses, thus involvement of our senses advocated by psychologists is brought in by the selection and utilization of learning resources to make learning experience useful in the long run.

The National Development Plan (1997-2001) notes improvement of the relevance of education requires the selection and utilization of facilities in which the learning resources are inclusive. In the PTTCs, learning resources are even more important bearing in mind that the PTTCs train teachers who after training teach children in the primary schools. Consequently, the value of content delivery can be seen helping in PTTCs. Therefore, it should not be overlooked because it has far reaching impact on the quality of education in the PTTCs. Maundu (1988) notes that instructional materials play a crucial role in explaining the wide variation in improving the quality of the results among students enrolled in different secondary schools having different levels of learning resources at their disposal. This research study is aimed at finding out the selection and utilization of learning resources in the Primary Teachers’ Training Colleges.
1.2 Statement of the problem

Learning resources play a crucial role in learning experiences in training our human resource. They ensure content delivery by the tutors and thus make learning experiences more interesting and stimulating to teacher trainees. Maundu (1988) observes that instructional materials play an important role in explaining results in schools. It is in this light that teacher trainees have to be trained adequately and shown the value of learning resources in the promotion of the quality of education in our country. This is because of the indispensable role played by the teacher trainees once they get into regular teaching. This concurs with an earlier study by Saunders (1974) who observed that, experience is the solid foundation for much of the learning process. ‘You remember 10% of what you hear, you remember 50% of what you hear and see, you remember 90% of what you hear, see and perform,’ (Saunders: 1974, 115)

According to the Kenya National Examination Council results report (2009) of the Kenya Certificate of Primary Education released at the close of the year, there was a wide variation of results in the schools. The selection and utilization of learning resources played a key role in explaining the disparity in the results obtained. It is worth noting that there was a noticeable gap between the public and the private schools. Though teachers in both categories were trained in the same PTTCs, the report showed that more than 50% of private schools had adequate learning resources unlike in the public schools which had less than 25%. (KNEC: 2009, 88)

But what caused the difference? Private schools are endowed with more learning resources than public schools and this consequently correlates to the level of learning resources with the former having limited learning resources at their disposal. For instance, Machakos academy, a top performing school in the entire district is a case study of this observation made by the researcher.

When we look at the value of learning resources in learning, it is reflected in results of the Kenya Certificate of Primary Examination and therefore learning resources are vital in PTTCs. Consequently, teacher trainees should be adequately trained on the selection and utilization of learning resources in their training before they get into regular teaching. We therefore need to establish the selection and utilization criteria for these learning resources in PTTCs to improve academic results of the teacher trainees so that they can in turn make quality results.

1.3 Objectives of the study

This study sought to establish the factors influencing the selection and utilization of learning resources by tutors in three selected Primary Teachers’ Training Colleges PTTCs in Kenya.
Specific objectives

1. Assess the biographical information for the tutors and the teacher trainees to establish how they could help in promoting selection and utilization of learning resources.
2. Identify the available learning resources in the PTTCs.
3. Determine the role and criteria for the selection and utilization of learning resources by the tutors and the teacher trainees in the PTTCs.
4. Find out what challenges the tutors and the teacher trainees face in the selection and utilization of learning resources.
5. Find out what enhances the selection and utilization of learning resources by the tutors and the teacher trainees in the PTTCs.

1.4 Significance of the study

This study is of importance to all the stakeholders in the education sector. The study made recommendations to the PTTCs on the selection and utilization of learning resources in training of their teacher trainees to ensure they produce teachers who are competent enough to deliver quality education to the pupils.

Furthermore, this study was to help the concerned parties in the education sector. For instance, the Ministry of Education, in making arrangements for acquiring text books to support the Free Primary Education (FPE).

In addition, it was to help curriculum developers to develop materials geared towards effective use of learning resources. It was to encourage practicing teachers to select and utilize learning resources for the success of their learners.

1.5 Assumptions

The study made the following assumptions:

1. Availability and utilization of learning resources was not a guarantee to improved results if those learning resources were not selected and appropriately utilized.
2. Public Primary Teachers’ Training Colleges were equally endowed as far as learning resources are concerned.
3. The respondents gave information that is free of bias.
1.6 Limitations and delimitations

The study was limited to three selected Public Primary Teachers’ Training Colleges and thus the researcher tried to acquire unbiased information to overcome this constraint to make the study have the capacity to be generalized as a representative study worth adoption. This was done through careful selection of the responses from the different research instruments which were employed in this study.

This study limited itself to learning resources and investigated the selection and utilization of the same in three selected Primary Teachers’ Training Colleges and that was a limit by investigating the learning resources since wide range of resources do exist in learning institutions.

1.7 Conceptual framework

Learning resources, as teaching aids, make learning more memorable and therefore they enhance retention, which words alone cannot achieve (Walkins, 1982). When utilizing learning resources, it is important to use multi-media approach. This approach appeals to more than one sense. This not only enhances learning by teacher trainees but also caters for retention of the content by them.

According to Johnson (1995), the more trainees are involved in the training process, the better their communicative competence. This can be achieved effectively by selection and utilization of learning resources that make learning experience more memorable by provoking the use of senses in learning.

This study was based on Dale’s model that looks at learning from the continuum proposing that instruction provided to a learner should proceed from direct, pictorial to highly abstract experiences in a sort of multisensory approach to learning. The researcher borrowed from Dale’s model in highlighting learning resources’ selection and utilization in the selected Primary Teachers’ Training Colleges (PTTCs).
Fig. 1: Edgar Dale’s Cone of Experience

The Cone of Experience
(Adopted from Dale’s model)

- Direct, Purposeful Experiences
- Dramatized Experiences
- Contrived Experiences
- Demonstrations
- Field Trips
- Exhibits
- Television, Films, Motion Pictures
- Recordings Radio Still Pictures
- Visual Symbols
- Verbal symbols

Symbolic

Observation

Participation

Source: Adapted from Dale (1969)

Participation

The learners are actively involved in the learning experience and all the senses are actively utilized thus promoting learning through direct experiences. This level is known as participation, which ensures that experiences are memorable and content delivery achieved.

Observation

The observation level closely follows participation and fully complements the same. Teacher trainees in this level observe and participate in the learning situation making it enjoyable, memorable and even meaningful.
Symbolic

In symbolic level, all the appearances are removed and all that is presented is abstract. Abstract representation of reality is exhibited in this level. The outcome of selecting and utilizing learning resources in this level yields poor results because of abstract representation of the reality.

The researcher notes that, all the above levels of the cone complement each other for learning experience to be complete, meaningful and making the experience enjoyable and memorable.

Resources are important in learning process according to Dale (1969). Learning resources assist both the learner and the tutor in understanding and retaining of content thus making the learning experience more memorable and interesting and thus arousing the desire to learn.

Dale’s cone of experience was appropriate in this study, in that the selection and utilization of the learning resources ensures the engagement of all the senses that make the training memorable and therefore enhance better understanding of content being passed by tutor to teacher trainee arousing the desire to learn and consequently improved academic results in training.

The model provided a biographical upon which tutors and teacher trainees can relate to the selection and utilization of learning resources. Molenda and Russell (1990) observed that use of learning resources enhances and enhances the learning experience by the teacher trainee and tutor respectively.
1.8 Definition of terms

Learning: act of acquiring new dispositions such as skills, value, concepts and knowledge.

Selection: the process of picking or identifying learning resource for use in learning experience.

Learning resources: these are audio-visual resources which facilitate learning through engagement of the senses such as hearing, touching and sight.

Teaching: act of facilitating the acquisition of dispositions such as knowledge, values, skills and ideas.

Utilization: act of putting into use a learning resource also referred to as audio-visual resource for the purpose of learning.

Multimedia approach: the use of film, video, and audio in addition to more traditional teaching materials and methods.

Multi-sensory approach: use of more than one sense when teaching.

Abstract: not relating to concrete objects but expressing something that can only be appreciated intellectually.

Iconic: picture or symbol that is universally recognized to be representative of something.

Audio-visual resources: and thus adapt a definition for this study as combination of resources including people, materials, machines that facilitate the process of learning in education.
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter gives insights on the selection and utilization of learning resources by both the teacher trainees and the tutors. Review of literature is done on the meaning of learning resources, the categories of learning resources, their selection in learning processes, value added by the use of learning resources in learning and their use in learning situations.

2.1 Meaning of learning resources

Learning resources have been described in various ways with no precise definition on what they mean and different terms have been utilized by different authorities to refer to them for instance, instructional materials, instructional technology, learning aids, instructional media or even educational technology. A more practical definition can therefore suggest that, learning resources materials that facilitate learning through the combination of senses such as sight, hearing, touching in which televisions, tape recorders or even films are utilized. Erickson and Curl (1972) notes that, learning resources have not been standardized and may be referred to as instructional resources or even learning resources with same reference being made all the time to refer to learning resources.

According to Ruck and Walton (1975), learning resources are resources that aid in educational learning scenarios. They describe learning resources to include physical resources such as televisions, the tutors, materials, and the environment such as museum and therefore generally describe resources to include all items that are brought in learning to aid understanding of a topic or theme being communicated.

Moreover, Patel and Mukwa (1993), notes that, learning resources as learning materials utilized by tutors in their teaching to pass theories to learners. It is therefore clear that due to lack of taxonomy, various definitions have been advanced to give insight to learning resources. Furthermore, Kemp and Dayton (1985) refer learning resources as instructional materials that serve instructional functions for education and training.

We can therefore deduce that, there is no precise way of defining audio-visual resources and thus adapt a definition for this study as combination of resources including people, materials, machines that facilitate the process of learning in education.
2.2 Categories of learning resources

Despite numerous studies in education sector, no one single study has shed light on clear, comprehensive and detailed taxonomy of learning resources as noted by Unwin & McAleese (1978). Nevertheless, they point out that good classification of resources should be based on functions to bring relevance to learning.

Attempts have been made to categorize learning resources by education technologists, media experts to establish various classes of media resources. Above all, we can use categories such as audio recordings, projected and non-projected resources. Ayot (1984) identifies projected materials to involve sight and aural senses and refers them as audio-visual resources since they rely on the sense of hearing and projection.

Among these resources include television, taped programmes, projector transparencies and all have value for instruction in learning experience. On the other hand, non-projected resources are described by Ayot (1984) to lack projection abilities and refer them as visual resources because of the involvement of the sense of sight. These learning resources include pictures, exhibits, realia, bulletin boards, games and models among others. In colleges, prints are the most common with magazines and newspapers providing current information and specialized reading in various topical issues as noted by Kent (1968).

Dale (1969) categorizes learning resources in three basic classes; visual resources, audio resources, and audio-visual resources. The latter combines the input of the former two. Visual resources utilize the sense of sight and include photographs, posters, pictures, bulletin boards, graphs, slides, transparencies, maps, charts and cards among others. The audio resources use the sense of hearing and include disc recording, radio, sound recording systems and the telephones among others; and finally the audio-visuals include televisions, films, videos, demonstrations.

Furthermore, learning resources are categorized in different media according to Kemp and Dayton (1985). These media include print media, display media, overhead transparencies, audio tape recordings, slides series, motion picture films, computer based instruction, video recordings and multi-image presentations. For the purpose of this study, these resources are categorized according to the Dale’s model of audio, visuals and the audio-visual resources.

2.3 Selection of learning resources

Gerlach and Ely (1971) advise on a five criteria for selection of audio-visual resources. He notes with concern that, appropriateness of a resource must be of essence to impart learning according to
objectives of what is being taught and learned. Gerlach and Ely (1975) advises tutors on choosing the media on the appropriateness as the highest decree of choice of a learning resource. Other criteria noted by the Gerlach and Ely include the availability, the cost involved in acquiring the resource, the technical quality and finally the level of sophistication.

According to Smith and Nigel (1972), none of the resources selected is superior to another. Proper resource selection and utilization thus remains a delicate issue requiring analysis, planning in order to ensure that it aids in imparting knowledge in learning experience. Each resource selected is dependent on the contribution it makes in learning for specific situations. The need for each situation differs from one another; and thus care in the selection and utilization of the resources must be exercised.

Romizwoski (1974) observes that, selection of learning resources is a complex process. Choice on audio-visual resources is a complex decision influenced by a variety of factors and therefore requires a concise plan to be developed on the mode of choosing one over the other. Tutors therefore must define the criteria of choosing the resources in order to ensure the choice made not only drives the topic they are teaching but also enables teacher trainees be able to practice, remember the idea and utilize the same in their subsequent career ahead of them.

These experiences are advocated for by Saunders (1974) who highlights the same with a famous Chinese adage as:

If I hear, I forget;

If I see, I remember;

If I do, I understand.

The choice of audio-visual resource selection is affected by a number of factors according to Wright (1976). The age, interests, type of intelligence, experience of the teacher trainee, the physical circumstance of the lecture hall, the cost and convenience of the resource available is advocated by Wright. However, media and education experts observe the need to overlook some factors such as cost to appropriateness, convenience and the output of each single audio-visual resource chosen.

The tutor is an important audio-visual resource that is arguably indispensable in learning experience. Gatherer et al (1980) notes that, the tutor is the most important audio-visual resource and thus inviting character of an array of learning resources should not overwhelm the tutor. It
remains imperative for prior determination of learning objectives based on the selection of the content and audio-visual resource. Gatherer (1980) states that;

> It is a paradox that these simple resources have always been available but tutors have often neglected such treasures in favor of abstract approach. There is nothing new or particularly unusual about utilizing resource people, community resources, real objects and demonstration but the audio-visuals have been neglected over the years. The creative tutor does not need to rely on large budget to provide excellent instruction.

Harrison (1983) asserts that, when selecting learning resources, tutors must always attempt to choose the resources that are as close to them as possible. A close reference is made to Dale’s cone of experience where it’s noted that experiences closest to the bottom of the cone are closest to the real life situations.

Locatis and Atkinson (1984) on their part outline basics for audio-visual resource selection. They begin with the goal or objective to be achieved to decide on the audio-visual resource to be chosen. Regardless of the cost, time, availability, limitations and strengths, the objective to be achieved should be the baseline in the choice of audio-visual resource. Considerations of the teacher trainees and tutors of the resource chosen were crucial as it has significant impact on the learning process.

Patel (1986) gave basic guidelines in which tutors should follow in selecting the correct audio-visual resource. He notes the need to meet the learning need in the selection of audio-visual resource. This will enable the teacher trainee and the tutor to achieve the goals made from the content. The resource chosen and the utilization should thus meet every possible standard and thus attractive to the teacher trainee and the tutor.

Kimui (1988) observes that, audio-visual aids which require simple production are easy to use and thus tutors who have not gained competence and confidence in handling sophisticated resources are more likely to prefer simple aids such as photos, pictures, maps and globes. The role of the tutor is valuable in selection and thus the need for relevant skills so as to be able to use them appropriately.

Gagne et al (1992), offers a comprehensive model of selecting learning resources in considering logistical factors. Such factors include size of the class, teacher trainee variables, the type of learning outcome desired and the conditions of the learning process. However, this selection criterion is mechanical and has a reducing effect and goes down against the dynamic nature of communication which takes much of the learning process. Since skill development is one of the
objectives of the learning process, choice of audio-visual resources must develop the skills of both teacher trainee and the tutors.

2.4 Value of learning resources

The use of learning resources remains crucial and integral in the learning process. Wittich & Schuller (1962: 430), clarify on the efficiency increased in learning by the use of learning resources by noting that the use of learning resources makes it possible to improve learning efficiency by choosing for lectures audio-visuals which reinforce one another. In fact, Dale (1969) says, today, few if any, educators oppose the use of audio-visual materials in education; we no longer have to prove the case for audio-visual materials in teaching.

Learning processes have been improved and are improved through the use of learning resources that make the learning experience more enjoyable and memorable. Indeed, many learning problems have been solved, partly if not wholly, by the use of learning resources.

Erickson and Curl (1972) affirm that, the use of learning resources stimulate problem solving among teacher trainees. Teacher trainees can learn better and even enjoy learning if they are engaged in significant and appealing learning activities. Through involvement of learning resources, learning becomes easier for them. The authors contend that learning resources offer rich opportunities for teacher trainees to develop their communication skills if engaged in problem solving through projects, individual assignments or even team activities that involve the use of learning resources.

The integration of the use of community resources that make reference to learning resources can contribute richly to the learning process as noted by Gerlach and Ely (1972). They purport that, learning resources are ever present and valuable learning resources. It’s therefore valuable for stakeholders in colleges to ensure investment in availing audio-visual resources to ensure that learning process is made worthwhile with learning resources that enable content to be transferred in a quality manner to teacher trainees who in turn are the future teachers.

According to Walkins (1982), learning resources change the process of retention and thus consequently improve the efficiency of the learning process. Other authors such as Romiszowsksi et al (1974) postulate that, learning resources, when utilized sensitively, attract and hold attention in the learning process. In addition, they supplement verbal information and thus reinforce the verbal communication in learning process.
Learning resources not only contribute in providing concrete experiences but also assist teacher trainees in integrating prior experiences. Molenda and Russell (1985) emphasize that concrete experiences facilitate learning, the acquisition, retention and usability of abstract symbols.

Molenda and Russell (1985) in his study on …?…observed that virtually any institutional setting can become a lecture hall with the aid and dependence upon audio-visual resources. In a lecture hall, the chalkboard no longer serves as the primary mode of illustrations and amplification of ideas. Tapes, records, films, videos, slide series among other materials are utilized singly or in concert to facilitate the learning process. As more resources are utilized, the tutors engage more senses of the teacher trainees.

Indications made by the impressions created by learning resources such as pictures, photographs, among others have been retained by the teacher trainees significantly longer than when only heard or read (Kemp and Dayton 1985: 3.) The direct experiences the teacher trainees encounter lead to deeper understanding of the subject involved. This was concurred by an earlier study by Saunders (1974) who made the observation that, experience is the solid foundation for much of the learning process.

Molenda and Russell (1990) emphasized on multimedia kind of the learning process. The authors noted the combination of different audio-visuals in the learning situation stimulates different sense modalities that lead to better understanding of subject and improved learning due to the use of learning resources.

The presence of learning resources in lecture halls is of paramount importance. Patel and Mukwa (1993: 40) argue that all forms of presentation must make an allowance for a two-way-traffic between the tutor and the teacher trainee. This can only be achieved through the use of learning resources. In reference to Johnson’s study conducted in 1995, audio-visual aids serve to open up channels for communication of information and create a variety of sensory impressions. Therefore more learning takes place with the use of learning resources.

The value of learning resources cannot be over emphasized. They offer rich opportunities to develop communication skills in learning process. They engage actively meaningful problem solving and thus integral part in the learning process.

Moreover, they add concreteness to the learning processes and increase motivation of both the tutor and the teacher trainee. Apart from these, they make the learning experience more enjoyable and memorable thus achieving the goals of the learning process.
2.5 Selection and utilization of learning resources in the learning process in the PTTCs

The Selection and utilization of learning resources in the learning process has been utilized over and over to facilitate achievement of subjects being passed across. Lee (1970) observes that the use of audio-visuals brings situations closer into the lecture setting. The author notes how visual aids help provide contexts otherwise impossible with the use of audio-visual aids.

Audio-visuals are valuable for the tutors and the teacher trainees and more importantly bearing in mind the role played by both in education in the country. For an all-engaging training of the teacher trainees the use of learning resources cannot be overlooked.

Broughton et al (1980) says that any institution which does not provide learning resources makes it unnecessarily hard in achievement of objectives in the subject communicated.

Television, film, videotape, and radio extremely motivate giving practice in understanding subjects. As far as utilization is concerned, there appears to be no specific format. An audio-visual resource may be utilized as a means of achieving instruction or as an object of instruction itself and therefore utilization is situational. Audio-visual resources require knowledge on utilization and each use of the resources must be guided by the principle of learning and knowledge (Locatis and Atkinson 1984).

2.6 Related studies on learning resources

Studies of learning resources in the country and elsewhere have indicated the extent to which these resources have been utilized in the learning process. In the survey of learning resources, the relevance of the same has been well documented.

Mueni’s (1999: 346-348) study on methods and materials utilized in teaching history and government in secondary schools established there was a wide range of resources which could be utilized in learning of the subject such as realia, graphic materials, audios. Nevertheless, most of these resources were inadequate in terms of quality and quantity which hampered their use. The study indicated that most teachers did not recognize the potential of community based resources such as field trips and therefore were rarely utilized. In addition, she noted that the resources were of poor quality while others were not properly maintained.

Kinyanjui’s (1997: 81-86) study on the availability and utilization of learning resources in teaching physical education in Primary Teacher’s Colleges revealed that despite media availability, only the chalkboard, textbooks and handouts were extensively utilized for teaching the subject. The other
available media were either utilized at a low level or not utilized at all due to lack of time to adapt their use in an already crowded education system. Thus, selection and utilization of learning resources remains of essence in the learning process.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter addressed itself to the following sections: study design, description of sample, sampling procedures, instruments for collecting data, pilot study, data collection procedures and lastly methods that were utilized in the analysis and presentation of data.

3.1 Study design

The study being a descriptive survey was qualitative and quantitative. A descriptive survey attempts to describe characteristics of subjects or phenomena, opinions, attitudes, preferences and perceptions of persons of interest to the researcher (Borg, 1982). Moreover, a descriptive survey aims at obtaining information from a representative selection of the population and from that sample the researcher was able to present the findings as being representative of the population as a whole (Bell, 1993).

3.2 Study location

This study was conducted in selected Primary Teachers’ Training Colleges. These colleges included Thogoto, Kilimambogo and Murang’a Primary Teachers’ Training Colleges. A pilot study was conducted at Machakos Primary Teachers’ Training College to test the research instruments, which were utilized.

Machakos Primary Teachers’ Training College (MPTTC) is about sixty-seven kilometers from Nairobi and in Machakos town while Kilimambogo Primary Teachers’ Training College (KPTTC) is about sixty five kilometers from Nairobi. It is within close proximity to Thika town with Murang’a Primary Teachers’ College (MPTTC) only fifty kilometers from Nairobi city. Thogoto Primary Teachers’ Training College (TPTTC) is in Kabete district approximately twenty kilometers from Nairobi and thus all the study locations were easily accessible to the researcher.

3.3 Research population

The research population for this study comprised of the tutors and the teacher trainees in the selected PTTCs. It was from these that the researcher generalized the findings of the study. In Kenya we have eighteen Public Teachers’ Training Colleges and thirteen Private Teachers’ Training Colleges according to the Ministry of Education, department of Adult Education report on
Primary Teacher Training (2009:15). For the purpose of this study, the researcher did not include Private Teachers’ Training Colleges due to the following reasons.

1. Private PTTCs use untrained tutors to handle their teacher trainees thus this may affect the outcome of the research {Ministry of Education, department of Adult Education report on Primary Teachers’ Training (2009:18-20)}.

2. Private PTTCs have private means of funding their programmes despite the fees paid by the teacher trainees unlike public which are state owned and rely heavily on funds from fees paid by the teacher trainees and minimal government grants which are rarely given, thus this makes the private colleges have more learning resources than their public competitors.

3. Public and private PTTCs have different management and thus different organizational styles.

The respondents in this study were selected from the three PTTCs, that is, ten out of seventy nine (79) tutors from Kilimambogo PTTC, ten out of fifty six (56) tutors from Thogoto PTTC and ten out of sixty four (64) tutors from Murang’a PTTC from five different subject areas, totaling to a sample of thirty (30) tutors. The teacher trainees sampled included forty (40) second years out of three hundred and twenty (320) from Kilimambogo PTTC, forty (40) out of three hundred and forty seven (347) from Murang’a PTTC and forty (40) out of two hundred and ninety (290) from Thogoto PTTC. This gave a sample size of thirty (30) tutors and one hundred and twenty (120) teacher trainees.

3.4 Sampling procedure

The study was conducted in three Public PTTCs as identified above in the study location. In Kenya, we have only eighteen public PTTCs and out of the number the researcher identified three. These PTTCs accounted for 17% of the public PTTCs and thus made the study representative. According to Ary et al (1972), ten to twenty (10 – 20) percent of accessible population is considered adequate in descriptive research. Since this was a descriptive study, 17 % of the accessible population was considered adequate.

Two methods were used to select the PTTCs namely; convenience sampling technique and purposive sampling technique. Firstly, the convenience sampling technique was used to select the number of PTTCs which were used in the study subject. The advantage of convenience sampling lies primarily in the economy of gathering data from a group with diverse characteristics in shorter time and further gives the researcher an advantage in that he/she chooses the samples in terms of
convenience (Hall 1967). This sampling technique was appropriate because it helped in the analysis of the sampled thirty (30) tutors and one hundred and twenty (120) teacher trainees.

Secondly, the researcher used purposive sampling technique to select the respondents. According to Gall, et al. (1996), the purposive sampling method is useful when there are reasons to limit the sample to cases that are likely to be “information rich” with respect to the purpose of the study. Purposive sampling technique suited this study in that it gave the researcher room to build up a sample that was specific to the needs of the study.

Table 3.1: Sampling grid

<table>
<thead>
<tr>
<th>Primary Teachers’ Training College</th>
<th>Tutors</th>
<th>Teacher trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample</td>
<td>Population</td>
</tr>
<tr>
<td>Kilimambogo</td>
<td>10</td>
<td>79</td>
</tr>
<tr>
<td>Thogoto</td>
<td>10</td>
<td>56</td>
</tr>
<tr>
<td>Murang’a</td>
<td>10</td>
<td>64</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>30</strong></td>
<td><strong>199</strong></td>
</tr>
</tbody>
</table>

*Note: The teacher trainees in the study were all second years*

### 3.5 Research instruments

The instruments for this study were constructed according to the purpose and objectives of the study. Since it was a qualitative and quantitative study, a multi technique approach was adopted in order to obtain a holistic/total view of the research unit (Mwiria and Wamahiu, 1995: 119). This study thus employed the use of interviews, checklists, questionnaires and focus group discussion (FGD) where it was an optimal strategy to use a variety of instruments (Travers 1973). The researcher utilized the instruments to complement each other in order to bridge the gap that might have been left out by one of the instruments.

#### 3.5.1 Interviews

Interviews are important part of any research action as they provide opportunity for the researcher to investigate further and gather data that could not have been obtained in other ways (Cunningham 1993). For this study, interview schedule enabled the researcher to ask for opinions and got first hand information through formally structured questions for the purpose and objectives of the study. This method enabled the researcher to supplement information that was omitted by use of other research instruments.

The instrument was convenient for this study because it made it easier for the researcher to analyze, compute and tabulate the results of the study. Therefore, interview schedule was constructed for the
tutors in the PTTCs. The limitations associated with the interviews such as overlooking the respondents were checked by ensuring that objectives were checked throughout the study period.

3.5.2 Checklist

For this study, the researcher prepared an observational checklist on the available learning resource materials in the selected PTTCs. To some extent, the researcher utilized the checklist to confirm the information obtained through the use of other study instruments. This checklist contained all the possible learning resources probably utilized in the PTTCs selected for the study. The possible learning resources were searched in the internet and a comparison of what is utilized locally in Kenyan PTTCs and what is utilized elsewhere in the world was made.

3.5.3 Questionnaires

Questionnaires were the main instruments for this study. Two questionnaires were utilized. One was designed for the sampled thirty (30) tutors and one hundred and twenty (120) teacher trainees. In the questionnaires, both open ended and closed ended questions were included to ensure the study was in line with its objectives and purpose.

According to Kothari (1990), questionnaires are cost effective, give freedom to the respondents from interviewer’s bias and thus more objective results from the study. Moreover, questionnaires preserved the anonymity of the respondents.

3.5.4 Focused group discussion

To express reality and describe people in their natural setting, focus group discussion was the way forward. Since this study was qualitative and quantitative, involvement of people in this case, the tutors and the teacher trainees were encouraged (Lewis, 2000).

Very sensitive information can be obtained through focused group discussion and the researcher sought to come up with reliable information. That was the reason why the study was based on objectives.

3.6 Piloting

A pilot study was conducted in order to test the instruments for collecting data mentioned earlier. Machakos PTTC was selected for piloting purpose. The institution was easily accessible by the researcher. The researcher administered the research instruments to randomly selected lectures for the piloting PTTC selected. The piloting of the study instruments enabled the researcher to validate,
refine and correct the research instruments by making changes based on the observation made during the piloting stage.

3.7 Validity and reliability

The researcher employed test-retest technique to test the instruments of research namely the questionnaires. The test-retest method was utilized to test the developed questionnaires and was given to ten tutors and forty teacher trainees in Machakos PTTC. The questionnaires were answered manually while keeping all the conditions constant. The same questionnaires were administered to the same group after two weeks. A Pearson’s product moment formula for the test-retest was employed. The correlation coefficient of about 0.8 was considered high enough to judge the instruments as reliable for the study (Kombo and Tromp, 2006.)

The researcher utilized content validity to measure the correctness or relevance of the study instruments. The instruments were given to two groups of experts to assess what concepts determined whether the set items accurately represented the concepts under study in the norm that the usual procedure in assessing content validity of a measure. (Mugenda and Mugenda, 1999: 102.)

3.8 Data collection procedure

The researcher applied for research permit from the Ministry of Education to be authorized to carry out the study in the selected PTTCs. Moreover, the researcher visited the selected PTTCs and identified himself to the principals of the colleges and sought permission to be allowed to conduct the study in their institutions.

The researcher with the aid of a guide or research assistant organized for appropriate dates and visited the PTTCs and met their administrators for appropriate measures that were meant for the researcher to gather data.

Interviews were held in different sessions with the selected group under the study, that is, the tutors and the teacher trainees in the selected PTTCs. That enabled each group to give information freely without any fear of victimization since it happened in their offices away from their administrators’ presence.

The checklist was utilized concurrently with other research instruments to check the availability of possible learning resources. At times, to ensure their use in lecture sessions, the researcher’s assistant attended minimal lecture schedules and gathered first hand information on the use of learning resources available and how they were utilized in the selected institutions.
It was worth noting that the questionnaires were the main research instruments utilized in the study. The researcher explained the purpose of the study to the both groups under study. For the tutors’ questionnaires, the researcher administered them in their staff rooms; questionnaires for the deans were by deans of curriculum activities organized through request by the researcher. In each PTTC, the researcher utilized ten (10) questionnaires for the tutors and forty (40) questionnaires for the teacher trainees. The teacher trainees’ questionnaires were issued to five different tutors of different subject areas who aided the researcher to collect data and collected them after the lecture sessions in each PTTC. It was during this time that the checklists were utilized in some of the lecture sessions to check the availability and utilization of learning resources.

The fourth instrument, Focus Group Discussion was purposive. The tutors involved in FGD were those with experience spanning between ten (10) and fifteen (15) years experience.

3.9 Data analysis

Since this study was descriptive, the data collected through the research instruments utilized, was analyzed using frequencies and percentages.
CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents the data analysis according to the researcher’s specific objectives. The purpose of the study was to investigate the criteria utilized and challenges faced by the tutors and the teacher trainees in the selection and utilization of learning resources in three selected Primary Teachers’ Training Colleges in Kenya. The research objectives formulated the indicators which both the tutors and the teacher trainees select and utilize. The study also sought to establish the extent of the selection and utilization of learning resources in the improvement of academic quality results in Primary Teachers’ Training Colleges.

Data was collected utilizing interview schedules with the tutors and the teacher trainees separately to give each of them independence and confidence in highlighting important parameters of the study. Moreover, the researcher employed checklist in the study in identification of available learning resources in the selected colleges, their adequacy and accessibility in learning sessions. Questionnaires designed for the tutors and the teacher trainees were utilized by the researcher to determine the selection criteria for and frequency of the use of learning resources during teacher training and in citing challenges faced in the selection and utilization of learning resources while singling out what enhances the same. Data gathered was analyzed and presented in tables in form of frequencies and percentages.

4.1 Tutors’ and teacher trainees’ biographical information

4.1.1 Tutors’ age

The researcher’s biographical information on the tutors, sought their gender, age, professional, academic attainment and their experience in teacher training while the teacher trainees’ information was to establish their year of teacher training.

The researcher sampled the tutors and the teacher trainees from the three selected Primary Teachers’ Training Colleges (PTTCs) as; thirty (30) tutors, one hundred and twenty (120) teacher trainees; making a total sample of one hundred and fifty (150) respondents. The gender was equally distributed into fifty percent males and fifty percent females.
The researcher thus came up with a table in which the respondents would tick appropriately in blank boxes as prepared in the questionnaire. The age distribution data gathered was presented in Table 4.1.

Table 4.1: Tutors’ age

<table>
<thead>
<tr>
<th>Age bracket</th>
<th>Frequency/No</th>
<th>Gender</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td></td>
</tr>
<tr>
<td>36-40 years</td>
<td>9</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>31-35 years</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>= &gt;41 years</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>25-30 years</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>&lt; =24 years</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

Key: < Below, = = equal to or less than, > Above, = > equal to or greater than

According to the findings in Table 4.1, a majority of fifty seven percent (57%) of the tutors both the males and the females were aged above thirty one years. A relatively significant figure of twenty percent (20%) was aged above forty one years and a small proportion thirteen percent (13%) of them were aged between twenty five and thirty years. Those aged twenty four years and below constituted ten percent (10%).

As for the teacher trainees, the researcher interrogated second year students only, whose ages were not considered by the researcher as crucial towards the study’s objectives.

4.1.2 Tutors’ qualifications

In order to achieve the objectives of the study and bring all the parameters revolving around the selection and utilization of learning resources, the researcher sought to gather data regarding the tutors’ academic and professional qualifications. Therefore, the researcher prepared a table in which the tutors would tick the appropriate qualification as per the blank boxes in the questionnaire.

Table 4.2: Tutors’ qualifications

<table>
<thead>
<tr>
<th>Academic &amp; professional qualification</th>
<th>Number/ Frequency</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Ed</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>B.A. &amp; PGDE</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>B. Sc &amp; PGDE</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>M. Ed</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Diploma</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>B.A untrained</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>B.Sc untrained</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Totals</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

Key: M. Ed. - Masters in Education
Findings in Table 4.2 indicated that a significant thirty three percent (33%) of the tutors were B.Ed. graduates whereas Post Graduate Diploma in Education in both Arts and Sciences formed a significant number of twenty percent (20%) and seventeen percent (17%) respectively of the tutors’ population sampled. The M.Ed. graduates formed only ten percent (10%) of the population sampled. Diploma in Teacher Education graduate tutors as well formed only ten percent (10%) with most of them enrolled for B.Ed. training in various universities to upgrade their skills.

4.1.3 Tutors’ teaching experience

Teaching experience depends on the number of years a tutor has taught. The researcher sought to determine the years of service the tutors had in their teaching. In this regard, the researcher through the use of questionnaires and interview schedules sought to gather data on tutors’ teaching experience. This data was presented in Table 4.3.

<table>
<thead>
<tr>
<th>Teaching experience</th>
<th>Frequency</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=10 years</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>6-9 years</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>3-5 years</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>1-2 years</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>

Key:  
< less than  
>=equal to or more than

According to Table 4.3 above, a significant number sixty percent (60%) of the tutors had an experience of six years and above. The tutors whose teaching experience lied between three years to five years were twenty percent (20%). Moreover those in the category of one to two years were thirteen percent (13%). However, a minority of seven percent (7%) fell in the category of less than a year. These findings showed that the teaching experience of the tutors corresponded with their ages as in Table 4.3 above.
4.2 Availability of learning resources in the PTTCs

In this section, the researcher set out to investigate the available learning resources in the PTTCs. Learning resources play a key role in the teacher training colleges in delivery of content as noted by Wringe (1995) on their effect of motivating both the tutors and the learners in addition to making the learning experience productive and interesting.

In view of this, the researcher therefore intended to find out the available learning resources in the PTTCs. This was achieved through the use of a checklist which was one of the research instruments employed in gathering the data. The researcher prepared a checklist in which the respondents indicated the available learning resources in their PTTCs. In addition, during the observation schedules in the course of the study, the researcher was able to identify the available learning resources. The data gathered regarding those learning resources was presented in Table 4.4, Table 4.5, and Table 4.6.

4.2.1 Print learning resources

The researcher was able to identify the available print learning resources in PTTCs, and found that a few learning resources existed but inadequate. The learning resources were available as follows: eight (8), six (6) five (5), three (3), three (3) copies in the order as stated in Table 4.4.

<table>
<thead>
<tr>
<th>Print learning resource</th>
<th>Availability on average</th>
<th>Adequacy</th>
<th>Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbooks</td>
<td>8</td>
<td>IN</td>
<td>UL</td>
</tr>
<tr>
<td>Pamphlets</td>
<td>6</td>
<td>IN</td>
<td>UL</td>
</tr>
<tr>
<td>Programmed materials</td>
<td>5</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Newspapers</td>
<td>3</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Encyclopedia</td>
<td>3</td>
<td>IN</td>
<td>UL</td>
</tr>
</tbody>
</table>

Key: UL- Unlimited         IN- inadequate
L- Limited                  A- Adequate

Textbooks were found to be on an average of eight (8) in a class of forty five (45) teacher trainees per PTTC. Newspapers were found to be *The Daily Nation, The Standard* and *Taifa Leo* as the popular dailies, three (3) copies per PTTC were available. One copy was in the principal’s office, one in the staffroom for the tutors and another one in the learning resource center. Programmed learning resources as well as encyclopedias and pamphlets were all found to be kept in the learning resource center.
4.2.2 Display learning resources

The findings showed that the display learning resources were available and accessible but they were inadequate. In this case, there were thirty (30) realia, twenty (20) specimens, ten (10) charts, (10) flashcards, ten (10) cartoons, seven (7) models, five (5) flannel boards, five (5) graphs, and four (4) chalkboards per PTTC on average as per the Table 4.5

Table 4.5: Display learning resources available per PTTC

<table>
<thead>
<tr>
<th>Display learning resources</th>
<th>Availability on average</th>
<th>Adequacy</th>
<th>Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realia</td>
<td>30</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Specimens</td>
<td>20</td>
<td>A</td>
<td>UL</td>
</tr>
<tr>
<td>Charts</td>
<td>10</td>
<td>A</td>
<td>UL</td>
</tr>
<tr>
<td>Flashcards</td>
<td>10</td>
<td>A</td>
<td>UL</td>
</tr>
<tr>
<td>Cartoons</td>
<td>10</td>
<td>A</td>
<td>UL</td>
</tr>
<tr>
<td>Models</td>
<td>7</td>
<td>A</td>
<td>L</td>
</tr>
<tr>
<td>Flannel boards</td>
<td>5</td>
<td>A</td>
<td>UL</td>
</tr>
<tr>
<td>Graphs</td>
<td>5</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Chalkboards</td>
<td>4</td>
<td>A</td>
<td>UL</td>
</tr>
</tbody>
</table>

Key: UL- Unlimited          IN- inadequate
L - Limited                A- Adequate

4.2.3 Audio-visual learning resources

The researcher also discovered that all the three PTTCs selected for this study, audio-visual learning resources were available but inadequate. In all the selected colleges for study, computers were found to be seventeen (17), films five (5), televisions three (3), radios two (2), record players, two (2), overhead slides two (2), video tape recorders, two (2), radio cassettes, one (1), cameras, one (1), film projectors, one (1), and LCDs, one (1) per PTTC on average as per Table 4.6.

Table 4.6: Audio-visual learning resources available per PTTC

<table>
<thead>
<tr>
<th>Audio-visual learning resources</th>
<th>Availability on average</th>
<th>Adequacy</th>
<th>Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers</td>
<td>17</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Films</td>
<td>5</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Television</td>
<td>3</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Radio</td>
<td>2</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Record players</td>
<td>2</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Overhead slides</td>
<td>2</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Video tape recorders</td>
<td>2</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Radio cassettes</td>
<td>1</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Cameras</td>
<td>1</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>Film projectors</td>
<td>1</td>
<td>IN</td>
<td>L</td>
</tr>
<tr>
<td>LCDs</td>
<td>1</td>
<td>IN</td>
<td>L</td>
</tr>
</tbody>
</table>

Key: N- inadequate          L - Limited          A- Adequate

Note: Table 4.6, above was an average of learning resources found to be available across the three selected PTTCs.
Consequently, due to the inadequate number of the learning resources available, the managers of the PTTCs have designed a program to control the selection and utilization of these learning resources.

According to Court et al (1985), necessity to improve the quality of education through the use of learning resources is pertinent in training of the teacher trainees since they are the future teachers in our education system. In addition, the researcher sought responses on frequency of use of the learning resources at the disposal of the tutors and the teacher trainees. The suggested learning resources in the checklist were available but the numbers were inadequate. For instance, computers, films, televisions, radios, record players, overhead slides, video tape recorders, radio cassettes, cameras, film projectors, LCDs, among others, were inadequate in relation to the population of both the tutors and the teacher trainees. It was worth noting that the learning resources that were available at these Primary Teachers’ Training Colleges were supposed to be the reference materials and at the same time the tutors’ guides in making their teaching notes. Moreover, the accessibility of the resources as indicated in Tables 4.4, 4.5 and 4.6 was of great concern to the researcher. According to the respondents, almost all the audio-visual resources were inaccessible to them since their access was entirely controlled by the learning resource centers in their colleges.

4.3 The role and criteria for the selection and utilization of learning resources

In order to be able to select and properly utilize learning resources, it is of essence to appreciate the role and criteria for the selection and utilization of learning resources.

4.3.1 The role of the learning resources

In this view, the researcher sought to establish the importance attached by the tutors and the teacher trainees to learning resources. According to the responses obtained by the researcher, it is worth noting that learning resources are of great value in learning experiences. Earlier observation by Saunders (1974) concurs with the response that learning resources are ideally crucial in retaining what students learnt during the teacher training.

The researcher established that, solid foundation in learning process was built by selection and utilization of learning resources. Therefore, the researcher came up with the following hierarchy of importance of learning resources: stimulating problem solving skills, improving learning efficiency, improve retention process and providing concrete experiences. Table 4.7a and Table 4.7b were used to plot the data.
The researcher established that, seventy percent (70%), of the tutors indicated that learning resources played key roles in stimulating problem solving skills during training. Sixty four percent (64%) of the tutors were of the view that learning resources improve learning efficiency. Fifty four percent (54%) of the tutors showed that learning resources were important in improving retention process and fifty percent (50%) of the tutors pointed out that, learning resources provided concrete experiences during teacher training.

The researcher also established that, seventy eight percent (78%) of the teacher trainees indicated that learning resources played key roles in stimulating problem solving skills during training. Sixty seven percent (67%) of the teacher trainees were of the view that learning resources improve learning efficiency. Sixty two percent (62%) of the teacher trainees showed that learning resources were important in improving retention process and fifty eight percent (58%) of the teacher trainees pointed out that, learning resources provided concrete experiences during teacher training.

4.3.2 Criteria for the selection and utilization of learning resources

The researcher sought to establish the criteria for the selection and utilization of learning resources. Respondents were requested to indicate the parameters they had in mind in selection and utilization of learning resources their lecture sessions. According to the responses gathered by the researcher in Table 4.8a and Table 4.8b the priorities in the selection and utilization of learning resources for a particular lecture session were shown.
Table 4.8a: Criteria for the selection and utilization: tutors’ responses

<table>
<thead>
<tr>
<th>Factor</th>
<th>Tutors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (30)</td>
</tr>
<tr>
<td>lesson objectives</td>
<td>29</td>
</tr>
<tr>
<td>Availability of the resources</td>
<td>20</td>
</tr>
<tr>
<td>Length of the lectures</td>
<td>19</td>
</tr>
<tr>
<td>Usefulness of the resources</td>
<td>16</td>
</tr>
<tr>
<td>Size of the class</td>
<td>15</td>
</tr>
<tr>
<td>Accessibility of resources</td>
<td>13</td>
</tr>
</tbody>
</table>

The researcher deduced that ninety seven percent (97%) of the tutors’ responses showed that the lesson objective(s) helped in the selection and utilization of learning resources.

Secondly, the researcher established that sixty seven percent (67%) of the tutors’ responses on availability of learning resources were crucial in the selection and utilization of learning resources.

Thirdly, sixty four percent (64%) of the tutors’ responses obtained indicated that the length of the tutorial session influenced the selection and utilization of learning resources.

Fourthly, fifty four percent (54%) of the tutors’ responses indicated that usefulness of the learning resources determined the selection and utilization of learning resources.

In addition, the size of the class influenced the selection and utilization of learning resources. This was shown by fifty percent (50%) of the tutors’ responses garnered.

Lastly, according to the responses gathered by the researcher, forty four percent (44%) of the tutors’ responses attributed accessibility of the learning resources to selection and utilization of learning resources.

Table 4.8b: Criteria for the selection and utilization: teacher trainees’ responses

<table>
<thead>
<tr>
<th>Factor</th>
<th>Teacher trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (120)</td>
</tr>
<tr>
<td>lesson objectives</td>
<td>107</td>
</tr>
<tr>
<td>Availability of the resources</td>
<td>88</td>
</tr>
<tr>
<td>Size of the class</td>
<td>79</td>
</tr>
<tr>
<td>Accessibility of resources</td>
<td>61</td>
</tr>
<tr>
<td>Length of the lectures</td>
<td>54</td>
</tr>
<tr>
<td>Usefulness of the resources</td>
<td>40</td>
</tr>
</tbody>
</table>

The researcher also deduced that ninety percent (90%) of the teacher trainees’ responses showed that the lesson objective(s) helped in the selection and utilization of learning resources.

Secondly, the researcher established that seventy four percent (74%) of the teacher trainees’ responses on availability of learning resources were crucial in the selection and utilization of learning resources.
Thirdly, sixty six percent (66%) of the teacher trainees’ responses obtained indicated that the length of the tutorial session influenced the selection and utilization of learning resources.

Fourthly, fifty one percent (51%) of the teacher trainees’ responses indicated that usefulness of the learning resources determined the selection and utilization of learning resources.

In addition, the size of the class influenced the selection and utilization of learning resources. This was shown by forty five percent (45%) of the teacher trainees’ responses garnered.

Lastly, according to the responses gathered by the researcher, thirty four percent (34%) of the teacher trainees’ responses attributed accessibility of the learning resources to selection and utilization of learning resources.

### 4.3.3 Selection and utilization rates

In this section, the researcher intended to shed light on the criteria for the selection and utilization of learning resources by both the tutors and the teacher trainees. In this case the researcher utilized frequently, occasionally, rarely and never to determine the selection and utilization rate of the learning resources by both the tutors and the teacher trainees. The parameters of selection depended on the availability of the resources. Programmed materials such as curricula, syllabuses, academic calendars and teaching methodology booklets were necessary. Others like pamphlets: fliers given by ministries, KIE, booksellers and publishers have topical issues such as HIV/AIDs, drugs and drug abuse, school enrolment and drop out rates. Charts and graphs were adequately and frequently utilized. Realia were selected and occasionally utilized. Flashcards were also utilized. Film projectors were realized to have been replaced by the LCDs. Record players were as well utilized.

#### 4.3.3.1 Print learning resources: selection and utilization rates

Print learning resources were found to be available but inadequate and with accessibility controlled because of their number. Table 4.9a and Table 4.9b were used to tabulate the collected data.

**Table 4.9a: Print learning resources: tutors’ selection and utilization**

<table>
<thead>
<tr>
<th>Print learning resource</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
<th>F(30)</th>
<th>%</th>
<th>F(30)</th>
<th>%</th>
<th>F(30)</th>
<th>%</th>
<th>F(30)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbooks</td>
<td>23</td>
<td>77</td>
<td>14</td>
<td>47</td>
<td>5</td>
<td>20</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pamphlets</td>
<td>20</td>
<td>67</td>
<td>17</td>
<td>57</td>
<td>13</td>
<td>44</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programmed materials</td>
<td>17</td>
<td>57</td>
<td>15</td>
<td>50</td>
<td>12</td>
<td>40</td>
<td>2</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encyclopedia</td>
<td>16</td>
<td>54</td>
<td>13</td>
<td>44</td>
<td>7</td>
<td>24</td>
<td>4</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspapers</td>
<td>4</td>
<td>14</td>
<td>9</td>
<td>30</td>
<td>13</td>
<td>44</td>
<td>14</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key:**
- F - frequency
- % - percentage
Seventy seven percent (77%) of the tutors frequently, as well as, forty seven percent (47%) of the tutors occasionally selected and utilized textbooks. However, twenty percent (20%) of the tutors rarely, as well as, four percent (4%) of the tutors’ never selected and utilized textbooks.

Sixty seven percent (67%) of the tutors frequently, as well as, fifty seven percent (57%) of the tutors occasionally selected and utilized pamphlets. However, forty four percent (44%) of the tutors rarely selected and utilized pamphlets. On the contrary these respondents never selected and utilized pamphlets.

Fifty seven percent (57%) of the tutors frequently, as well as, fifty percent (50%) of the tutors occasionally selected and utilized programmed materials. However, forty percent (40%) of the tutors rarely, as well as, seven percent (7%) of the tutors never selected and utilized programmed materials.

Fifty four percent (54%) of the tutors frequently, as well as, forty four percent (44%) of the tutors occasionally selected and utilized encyclopedia. However, twenty four percent (24%) of the tutors rarely, as well as, fourteen percent (14%) of the tutors never selected and utilized encyclopedia.

Fourteen percent (14%) of the tutors frequently, as well as, forty seven percent (47%) of the tutors occasionally selected and utilized newspapers. However, forty four percent (44%) of the tutors rarely, as well as, forty seven percent (47%) of the tutors never selected and utilized the newspapers.

<table>
<thead>
<tr>
<th>Print learning resource</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(120)</td>
<td>%</td>
<td>F(120)</td>
<td>%</td>
</tr>
<tr>
<td>Textbooks</td>
<td>95</td>
<td>80</td>
<td>70</td>
<td>59</td>
</tr>
<tr>
<td>Programmed materials</td>
<td>67</td>
<td>59</td>
<td>62</td>
<td>52</td>
</tr>
<tr>
<td>Encyclopedia</td>
<td>55</td>
<td>49</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>Pamphlets</td>
<td>51</td>
<td>43</td>
<td>39</td>
<td>33</td>
</tr>
<tr>
<td>Newspapers</td>
<td>18</td>
<td>15</td>
<td>37</td>
<td>31</td>
</tr>
</tbody>
</table>

Key:  
F - frequency  
% - percentage

Eighty percent (80%) of the teacher trainees’ frequently, as well as, fifty nine percent (59%) of the teacher trainees’ occasionally selected and utilized textbooks. However, thirty eight percent (38%)
of the teacher trainees’ rarely, as well as, twenty percent (20%) of the teacher trainees’ never selected and utilized textbooks.

Fifty nine percent (59%) of the teacher trainees’ frequently, as well as, fifty two percent (52%) of the teacher trainees’ occasionally selected and utilized programmed materials. However, thirty five percent (35%) of the teacher trainees’ rarely, as well as, seven percent (7%) of the teacher trainees’ never selected and utilized programmed materials.

Forty nine percent (49%) of the teacher trainees’ frequently, as well as, thirty nine percent (39%) of the teacher trainees occasionally selected and utilized encyclopedia. However, eighteen percent (18%) of the teacher trainees’ rarely, as well as, nine percent (9%) of the teacher trainees’ never selected and utilized encyclopedia.

Forty three percent (43%) of the teacher trainees’ frequently, as well as, thirty three percent (33%) of the teacher trainees’ occasionally selected and utilized pamphlets. However, six percent (6%) of the teacher trainees’ rarely never selected and utilized pamphlets. On the contrary these respondents never selected and utilized pamphlets.

Fifteen percent (15%) of the teacher trainees’ frequently, as well as, thirty one percent (31%) of the teacher trainees occasionally selected and utilized newspapers. However, thirty eight percent (38%) of the teacher trainees’ rarely, as well as, sixty three percent (63%) of the teacher trainees’ never selected and utilized the newspapers.

4.3.3.2 Display learning resources: selection and utilization rates

Display learning resources were found to be available but inadequate and with accessibility controlled because of their number. Table 4.10a and Table 4.10b were used to tabulate the collected data. Interpretation of the tables was done simultaneously.

Table 4.10a: Display learning resources: tutors’ selection and utilization

<table>
<thead>
<tr>
<th>Display learning resource</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (30) %</td>
<td>F (30) %</td>
<td>F (30) %</td>
<td>F(30) %</td>
</tr>
<tr>
<td>Chalkboards</td>
<td>29 97</td>
<td>25 84</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Charts</td>
<td>27 90</td>
<td>17 57</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Graphs</td>
<td>24 80</td>
<td>19 64</td>
<td>7 24</td>
<td>0 0</td>
</tr>
<tr>
<td>Specimens</td>
<td>22 74</td>
<td>7 24</td>
<td>3 10</td>
<td>0 0</td>
</tr>
<tr>
<td>Flashcards</td>
<td>21 70</td>
<td>19 64</td>
<td>3 10</td>
<td>0 0</td>
</tr>
<tr>
<td>Realia</td>
<td>20 67</td>
<td>11 37</td>
<td>4 14</td>
<td>0 0</td>
</tr>
<tr>
<td>Models</td>
<td>17 57</td>
<td>11 37</td>
<td>8 27</td>
<td>2 7</td>
</tr>
<tr>
<td>Cartoons</td>
<td>3 10</td>
<td>5 17</td>
<td>7 24</td>
<td>8 27</td>
</tr>
<tr>
<td>Flannel boards</td>
<td>0 0</td>
<td>0 0</td>
<td>11 37</td>
<td>28 94</td>
</tr>
</tbody>
</table>
The researcher found out that the most widely utilized type of learning resources were display. The respondents convincingly showed extensive use of display learning resources for instance; ninety seven percent (97%) of the tutors frequently, as well as, eighty four percent (84%) of the tutors occasionally selected and utilized chalkboards as display learning resources. However, none of the tutors rarely selected, as well as, none of the tutors never selected and utilized chalkboards as display learning resources.

Ninety percent (90%) of the tutors frequently, as well as, fifty seven percent (57%) of the tutors occasionally selected and utilized charts as display learning resources. However, none of the tutors rarely selected, as well as, none of the tutors never selected and utilized charts as display learning resources.

Eighty percent (80%) of the tutors frequently, as well as, sixty four percent (64%) of the tutors occasionally selected and utilized graphs as display learning resources. However, twenty four percent (24%) of the tutors rarely, as well as, none of the tutors never selected and utilized graphs as display learning resources.

Seventy four percent (74%) of the tutors frequently, as well as, twenty four percent (24%) of the tutors occasionally selected and utilized specimens as display learning resources. However, ten percent (10%) of the tutors rarely, as well as, none of the tutors never selected and utilized specimens as display learning resources.

Seventy percent (70%) of the tutors frequently, as well as, sixty four percent (64%) of the tutors occasionally selected and utilized flashcards as display learning resources. However, ten percent (10%) of the tutors rarely, as well as, none of the tutors never selected and utilized flashcards as display learning resources.

Sixty seven percent (67%) of the tutors frequently, as well as, thirty seven percent (37%) of the tutors occasionally selected and utilized realia as display learning resources. However, fourteen percent (14%) of the tutors rarely, as well as, none of the tutors never selected and utilized realia as display learning resources.

Fifty four percent (54%) of the tutors frequently, as well as, thirty seven percent (37%) of the tutors occasionally selected and utilized models as display learning resources. However, twenty seven percent (27%) of the tutors rarely, as well as, seventy percent (70%) of the tutors never selected and utilized models as display learning resources.
Ten percent (10%) of the tutors frequently, as well as, seventeen percent (17%) of the tutors occasionally selected and utilized cartoons as display learning resources. However, twenty four percent (24%) of the tutors rarely, as well as, twenty seven (27%) of the tutors never selected and utilized cartoons as display learning resources.

None of the tutors frequently, as well as, none of the tutors occasionally selected and utilized flannel boards as display learning resources. However, thirty seven percent (37%) of the tutors rarely, as well as, ninety four (94%) of the tutors never selected and utilized flannel boards as display learning resources.

The respondents also convincingly showed extensive use of display learning resources for instance; ninety eight percent (98%) of the teacher trainees frequently, as well as, three percent (3%) of the teacher trainees occasionally selected and utilized chalkboards as display learning resources. However, none of the teacher trainees rarely selected, as well as, none of the teacher trainees never selected and utilized chalkboards as display learning resources.

Eighty five percent (85%) of the teacher trainees frequently, as well as, eleven percent (11%) of the teacher trainees occasionally selected and utilized charts as display learning resources. However, none of the teacher trainees rarely selected, as well as, none of the teacher trainees never selected and utilized charts as display learning resources.

Seventy five percent (75%) of the teacher trainees frequently, as well as, eight percent (8%) of the teacher trainees’ occasionally selected and utilized graphs as display learning resources. However, none of the teacher trainees rarely, as well as, none of the teacher trainees never selected and utilized graphs as display learning resources.

Seventy percent (70%) of the teacher trainees frequently, as well as, forty one percent (41%) of the teacher trainees occasionally selected and utilized specimens as display learning resources.

Table 4.10b: Display learning resources: teacher trainees’ selection and utilization

<table>
<thead>
<tr>
<th>Display learning resource</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(120)</td>
<td>%</td>
<td>F(120)</td>
<td>%</td>
</tr>
<tr>
<td>Chalkboards</td>
<td>117</td>
<td>98</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Charts</td>
<td>102</td>
<td>85</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Graphs</td>
<td>90</td>
<td>75</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Specimens</td>
<td>84</td>
<td>70</td>
<td>49</td>
<td>41</td>
</tr>
<tr>
<td>Realia</td>
<td>71</td>
<td>60</td>
<td>57</td>
<td>48</td>
</tr>
<tr>
<td>Flashcards</td>
<td>55</td>
<td>46</td>
<td>49</td>
<td>41</td>
</tr>
<tr>
<td>Models</td>
<td>52</td>
<td>44</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>Cartoons</td>
<td>27</td>
<td>23</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Flannel boards</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

44
However, none of the teacher trainees rarely, as well as, none of the teacher trainees never selected and utilized specimens as display learning resources.

Sixty percent (60%) of the teacher trainees frequently, as well as, forty eight percent (48%) of the teacher trainees occasionally selected and utilized realia as display learning resources. However, thirty one percent (31%) of the teacher trainees rarely, as well as, twenty five percent (25%) of the teacher trainees never selected and utilized realia as display learning resources.

Forty six percent (46%) of the teacher trainees frequently, as well as, forty one percent (41%) of the teacher trainees occasionally selected and utilized flashcards as display learning resources. However, ten percent (10%) of the teacher trainees rarely, as well as, none of the teacher trainees never selected and utilized flashcards as display learning resources.

Forty four percent (44%) of the teacher trainees frequently, as well as, twenty nine percent (29%) of the teacher trainees occasionally selected and utilized models as display learning resources. However, twenty seven percent (27%) of the teacher trainees rarely, as well as, six percent (6%) of the teacher trainees never selected and utilized models as display learning resources.

Twenty three percent (23%) of the teacher trainees frequently, as well as, thirty percent (30%) of the teacher trainees occasionally selected and utilized cartoons as display learning resources. However, thirty six percent (36%) of the teacher trainees rarely, as well as, thirty eight percent (38%) of the teacher trainees never selected and utilized cartoons as display learning resources.

None of the teacher trainees frequently, as well as, none of the teacher trainees occasionally selected and utilized flannel boards as display learning resources. However, six percent (6%) of the teacher trainees rarely, as well as ninety six percent (96%) of the teacher trainees never selected and utilized flannel boards as display learning resources.

4.3.3.3 Audio-visual learning resources: selection and utilization rates

The researcher observed that there were almost no projected resources that were heavily selected and utilized by majority of respondents during their learning. Furthermore, this was supported by the fact that, in the selected PTTCs, these resources are not available or they were inadequate. Consequently, these resources were limited; hence there was a need for the college management to re-strategize to acquire them. Table 4.11a and Table 4.11b were used to tabulate the data. The tables were analyzed simultaneously.
Table 4.11a: Audio-visual learning resources: tutors’ selection and utilization

<table>
<thead>
<tr>
<th>Audio-visual learning resource</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(30)</td>
<td>%</td>
<td>F(30)</td>
<td>%</td>
</tr>
<tr>
<td>Computers</td>
<td>19</td>
<td>64</td>
<td>16</td>
<td>54</td>
</tr>
<tr>
<td>Overhead slides</td>
<td>17</td>
<td>57</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Radio</td>
<td>14</td>
<td>47</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Television</td>
<td>13</td>
<td>44</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>Audio Cassettes</td>
<td>5</td>
<td>17</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Film Projectors</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td>17</td>
</tr>
</tbody>
</table>

The researcher found that sixty four percent (64%) of the tutors frequently, as well as, fifty four percent (54%) of the tutors and occasionally selected and utilized computers as audio-visual learning resources. However, twenty four percent (24%) of the tutors rarely, as well as, none of the tutors never selected and utilized computers as audio-visual learning resources.

Fifty seven percent (57%) of the tutors frequently, as well as, fifty percent (50%) of the tutors occasionally selected and utilized overhead slides as audio-visual learning resources. However, fourteen percent (14%) of the tutors rarely, as well as, none of the tutors never selected and utilized overhead slides as audio-visual learning resources.

Forty seven percent (47%) of the tutors frequently, as well as, thirty seven percent (37%) of the tutors occasionally selected and utilized radios as audio-visual learning resources. However, ten percent (10%) of the tutors rarely, as well as, none of the tutors never selected and utilized radios as audio-visual learning resources.

Forty four percent (44%) of the tutors frequently, as well as, forty percent (40%) of the tutors occasionally selected and utilized televisions as audio-visual learning resources. However, four percent (4%) of the tutors rarely, as well as, none of the tutors never selected and utilized televisions as audio-visual learning resources.

Seventeen percent (17%) of the tutors frequently, as well as, thirty percent (30%) of the tutors occasionally selected and utilized audio cassettes as audio-visual learning resources. However, forty seven percent (47%) of the tutors rarely, as well as, fifty four percent (54%) of the tutors never selected and utilized audio cassettes as audio-visual learning resources.

Seven percent (7%) of the tutors frequently, as well as, seventeen percent (17%) of the tutors occasionally selected and utilized film projectors as audio-visual learning resources. However, thirty percent (30%) of the tutors rarely, as well as, seventy percent (70%) of the tutors never selected and utilized film projectors as audio-visual learning resources.
Table 4.1b: Audio-visual learning resources: teacher trainees’ selection and utilization

<table>
<thead>
<tr>
<th>Audio-visual learning resource</th>
<th>Frequently</th>
<th>Occasionally</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(120)</td>
<td>%</td>
<td>F(120)</td>
<td>%</td>
</tr>
<tr>
<td>Computers</td>
<td>97</td>
<td>81</td>
<td>49</td>
<td>41</td>
</tr>
<tr>
<td>Overhead slides</td>
<td>67</td>
<td>56</td>
<td>62</td>
<td>52</td>
</tr>
<tr>
<td>Radio</td>
<td>57</td>
<td>48</td>
<td>52</td>
<td>44</td>
</tr>
<tr>
<td>Television</td>
<td>55</td>
<td>46</td>
<td>51</td>
<td>43</td>
</tr>
<tr>
<td>Audio Cassettes</td>
<td>26</td>
<td>22</td>
<td>36</td>
<td>30</td>
</tr>
<tr>
<td>Film Projectors</td>
<td>3</td>
<td>3</td>
<td>21</td>
<td>18</td>
</tr>
</tbody>
</table>

The researcher also found that eighty one percent (81%) of the teacher trainees frequently, as well as, forty one percent (41%) of the teacher trainees occasionally selected and utilized computers as audio-visual learning resources. However, fifteen percent (15%) of the teacher trainees rarely, as well as, none of the teacher trainees never selected and utilized computers as audio-visual learning resources.

Fifty six percent (56%) of the teacher trainees frequently, as well as, fifty two percent (52%) of the teacher trainees occasionally selected and utilized overhead slides as audio-visual learning resources. However, nineteen percent (19%) of the teacher trainees rarely, as well as, none of the teacher trainees never selected and utilized overhead slides as audio-visual learning resources.

Forty eight percent (48%) of the teacher trainees frequently, as well as, forty four percent (44%) of the teacher trainees occasionally selected and utilized radios as audio-visual learning resources. However, thirty five percent (35%) of the teacher trainees rarely, as well as, none of the teacher trainees never selected and utilized radios as audio-visual learning resources.

Forty six percent (46%) of the teacher trainees frequently, as well as, forty three percent (43%) of the teacher trainees occasionally selected and utilized televisions as audio-visual learning resources. However, thirty seven percent (37%) of the teacher trainees rarely, as well as, none of the teacher trainees never selected and utilized televisions as audio-visual learning resources.

Twenty two percent (22%) of the teacher trainees frequently, as well as, thirty percent (30%) of the teacher trainees occasionally selected and utilized audio cassettes as audio-visual learning resources. However, forty five percent (45%) of the teacher trainees rarely, as well as, forty six percent (46%) of the teacher trainees never selected and utilized audio cassettes as audio-visual learning resources.

Three percent (3%) of the teacher trainees frequently, as well as, eighteen percent (18%) of the teacher trainees occasionally selected and utilized film projectors as audio-visual learning resources.
resources. However, twenty three percent (23%) of the teacher trainees rarely, as well as, seventy four percent (74%) of the teacher trainees never selected and utilized film projectors as audio-visual learning resources.

### 4.3.3.4 Chalkboard: selection and utilization rates

The researcher used the chalkboard to establish the rate of selection and utilization on: writing topics for discussion, writing main points in topics, highlighting new words and phrases, and displaying other media. Therefore, two lecture sessions were attended in each college to observe the type of utilization of the chalkboard. The data collected was tabulated in Table 4.12.

**Table 4.12: Chalkboard selection and utilization**

<table>
<thead>
<tr>
<th>Type of use</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing topics for discussion</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Writing main points in topics</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Highlighting new words and phrases</td>
<td>4</td>
<td>66</td>
</tr>
<tr>
<td>Displaying other media</td>
<td>3</td>
<td>50</td>
</tr>
</tbody>
</table>

The six lecture sessions attended in the three colleges accounted for 100%. The researcher also observed that, in all the sessions attended, all the tutors selected and utilized the chalkboard on writing topics for discussion and writing main points in topics which also accounted for 100%. A sixty six percent (66%) score was noted as selected and utilized of the chalkboard in highlighting new words and phrases by the tutors. And lastly a score of fifty percent (50%) indicated the tutors selected and utilized the chalkboards to display other media such as charts, models and graphs.

### 4.4 Challenges faced in the selection and utilization of learning resources

#### 4.4.1 Challenges faced

The study by the researcher intended to investigate the challenges and problems faced by both the tutors and the teacher trainees in the selection and utilization of learning resources. The researcher thus asked the respondents to indicate the challenges they faced in the selection and utilization of learning resources. In all the three colleges in which the researcher conducted this study, the respondents raised similar issues as the challenges in the selection and utilization of learning resources in the PTTCs. The data collected was organized in Table 4.13a and Table 4.13b.
Table 4.1a: Challenges faced: tutors’ responses

<table>
<thead>
<tr>
<th>Factor</th>
<th>Tutors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate funds for investment in learning resources by the PTTCs</td>
<td>F (30) 27%</td>
</tr>
<tr>
<td>Inability to keep up with the trend of selecting and utilizing of latest learning resources</td>
<td>25% 84%</td>
</tr>
<tr>
<td>Inadequate learning resources</td>
<td>24% 80%</td>
</tr>
<tr>
<td>Inadequate time for demonstration and utilization of learning resources</td>
<td>22% 74%</td>
</tr>
<tr>
<td>Large numbers of learners as compared to resources</td>
<td>21% 70%</td>
</tr>
</tbody>
</table>

The researcher found that the majority of the respondents consisting of 90% of the tutors pointed out that, inadequate funds for investment in learning resources was a challenge faced in the selection and utilization of learning resources.

Again the researcher observed that, eighty four percent (84%) of the tutors’ inability to keep up with the trend of selecting and utilizing of the latest learning resources was a challenge faced in the selection and utilization of learning resources.

The study also showed that 80% of the tutors pointed out that, inadequate learning resources, was a challenge faced in the selection and utilization of learning resources.

Furthermore, seventy four percent (74%) of the tutors’ responses indicated that inadequate time for demonstration and utilization of learning resources was a challenge faced in the selection and utilization of learning resources.

Finally, seventy percent (70%) of the tutors indicated that large numbers of learners as compared to learning resources was a challenge faced in the selection and utilization of learning resources.

Table 4.1b: Challenges faced: teacher trainees’ responses

<table>
<thead>
<tr>
<th>Factor</th>
<th>Teacher trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate funds for investment in learning resources by the PTTCs</td>
<td>F (120) 105%</td>
</tr>
<tr>
<td>Inability to keep up with the trend of selecting and utilizing of latest learning resources</td>
<td>99% 83%</td>
</tr>
<tr>
<td>Inadequate learning resources</td>
<td>89% 75%</td>
</tr>
<tr>
<td>Inadequate time for demonstration and utilization of learning resources</td>
<td>79% 66%</td>
</tr>
<tr>
<td>Large numbers of learners as compared to resources</td>
<td>73% 61%</td>
</tr>
</tbody>
</table>
The researcher also found that the majority of the respondents consisting of 88% of the teacher trainees pointed out that, inadequate funds for investment in learning resources was a challenge faced in the selection and utilization of learning resources.

Again the researcher observed that, eighty three percent (83%) of the teacher trainees’ inability to keep up with the trend of selecting and utilizing of the latest learning resources was a challenge faced in the selection and utilization of learning resources.

The study also showed that 75% of the teacher trainees pointed out inadequate learning resources was a challenge faced in the selection and utilization of learning resources.

Furthermore, sixty six percent (66%) of the teacher trainees’ responses indicated that inadequate time for demonstration and utilization of learning resources was a challenge faced in the selection and utilization of learning resources.

Finally, sixty one percent (61%) of the teacher trainees indicated that, large numbers of learners as compared to resources was a challenge faced in the selection and utilization of learning resources.

4.4.2 Hindering factors

It was of necessity for the researcher to probe on what hindered effective selection and utilization of learning resources in the PTTCs. The researcher established that all the factors raised by the respondents were related to each other. Table 4.14a and Table 4.14b were utilized to organize the data collected.

**Table 4.14a: Hindering factors: tutors’ responses**

<table>
<thead>
<tr>
<th>Hindering factor</th>
<th>Tutors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (30)</td>
<td>%</td>
</tr>
<tr>
<td>Time allocated to lecture session</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>Bureaucracy to get the resources</td>
<td>25</td>
<td>84</td>
</tr>
<tr>
<td>Size of tutorial classes</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td>Unavailability of resources</td>
<td>20</td>
<td>67</td>
</tr>
</tbody>
</table>

It was observed that ninety percent (90%) of the tutors’ responses indicated that time allocated to lecture session, hindered the selection and utilization of learning resources, eighty four percent (84%) of the tutors’ responses showed that bureaucracy to get the resources hindered the selection and utilization of learning resources, seventy seven percent (77%) of the tutors’ responses pointed out that size of tutorial class hindered the selection and utilization of learning resources and sixty seven percent (67%) of the tutors’ responses brought it out that unavailability of learning resources hindered the selection and utilization of learning resources.
It was also observed that ninety six percent (96%) of the teacher trainees’ responses indicated that time allocated to lecture session, hindered the selection and utilization of learning resources, the selection and utilization of learning resources, seventy six percent (76%) of the teacher trainees’ responses pointed out that size of tutorial class hindered the selection and utilization of learning resources, seventy five percent (75%) of the teacher trainees’ responses brought it out that unavailability of learning resources hindered and fifty four percent (54%) of the teacher trainees’ responses showed that bureaucracy to get the resources hindered the selection and utilization of learning resources.

4.5 Factors that enhance the selection and utilization of learning resources

4.5.1 Enhancing factors

The use of learning resources remains an integral part in the learning process. The researcher was determined to highlight the factors that enhance the use of learning resources in order to bring out their real values in education.

The use of learning resources according to earlier studies has been helping to solve problems in learning and thus teacher training. One of the studies by Erickson and Curl (1972) affirms that use of learning resources stimulates problem solving among the teacher trainees. Indeed, learning resources appeal to the learning activities. It was in this light that, the researcher sought to establish from the tutors and the teacher trainees what enhances or what could enhance the use of learning resources. The researcher dealt with the following issues which were raised and said to be of importance in promoting the selection and utilization of learning resources during tutorial sessions. The data collected was tabulated in Table 4.15a and Table 4.15b.

<table>
<thead>
<tr>
<th>Hindering factor</th>
<th>Teacher trainees</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (120)</td>
<td>%</td>
</tr>
<tr>
<td>Time allocated to lecture session</td>
<td>115</td>
<td>96</td>
</tr>
<tr>
<td>Size of tutorial classes</td>
<td>91</td>
<td>76</td>
</tr>
<tr>
<td>Unavailability of resources</td>
<td>90</td>
<td>75</td>
</tr>
<tr>
<td>Bureaucracy to get the resources</td>
<td>64</td>
<td>54</td>
</tr>
</tbody>
</table>

Table 4.15a: Enhancing factors: tutors’ responses

<table>
<thead>
<tr>
<th>Enhancing factors</th>
<th>Tutors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (30)</td>
<td>%</td>
</tr>
<tr>
<td>Availability of the learning resources</td>
<td>28</td>
<td>94</td>
</tr>
<tr>
<td>Cost sharing</td>
<td>26</td>
<td>87</td>
</tr>
<tr>
<td>Proper timetabling</td>
<td>22</td>
<td>74</td>
</tr>
<tr>
<td>Frequent attendance to workshops</td>
<td>17</td>
<td>57</td>
</tr>
</tbody>
</table>
It was worth noting that ninety four percent (94%) of the tutors’ responses were in agreement that availability of the learning resources enhanced the selection and utilization of learning resources. It was also observed that eighty seven percent (87%) of the tutors’ responses were in agreement that cost sharing enhanced the selection and utilization of learning resources. It was again; found that seventy four percent (74%) of the tutors’ responses showed that proper timetabling enhanced the selection and utilization of learning resources. It was lastly realized that fifty seven percent (57%) of the tutors’ responses indicated that frequent attendance to workshops/seminars or courses enhanced the selection and utilization of learning resources.

<table>
<thead>
<tr>
<th>Enhancing factors</th>
<th>Teacher trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (120)</td>
</tr>
<tr>
<td>Availability of the learning resources</td>
<td>110</td>
</tr>
<tr>
<td>Proper timetabling</td>
<td>97</td>
</tr>
<tr>
<td>Cost sharing</td>
<td>96</td>
</tr>
<tr>
<td>Frequent attendance to workshops</td>
<td>73</td>
</tr>
</tbody>
</table>

It was also worth noting that ninety two (92%) of the teacher trainees’ responses were in agreement that availability of the learning resources enhanced the selection and utilization of learning resources. It was also observed that eighty one (81%) of the teacher trainees’ responses showed that proper timetabling enhanced the selection the selection and utilization of learning resources. It was again; found that eighty (80%) of the teacher trainees’ responses were in agreement that cost sharing enhanced and utilization of learning resources. It was lastly realized that sixty one (61%) of the teacher trainees’ responses indicated that frequent attendance to workshops/seminars or courses enhanced the selection and utilization of learning resources.

### 4.5.2 Workshops/ seminars or courses attended

The researcher further sought to establish if tutors and teacher trainees attended any workshops/seminars or courses related to learning resources in the selection and utilization of learning resources in PTTCs. In the modern world, it has become a tradition for workshops/seminars, and courses to sensitize workers on changes regarding their industry and in this particular case, educationists. The data collected was organized in Table 4.16a and Table 4.16b.

<table>
<thead>
<tr>
<th>Workshops / Seminars or courses attended</th>
<th>Tutors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F (30)</td>
</tr>
<tr>
<td>0-4</td>
<td>22</td>
</tr>
<tr>
<td>5-8</td>
<td>15</td>
</tr>
<tr>
<td>9-12</td>
<td>11</td>
</tr>
<tr>
<td>13-16</td>
<td>8</td>
</tr>
<tr>
<td>17-20</td>
<td>0</td>
</tr>
</tbody>
</table>
According to Table 4.16a the researcher established that, seventy four percent (74%) of the tutors’ responses up to four times had attended workshops, seminars or courses on the selection and utilization of learning resources; again fifty percent (50%) of the tutors’ responses between five and eight (5-8) times had attended workshops, seminars or courses on the selection and utilization of learning resources; also thirty seven percent (37%) of the tutors’ responses between nine and twelve (9-12) times had attended workshops, seminars or courses on the selection and utilization of learning resources; a further twenty seven percent (27%) of the tutors’ responses between thirteen and sixteen (13-16) times had attended workshops, seminars or courses on the selection and utilization of learning resources; and finally none of the tutors’ responses between seventeen and twenty (17-20) times had attended workshops, seminars or courses on the selection and utilization of learning resources.

Table 4.16b: Number of workshops/seminars or courses attended by teacher trainees

<table>
<thead>
<tr>
<th>Workshops / Seminars or courses attended</th>
<th>Teacher trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>F (120)</td>
</tr>
<tr>
<td>5-8</td>
<td>0</td>
</tr>
<tr>
<td>9-12</td>
<td>0</td>
</tr>
<tr>
<td>13-16</td>
<td>0</td>
</tr>
<tr>
<td>17-20</td>
<td>0</td>
</tr>
</tbody>
</table>

According to Table 4.16b the researcher established that, eighty percent (80%) of the teacher trainees’ responses up to four times had attended workshops, seminars or courses on the selection and utilization of learning resources. Again as per the same none of the teacher trainees attended any workshops, seminars or courses on the selection and utilization of learning resources for the rest of the categories.

53
CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purpose of the study was to investigate how the tutors and the teacher trainees selected and utilized learning resources in three selected Primary Teachers’ Training Colleges namely; Murang’a, Kilimambogo and Thogoto. This study was necessitated by the fact that the selection and utilization of learning resources in the Primary Teachers’ Colleges impacts a lot on training of the primary teachers who after graduating from the colleges are entrusted with the responsibility of imparting the knowledge to the young learners. The researcher noted with concern that academic success is directly linked to the selection and utilization of learning resources as noted by Maundu (1988) on the role of learning resources in explaining the quality of results in schools.

5.1 Summary of the findings

5.1.1 The first objective of this study was to assess the biographical information for the tutors and the teacher trainees to establish how they could help in promoting the selection and utilization of learning resources in the PTTCs. This would only be captured by the use of the tutors’ age, professional and academic qualifications as well as their experience. For instance, display learning resources were found to be popular among the young tutors. The aged tutors above forty years only selected learning resources requiring little time to prepare for a lecture session.

It was worth noting that in the three PTTCs where the researcher carried out his study, a majority of the tutors were above five years in their teaching. The gender distribution of the population of tutors sampled was evenly distributed with equal number of male and female tutors. The researcher thus observed that the study sampled fifteen (15) female and fifteen (15) male tutors making the population of the tutors sampled evenly distributed.

The researcher sought to establish the academic and professional qualifications of the tutors sampled for the study. It was important to realize that the selection and utilization of learning resources was highly influenced by the tutors’ academic and professional qualifications.

Also from the findings gathered by the researcher, it was evident that Primary Teachers’ Training Colleges had professionally trained workforce. It was therefore expected that tutors in PTTCs are competent, properly skilled and professionally trained in the selection and
utilization of learning resources. However, the researcher found out that the selection and utilization of learning resources was not entirely embraced in the training of the teacher trainees because of varied challenges and problems as discussed later in this study.

According to the findings of the study, a significant number of tutors had a teaching experience exceeding five years. The largest proportion of the tutors sampled had a teaching experience beyond ten years. Interestingly, the latter category of the tutors was found to be very categorical and enthusiastic in selecting and utilizing learning resources in their teacher training.

5.1.2 The second objective of this study was to identify available learning resources in the Primary Teachers’ Training Colleges (PTTCs). According to the findings gathered by the researcher, three categories of learning resources in the PTTCs namely; print learning resources, audio-visual learning resources and display learning resources. The researcher tentatively prepared a systematic approach to analyze the availability, adequacy and accessibility of learning resources in Primary Teachers’ Training Colleges. Almost all learning resources were available but their adequacy and accessibility were below the researcher’s expectation.

Print media resources available included textbooks, newspapers, programmed materials, encyclopedias, pamphlets among others. However, the number of textbooks available was inadequate for the whole population of the teacher trainees in the three selected colleges. Availability of textbooks is very important in the sense that, it is the primary learning resource widely selected and utilized by both the tutors and the teacher trainees, and mostly important of all guides on the utilization of the other learning resources. Newspapers utilized as reference materials were inadequate for the large population of the tutors and the teacher trainees. The Kenyan Newspapers viz; The Daily Nation, The Standard and Taifa Leo were only available in the libraries, the staffrooms and the principals’ offices in single copies. In each of the PTTC, encyclopedias were available, inadequate and with controlled accessibility. Pamphlets relevant in training of primary school teachers that included pamphlets on teaching methodology, sources of learning content and guides to best practices in teaching were available.

Display learning resources available in each of the PTTCs included chalkboards, realia, graphs, specimens, models, cartoons, charts, flashcards and flannel boards. Earlier studies for instance by Saunders (1974) stipulated that the very crucial sense of seeing aids remembering. Determining the numbers of display materials was almost impossible but the researcher sought to establish from the tutors and the teacher trainees the availability,
adequacy and accessibility. All the tutors pointed out that the chalkboard was the second most important display learning resource after the textbooks. In all the responses gathered by the researcher, the chalkboard attracted three (3) uses, namely: displaying other media, writing topics of discussion, highlighting new phrases and points.

The other available category of learning resources was audio-visual learning resources. Those that found available in the three PTTCs were; radios, televisions overhead slides, film projectors, radio cassettes, cameras, computers and liquid crystal displays (LCDs). Audio-visual learning resources were indeed important in teacher training because of the hear-see aspect associated with them. This category of learning resources was found to be the most inadequate in terms of quantity, thus giving the tutors and the teacher trainees the minimal choice in their plans to opt for their selection and utilization. The researcher established that, these types of learning resources were expensive to acquire and this accounted for their limited numbers. Computers were available because of the introduction of computer studies in the PTTCs, a subject that has become a common unit in all tertiary institutions currently. The selection and utilization of audio-visual learning resources was found by the researcher to be rare because of the time required to prepare for their selection and utilization in a lecture session.

The quantity and quality of the learning resources were in addition found to be affected by the changes in technology and advancement made in the education sector. For instance, the researcher established that, textbooks were quickly being revised and this meant that the latest textbooks had to be acquired whenever such change occurred in the publishing of the textbooks. Moreover, there are rapid changes in computer technologies.

5.1.3 In objective three the researcher intended to determine the role and the criteria for the selection and utilization of learning resources by the tutors and the teacher trainees in the PTTCs. In the PTTCs selected, the researcher established that a six point parameter was observed in the selection and utilization of learning resources regardless of the training levels of the tutors. These were: lesson objective(s), availability of the learning resources, length of the lecture session, size of the class, accessibility of the learning resources and utilization of the learning resources. They were found to be the most important factors associated with the selection and utilization of the learning resources. The teacher trainees had not been trained in any other profession as at the time of this study.
A number of reasons were given as affecting choice of learning resources with almost all the population sampled sticking to lesson objectives as opposed to putting all the other factors into consideration in the selection and utilization of learning resources.

In order to appreciate the importance of selecting and utilizing learning resources, the researcher endeavored to determine what role these learning resources played in teacher training. According to the findings, the respondents agreed that the selection and utilization of learning resources were crucial in improving retention. Previous studies by other researchers in particular by Saunders (1974) indicated that, learning resources were crucial in aiding trainees to retain whatever they learned in a lecture. It is evident that it is easier to remember and retain something you hear, see and perform according to Kemp & Dayton (1985) and Saunders (1974). Moreover, the respondents cited that learning resources provide concrete learning experience.

Proper selection and utilization of learning resources stimulate problem solving according to the respondents. The researcher thus came up with a hierarchy of roles played by learning resources according to the study namely; stimulating problem solving skills, improving learning efficiency, providing concrete experiences and improving retention.

The overall goal of this study was to establish the criteria utilized by the tutors and their teacher trainees in the selection and utilization of learning resources. Selection and utilization of learning resources begins with planning on what resources are important in particular lectures. The most important criteria were lesson objectives to be met within a particular lecture. For each single lecture, certain objectives had to be met and this influenced the selection and utilization of learning resources.

Also availability of learning resources was crucial on criteria for the selection and utilization of learning resources. Moreover, the researcher established that the length of the lecture affected the criteria for selection and utilization. Some lectures took more time than others and in the event of selection and utilization of learning resources, time factor had to be put into consideration. In this perspective, the researcher established that certain criteria had to be followed to gain access to the selection and utilization of certain learning resources.

The researcher established what criteria were followed in the selection and utilization of learning resources in PTTCs. The researcher therefore, employed four parameters namely; frequently, occasionally, rarely and never selected and utilized them as indicators of selection and utilization of learning resources in the teacher training. As pointed out earlier
in the study, the researcher subdivided the learning resources into three categories: print media learning resources, display learning resources and audio-visual learning resources.

According to the findings of the study, print media learning resources were the most frequently selected and utilized learning resources. These learning resources included textbooks, newspapers, programmed materials, encyclopedias and pamphlets. All the tutors interrogated by the researcher stated that, they frequently selected and utilized the textbooks and the textbook guides during their preparation for lectures. Newspapers were rarely selected due to their inaccessibility, limited number of copies per PTTC and lack of interest in the respondents.

Pamphlets were also frequently and occasionally selected and utilized although they were limited in numbers.

Encyclopedias utilized as reference material attracted frequent and occasional selection and utilization. All the tutors interrogated in the study indicated that this type of learning resources were only utilized to refer to new phrases and words and thus attracted only frequent and occasional utilization.

Category two of learning resources, that is, the display materials were most frequently selected and utilized learning resources according to the findings of the study. These learning resources included: graphs, realia, specimens, models, cartoons, charts, flashcards, flannel boards and chalkboards. Chalkboards were the most frequently and occasionally selected and utilized display learning resources. Next in the order were the charts because the respondents showed that the charts were selected and utilized frequently. Graphs were also shown to be selected and utilized. On the contrary, the flannel boards had never been selected and utilized by most of the respondents. Below them were the cartoons which were never utilized by a sizable number. Realia, models, and specimens were occasionally and rarely selected and utilized.

On the third category were the audio-visual learning resources. These resources included: radios, televisions, film projectors, overhead slides, audio cassettes, and computers. All these learning resources were found to be available by the researcher in all the PTTCs. In this category of learning resources only computers were frequently and occasionally selected and utilized. All the others were occasionally and rarely selected and utilized by the tutors and the teacher trainees in their lecture sessions. The teacher trainees noted with concern that their tutors rarely selected and utilized these learning resources during lectures. The
researcher established through interviews/questionnaires that, film projectors had been replaced by LCDs in all the PTTCs. The researcher further established that, overhead slides were frequently selected and utilized by the tutors in the training of teachers nearly in all subject areas. In addition, the teacher trainees indicated that overhead slides as learning resources were occasionally selected and utilized since some tutors preferred utilizing them whenever they had a lot of content to cover.

5.1.4 The fourth objective of the study was to find out what challenges the tutors and the teacher trainees face in the selection and utilization of learning resources. Firstly, the tutors pointed out that the PTTCs faced challenges in ensuring that adequate learning resources were available. Secondly, large number of learners per class contributed to poor selection and utilization of learning resources. Moreover, the researcher established that tutors had inadequate time for demonstration and utilization of learning resources. This was supported by the fact that each single lecture session had a large number of teacher trainees. Also inadequate funds for investing in learning resources by the PTTCs posed as a challenge faced in the selection and utilization of learning resources. To add on the above, inability to keep up with the trend of acquiring and utilizing the latest learning resources such as LCDs was another challenge.

5.1.5 Objective five of the study was to find out what enhanced the selection and utilization of learning resources in the PTTCs. Learning resources remain important in the training of the teachers in the PTTCs as highlighted in the various roles played by these learning resources in teacher training. In this perspective, the researcher sought to establish what factors enhanced the selection and utilization of learning resources so as to bring out the usefulness associated with the selection and utilization of learning resources.

The researcher gathered the following issues as important parameters deemed right to enhance the selection and utilization of learning resources in teacher training. Cost sharing among PTTCs, the teacher trainees’ parents/guardians and the government in availing learning resources was deemed a solution to curb several challenges and problems.

In addition it became evident that proper timetabling in the PTTCs would be pertinent in creating time for the selection and utilization of learning resources in the teacher training. According to the findings, the time factor was indeed a challenge during the selection and utilization of certain learning resources. Some lectures required more time than others in order to select and utilize learning resources which remain integral in training of pre-service teachers. Challenges faced in the education sector, among them the selection and utilization
of learning resources were discussed and found that it was important for the tutors to attend the selection and utilization workshops, seminars or courses whenever organized.

5.2 Conclusions

The researcher came up with the following conclusions for objective one:

5.2.1 The tutors’ age, professional and academic qualifications and the teaching experience were the factors that influenced the selection and utilization of certain learning resources.

In addition tutors who were aged above thirty one years actively selected and utilized learning resources.

Again the tutors in the middle of their career embraced all the categories of learning resources more than their junior counterparts who were beginners in the profession and the most experienced tutors. This was attributed to the fact that, they had been in the profession for quite some time, had attended seminars/ workshops and courses in which they had learnt and acquired skills on the selection and utilization of learning resources. The more experienced the tutors became, the more precise they had become in the selection and utilization of learning resources. This indicated that, their energy and enthusiasm was less since the selection and utilization of learning resources required time for preparation. It became evident that significant numbers of tutors in the Primary Teachers’ Training Colleges were professionally trained.

The study consequently meant that, the more the tutors became experienced, the eager they were to select and utilize learning resources.

5.2.2 Availability of learning resources on the one hand and selection and utilization on the other hand means that the learning resources may be available but not selected and utilized.

Availability of learning resources in teacher training is crucial in the selection and utilization of learning resources.

More workload, more time was required in preparation of learning resources for use in their lectures.

5.2.3 In deciding the selection and utilization of learning resources, it is important to appreciate the crucial role played by the learning resources in the teacher training and make it a tradition to select and utilize learning resources frequently and occasionally during the lecture sessions in
the training of teachers. In addition, it is important to utilize improvised learning resources so as to close the gap where some learning resources are not readily available. Of all the print media learning resources, the most frequently selected and utilized were the textbooks. Therefore textbooks were the most frequently and occasionally utilized by the respondents.

Newspapers can be said to be rarely selected and utilized in the PTTCs due to their inaccessibility.

Chalkboards as a display learning resources were the most frequently and occasionally selected and utilized.

Charts were affordable and easy to select and utilize.

Graphs were occasionally and rarely selected and utilized.

Models, specimens and realia were rarely selected and utilized.

Availability of learning resources influenced their selection and utilization.

There is a perpetual need to ensure constant utilization of learning resources in PTTCs in teaching in order to ensure that the quality of human resources, that is, future teachers are well trained since selection and utilization of these learning resources improve quality of education.

The size of the class influenced the selection and utilization of learning resources.

Bureaucracy influenced the selection and utilization of learning resources.

Timetabling affected the selection and utilization of learning resources.

5.2.4 There was a challenge of ensuring that adequate learning resources were available.

Large number of learners per class contributed to poor selection and utilization of learning resources.

There was inadequate time for demonstration and utilization of learning resources.

5.2.5 Cost sharing among PTTCs, the teacher trainees’ parents/ guardians and the government in availing learning resources enhances the selection and utilization of learning resources.
Proper timetabling in the PTTCs improves time management for the selection and utilization of learning resources.

5.3 Recommendations

The researcher came up with the following recommendations from the study:

5.3.1 The researcher recommends that tutors regardless of their age, professional and academic qualifications and the teaching experience need to be involved in short term trainings within the PTTCs or even outside their teacher colleges, for instance, seminars organized by Kenya Institute of Education, Ministry of Education and learning resources sellers.

Tutors, who are above thirty one years of age need to be given incentives such as guide books, demo CDs, free samples among others so as to feel honored for their selection and utilization of learning resources. The newly employed tutors need to be given orientation and induction on the selection and utilization of learning resources. The tutors who are aged and well experienced need to be encouraged to select and utilize modern learning resources such as liquid crystal display, whiteboards, smart boards, interactive boards, PowerPoint presentation software, among others.

5.3.2 Where the learning resources are available the tutors and the teacher trainees should be encouraged to select and utilize the learning resources. Ways of ensuring that the learning resources have been selected and utilized should be devised by those in authority.

Time allocated for the tutors and the teacher trainees who select and utilize learning resources should be increased, for instance, from one hour to two hours for the tutors and the teacher trainees who use the LCDs to enable them have enough time to prepare their presentations.

5.3.3 It is necessary for PTTCs to nurture a culture of the selection and utilization of learning resources from the beginning to the end. The heads of these institutions need to appreciate the role played by the tutors and the teacher trainees in the selection and utilization of learning resources.

Improvisation of learning resources needs to be embraced by these institutions. This will enhance simplicity of resources, reduce cost of buying and ensure availability of the learning resources.

There is a need for public and private partnership in equipping the PTTCs with textbooks.
The PTTCs need to allocate more funds to more newspapers for the tutors and the teacher trainees. This will help them in getting current affairs and modern trends in education.

Programmed materials need to be supplied in plenty since currently they are limited yet they are frequently and occasionally selected and utilized.

The PTTCs need to equip their institutions with presentable chalkboards and paint them well for clarity.

Adequate materials for making charts should be provided by the PTTCs in partnership with the parents/guardians and the government.

The tutors and the teacher trainees should be encouraged to select and utilize graphs as learning resources.

Models, specimens and realia need to be equally selected and utilized. Therefore the tutors and the teacher trainees should be given more training on their selection utilization.

To avail learning resources, the PTTCs should adopt the principles of cost sharing among the stakeholders.

Where there are small classes, that is, one to fifteen learners, learning resources that need simple methods and less time to prepare, should be selected and utilized. For medium classes, that is, 16 to 40 learners, the tutors and the teacher should select and utilize learning resources that are convenient. And for large classes, that is, 41 learners and above, the tutors and the teacher trainees should select and utilize learning resources that would make the learner utilize their senses without straining.

Bureaucracy should be reduced in the PTTCs.

Timetables should be professionally prepared.

The tutors and the teacher trainees have to frequently attend workshops, seminars or courses whenever organized.

5.3.4 A collaborative effort should be made among the PTTCs, parents/guardians and the government to ensure that adequate learning resources are available.
The number of learners per class should be controlled such that the tutors can reach their learners without difficulties.

Lecture sessions should be allocated enough time for demonstration and utilization of learning resources.

5.3.5 All stakeholders should be involved in cost sharing in availing learning resources.

Proper timetabling in the PTTCs should be embraced in proper time management for the selection and utilization of learning resources.
References


Kenya National Examination Council Report 2009


Appendices
Appendix I: Interview schedules for the tutors of the PTTCs

1. Academic and professional qualification
2. Years of service
3. Personal opinion on the selection and utilization of learning resources in learning process.
4. i) What resources are available in your PTTCs?

   ii) Are the resources adequate to select from?

5. What is the extent of usage of the learning resources? If utilized, what selection criteria followed in deciding the resources to be utilized in the learning process?
6. i) What factors contribute to proper selection and utilization of the learning resources if utilized?

   ii) What factors contribute to non selection and utilization if it’s the case?

7. Could you probably cite problems faced in the selection and utilization of learning resources in PTTCs?
8. What difficulties do you think face the teacher trainees in the selection and utilization of learning resources?
Appendix II: Checklist on availability of learning resources

PTTC: _________________________________

Subject: ________________________________

<table>
<thead>
<tr>
<th>Type of resource</th>
<th>Available</th>
<th>Adequate</th>
<th>Accessible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.0 Print materials</strong></td>
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<td></td>
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<tr>
<td>Textbooks</td>
<td></td>
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<td>Newspapers</td>
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<td></td>
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<td>Programmed materials</td>
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<tr>
<td>Encyclopedia</td>
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<tr>
<td>Pamphlets</td>
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<tr>
<td><strong>2.0 Display materials</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Graphs</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Realia</td>
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<td>Specimen</td>
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<td>Models</td>
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<td>Cartoons</td>
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<td>Charts</td>
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<td>Flash cards</td>
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<td>Flannel boards</td>
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<tr>
<td>Chalk boards</td>
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<tr>
<td><strong>3.0 Audio-visual materials</strong></td>
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<td>Radio</td>
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<td>Television</td>
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<td>Record players</td>
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<td>Slides</td>
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<td>Films</td>
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<td>Video tape recorder</td>
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<td>Transparencies</td>
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<td>Overhead projector</td>
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<td>Radio cassettes</td>
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<td>Cameras</td>
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<td>Computers</td>
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</table>
Appendix III: Questionnaire for the tutors

The purpose of this questionnaire is to obtain data on the extent to which tutors select and utilize learning resources in the five different subject areas. Please answer the questions by ticking appropriately. The researcher will ensure your privacy is concealed for information you give will be treated with at most confidentiality.

Section I: General information of the tutors

PTTC._____________________________________________________________

1. Gender: a) Male { } b) Female { }

2. Age in years
   i) 24 years and below
   ii) 25 – 30 years
   iii) 31-35 years
   iv) 36-40 years
   v) 41 years and above

3. Professional and academic qualification
   i) M.Ed
   ii) B.Ed
   iii) B.A./PGDE
   iv) B.SC./PGDE
   v) B.A Untrained
   vi) B.sc. untrained
   vii) Diploma

If any other, please specify________________________________________

Section II: Availability of learning resources in the PTTCs

1. Please list down the learning resources available for your subject area
   i)____________________________________ ii) __________________________
Section III: Utilization of learning resources

i) How often do you use learning resources in your subject area?

   Every lesson  {  }

   Once in a week  {  }

   Once a month  {  }

   Never  {  }

   Any other (please specify) ____________________________________________

ii) What is your opinion on the effectiveness of utilizing learning resources you have cited above

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

2. What is your opinion on the sufficiency of above named learning resources for your subject area

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

3. What criteria do you use in the selection and utilization of the learning resources for your subject area

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

   Section III: Utilization of learning resources
iii) What challenges do you face in selecting and utilizing the learning resources in your subject area

Selecting
____________________________________________________________________________
____________________________________________________________________________

Utilizing
____________________________________________________________________________
____________________________________________________________________________

iv) Please suggest possible ways of overcoming the challenges you face in selecting and utilizing learning resources in your subject area

Selecting________________________________________________________
_________________________________________________________________________
Utilizing___________________________________________________________________
______________________________________

v) What are the factors that hinder the selection and utilization of learning resources in your opinion_______________________________________________________

vi) What factors enhance the selection and utilization of learning resources in your PTTCs

Selection______________________________________________________________

Utilization_____________________________________________________________

**Section IV: Workshops/ seminars/ courses attended**

i) Have you ever attended any seminars/ courses/ workshops on learning resources?
   Yes {   } No {   }

ii) If answer to i) above is yes, how many have you attended? ________________

iii) If answer to i) above is No, why? ________________________________________

iv) Who organized the seminars/ courses/ workshops that you attended?
v) If your answer to ii) above is Yes, how many of the same discussed the selection and utilization of learning resources, other than texts in your teaching?

____________________________________________________________________________________

vi) a) If so then, for above question, did it change any way of how you select and utilization learning resources? Yes { } No { }

b) Please elaborate for above vi)

____________________________________________________________________________________

____________________________________________________________________________________

vii) How useful were the seminars/ courses or workshops on the selection and utilization of learning resources in your teaching methods?

____________________________________________________________________________________

____________________________________________________________________________________

viii) Please suggest how seminars/ courses/ workshops can be made useful in giving more insight in the selection and utilization of learning resources.

____________________________________________________________________________________

Thank you for your response and time!
Appendix IV: Questionnaire for the teacher trainees

Part (i)

The following questionnaire aims at obtaining information from teacher trainees on the selection and usage of learning resources. Please answer appropriately.

PTTCs ____________________________________________________________

1. Please indicate who avails the learning resources for your studies
   i) Parent/guardian  {}
   ii) College        {}
   iii) Any other [specify] __________________________________________

2. Are the resources sufficient for your learning? Yes {}    No {}

3. Please list down the learning resources at your disposal for your studies.
   i) _____________________________________________________________
   ii) ___________________________________________________________
   iii) ___________________________________________________________
   iv) ___________________________________________________________

4. How do you select the learning resources for your studies?
5. Do you find the learning resources you supplement with those provided by your tutors adequate for your studies?
6. What is your opinion on enhancement of your understanding by use of learning resources in your studies?
7. Please indicate on the table below on the extent of usage of learning resources in your studies cited above.
8) Briefly suggest the learning resources that you deem fit for your studies

i) ______________________________________________________________________

ii) ______________________________________________________________________

iii) ______________________________________________________________________

iv) ______________________________________________________________________

9) What are the factors that hinder the selection and utilization of learning resources in your opinion ______________________________________________________________________

Selection ______________________________________________________________________

Utilization ______________________________________________________________________

10) What factors enhance the selection and utilization of learning resources in your PTTCs?

Selection ______________________________________________________________________

Utilization ______________________________________________________________________

11) What challenges do you face in selecting and utilizing the learning resources?

12) Please suggest possible ways of overcoming the challenges you face in selecting and utilizing learning resources.

Selecting ______________________________________________________________________

Utilizing ______________________________________________________________________

76
Part (ii) Workshops/ seminars/ courses attended

i) Have you ever attended any seminars/ courses/ workshops on learning resources?
   Yes { } No { }

ii) If answer to i) above is yes, how many have you attended? ________________

iii) If answer to i) above is No, why? ______________________________________

iv) Who organized the workshops seminars/ courses/ that you attended?
   a) _______________________________ b) _______________________________
   c) _______________________________ d) _______________________________

v) If your answer to ii) above is Yes, how many of the same discussed the selection and utilization of learning resources, other than texts in your teaching?
   _______________________________________________________________________

vi) a) If so then, for above question, did it change any way of how you select and utilization learning resources? Yes { } No { }

   b) Please elaborate for the above vi)
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

vii) How useful were the seminars/ courses or workshops on the selection and utilization of learning resources in your teaching methods?
   _______________________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

viii) Please suggest how seminars/ courses/ workshops can be made useful in giving more insight in the selection and utilization of learning resources.___________________________________________________________
   _______________________________________________________________________
   _______________________________________________________________________

Thank you for your response and time!
Appendix V: Focus Group Discussion

For this instrument, a guide that will adopt the model of the interview schedule above will be utilized to solicit specific information from the tutors with experience between ten and fifteen years.