VERBAL DISCOURSE: THE COGNITIVE LEVEL OF ENGLISH LANGUAGE TEACHERS’ QUESTIONS AND THE STUDENTS’ RESPONSE PATTERNS IN SOME SECONDARY SCHOOLS IN NAIROBI PROVINCE.

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

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This work is dedicated to my parents and to God through whom all things are possible.
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ABSTRACT

The study aimed at investigating the cognitive level of questions used in English language classrooms by the teachers studied. This was aimed at establishing the level of interaction encouraged within the classrooms. Given the central role of questioning within the classrooms, questions create a forum for pupils and teachers to directly engage the thinking process. It was assumed that the question/answer method was dominantly to facilitate cognitive interaction within the classroom discourse.

The researcher observed 10 secondary school English language teachers teaching in Nairobi province. The schools from where the teachers were picked included National, Provincial and District secondary schools. This was done in order to cater for any disparities that may be existed in the intellectual levels of the students involved which were likely to influence interaction. The researcher observed the ten form two classes four times each amounting to forty lessons in total. The teachers’ lessons were recorded, coded and analysed into their respective redefined categories.
The frequency distribution of the various questions was calculated and the percentages too in relation to their use in the various English language subject areas. It was found that:-

(a) English language teachers used higher order and lower cognitive order questions.

(b) The most frequently used category of questions were memory questions. This means rote learning was emphasised.

(c) The distribution of questions differed in the various English language teaching areas. The subject matter determined the types of questions used by the teachers. For instance, grammar lessons were predominated by higher order cognitive questions while the poetry lessons had the highest frequency of interpretation questions.

(d) English language teachers both graduates and diploma holders predominantly used lower cognitive order questions within the lesson. Their emphasis was on the lower level of thinking.

The English language teachers seem to emphasise low-level thinking or recall learning among the learners and manipulation of information learnt. It was recommended that English language teachers should be trained on how to effectively use higher order cognitive questions to maximize learning output and to develop higher level of thinking among the learners.
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CHAPTER ONE

1.0 INTRODUCTION

This study is geared towards establishing the cognitive interaction within the classroom that is facilitated through the process of questioning. Classroom discourse is determined by many variables within the learning context and they eventually influence the learning outcome. The teacher dominates and directs not only the classroom activities but also the discourse within the lessons. Discourse is considered to be one way for students to practise and enhance their thinking processes. Given that questions are central to the teaching process and they can be used to enhance the thinking process, the study intends to establish the interaction facilitated through the teachers’ questions.

1.1 BACKGROUND TO THE PROBLEM

Classroom teaching involves imparting knowledge, skills, attitudes and values to learners among many other activities. To achieve these, learning and teaching, conditions to which a teacher subjects his/her students in a classroom, play a vital role. Classroom language plays perhaps the most important role in the teaching/learning process. A study of the teacher-student language, which is termed as classroom interaction, has been taken as a source of revelation of classroom climate. No wonder researchers interested in what happens in classroom teaching and learning have found the study of classroom interaction
important. This entails analysing the “social environment” of the classroom, which refers to the verbal and non-verbal interaction.

Some of the elements which form teacher-pupil exchange (classroom language talk) include the language used by the teacher in presentation, directing pupils, asking and answering questions, providing instructions among many other activities. The style which a teacher adopts inclusive of the elements referred to above during the teaching and learning process, determine the effectiveness with which teaching/learning takes place. Effectiveness in handling these elements requires skill and tact. Although this skill and tact may be gained through experience, training may actually play a very important role, for a good teacher is a product of, among many other factors, experience and training.

Amidon and Hough (1967) stated that the quality and quantity of teacher/pupil interaction is a crucial dimension of effective classroom teaching. Flanders (1970) advanced that the efficiency of teaching depends on the quality of verbal interaction patterns. Studying the verbal interaction patterns that occur in a classroom may then be an important evaluative approach for identifying the quality of instruction that a teacher provides in his/her classroom.

A strong relationship is said to exist between language and logic and both lead to the ability to analyse, to reason deductively and inductively and to make sound
inference based on knowledge (Arends, 1997). Through public discourse, teachers are given a partial window for reviewing the thinking skills of pupils and they may be able to develop them further. Discourse is one way for students to practise and enhance their thinking processes, it entails an externalisation of thinking, (Arends, 1997). Cazden (1988) states that spoken language is a medium by which teaching takes place and in which students demonstrate to teachers much of what they have learned. Classroom discourse is a crucial facet of classroom teaching, which should be given the attention that it merits.

The teacher through activities like task setting, brainstorming and questioning can facilitate the cognitive behaviour patterns of learners. As stated earlier, one of the elements studied in classroom interaction is questioning. Questioning is considered one of the verbal instructional strategies, which allows the teacher to interact with his/her students directly in the thinking process. As Aschner (1961) points out, questioning when effectively used in teaching may stimulate thinking activities among students namely: - remembering, reasoning, evaluating and creative thinking. Teachers have used various types of questions especially high cognitive ones to raise the level of critical thinking and creative thought in classrooms (Hollingsworth, 1982).

Every competent teacher engages his or her students in activities, which promote active thinking. Teachers cannot achieve high-level thinking in pupils simply by
engaging in high-level talk. High level thought processes might be achieved through questioning and academic tasks. Questioning is one of the main skills accounting for competency in teaching. It can help the teacher evaluate the thinking and learning progress of his pupils. It can be a potential variable, which may affect the overall performance of learners in a subject. The researcher therefore decided to focus on this aspect of questioning as a central variable in the teaching process.

As some studies have shown, questions have other functions in classroom interaction. Teachers use them to test the pupils' acquisition of knowledge and learning of skills (Richards and Galloway, 1994). Research further indicates that teachers use questions to check the effectiveness of the teaching process (Brown and Edmondson, 1984). Similarly, academic tasks and brainstorming may achieve the same results as stated above.

The importance of classroom questioning cannot be underestimated. Taking this fact seriously, some researchers have studied various aspects of questioning. For example Rowe (1969) researched on "Wait time", Gall (1970), Turney and Clift (1973), Dunkin and Biddle (1974) and Thanarotto (1981) researched on the type of questions teachers ask, while Riley (1986) researched on probing questions.
In Kenya, the teaching of English language has been found to be wanting. Wamahiu Muya in *The Daily Nation* newspaper of 17th February, 1996 noted that, “University students could not effectively articulate an idea in English”. Since these students are products of the Kenyan secondary school system, the latter may be said to be lacking in quality. One of the objectives of teaching English language as enlisted in the syllabus is to enable the students to communicate intelligibly and intelligently in English in different situations. Failure in this may imply teachers have failed in achieving the set objective.

The Kenya National Examination Councils’ Chief Examiners’ Report on English (1986 Paper 115/1) noted that pupils seemed unable to construct grammatical English sentences. This may be an indication that learners may not have mastered the main structures of English and as a result they are unable to write logically and coherently in the conventional form. This elicits a lot of concern among teachers and educators, as regards the quality of teaching or education provided in secondary schools. The form of teaching provided is meant to stimulate mental activity, creative and critical thinking for instance which is possible through the process of questioning, brainstorming and the provision of academic tasks.

Questioning is considered to be at the heart of effective teaching according to Hoover (1972), and is a vital skill that every teacher should possess. The teacher
should be aware that the level of thinking engaged in a class depends on the questions asked in classroom discourse. Various types of questions used by the teacher can facilitate creative thinking, recall of information, application of knowledge and are therefore central in the learning process (Kochhar, 1999). The quality and quantity of pupils' responses are largely a function of the questions posed by the teachers. The pupils' responses can be modified or enhanced through the questioning techniques adopted by the teachers. Other teaching skills like the use of academic tasks may facilitate the same processes stated above. Questions frequently asked in the classroom discourse may eventually influence the performance of pupils in examinations.

As stated above, questioning is a vital element in interaction analysis or in the classroom where language is being taught or learnt. The performance in English at K.C.S.E examination has been low, one of the problems might be that our Kenyan teachers might not be using classroom questioning effectively.

Various researchers have developed methods to study questions, which have been closely linked to the various classifications of questions. Researchers have used Bloom's (1956) Taxonomy of Educational Objectives to analyse questions in the various domains: cognitive, affective and psychomotor. Bloom's Taxonomy of Objectives has not been used in research carried out in Kenya to analyse the questions used by English language secondary school teachers in the teaching
process. Gathumbi (1995) states that most teacher training institutions use the above taxonomy to teach the questioning technique. The researcher used it as a point of reference in relation to the questions used in the classroom.

Sanders (1966) modified Bloom’s Taxonomy of Educational Objectives in the cognitive domain and this has been useful in analysing cognitive questions. Amidon and Hunter (1966) developed a method of analysing questions as either open or closed. Guilford’s Structure of Intellect, which was developed in 1956, has been used to analyse questions at the cognitive level. It consists of cognitive memory, convergent, divergent and evaluative thinking types of questions. Barnes (1969) devised a system that consists of factual, reasoning, opening and social questions. Hakansson and Lindberg’s (1988) developed a method of analysing questions that are based on the cognitive level, communication orientation, communicative level and learner relevance. These represent some of the methods available to analyse questions. Gathumbi (1995) developed a “Multidimensional model to classify classroom questions.”

The category of questions used in this part of the schedule entail Hakansson and Lindberg’s (1988) model of questions (as stated above). Other questions included
are control, repair, rote, prompt questions among others. These represent some of the methods available to analyse questions.

The training of teachers in Kenya emphasises questioning among many other skills as an important aspect in classroom teaching. There is an emphasis in the training of teachers on how to use questions of different cognitive levels. The training offered to student teachers during micro teaching for instance at Kenyatta University emphasises the use of high order questions to encourage the application of information, synthesis, evaluation and developing problem-solving ability in pupils (Patel, 1995). As stated earlier, Gathumbi (1995) points out that, most teacher training institutions use Bloom’s Taxonomy of Educational Objectives to teach questioning skills and formulation of objectives.

The Kenya government in the Gacathi Report (1976) states that the quality of teachers must be given critical consideration. The training of teachers is aimed at ensuring the provision of quality education. The Binns Commission Report (1953) also emphasises the provision of quality teacher education and the need for effective discussion. Discussion can be effected through thought provoking questions and a conducive environment that the teacher creates in the classroom.

Gathumbi (1995) undertook research, which investigated the instructional procedures used by teachers, teacher-pupil interaction and questions, used in
bilingual English language classrooms. She found that teacher talk dominated English language classrooms (75%) while pupil talk formed (25%) of the verbal interaction. The pupils mainly responded to teachers' questions. Gathumbi indicates that English language predominantly used closed and recall questions as opposed to those questions requiring critical thinking.

Muthwii (1987) indicated that 76% of the questions used in Chemistry classes, were in the lower cognitive level consisting mainly of knowledge and comprehension questions. High cognitive level of questions constituted 24% of the questions asked. The above research indicates the predominance of lower order cognitive questions. Otieno (1996) researched on whether teachers' oral questions in English language classrooms promoted oral language learning. He discovered that 68% of the questions used in classes were closed-ended questions, which required specific answers, while the open-ended questions used constituted 32% of the questions used which demanded thinking from the learners. Rote learning seems to be emphasised. These research findings may have a bearing on the quality of education offered and the overall performance of pupils in the various subjects and the thinking ability among the learners.

The Daily Nation newspaper of 1 March 1990 stated that:

- English was poorly performed in the previous years.
- Students could not spell correctly or follow instructions.
- They gave irrelevant answers.
The then Minister for Education, Oloo Aringo made the above comments while handing over the K.C.S.E. examination results for university admission. This was an indication of failure of the students to comprehend information presented and the skill to select relevant information seems not to have been developed. This situation draws a lot of attention to the quality of teaching of English in Kenyan secondary schools especially to all the stakeholders.

The Daily Nation newspaper of 2, July 2001 noted the declining performance of students in English, which was the official medium of discourse. Part of the poor performance was attributed to the curriculum design that combined English Language and Literature. The report further stated that the teaching of English raised a lot to be desired based on the kinds of letters employers got. It further noted that most school leavers were unable to construct intelligible sentences even in a 300 word-application letter. Therefore it is crucial to assess the variables which have led to the declining standards of English language.

A similar complaint was raised in the K.C.S.E 1990 English Chief Examiners’ Report, which stated that:

Pupils lacked creative thinking and seemed unable to develop their own opinions. The essays they wrote indicated memorised textbook material, they were flat and bookish.
These comments may be a reflection of the type of teaching and questioning that pupils are exposed to. It is possible that the questions they are exposed to simply encourage recall of information, but little if any creative or critical thinking. The quality and quantity of pupils’ responses are largely a function of questions posed by teachers within the classroom. It is important to note that the questioning techniques used by the teachers like the use of prompting and probing questions and wait time may enhance the pupils’ responses and thinking.

The performance of English language has raised concern among educationists as a result of the fluctuating and unsatisfactory performance as noted in the Kenya National Examination Councils’ Report of 1996. The report noted that candidates were conversant with questions requiring them to pick answers readily available from the text, but found those that required them to infer meanings more difficult. The report concluded that there was need to enhance the teaching mode in order to develop the learners’ ability to think.

The role of questioning in the teaching/learning process cannot be underestimated and it definitely affects the learning outcomes. Lack of effective questioning may be one of the possible factors, which have contributed to the poor performance in English language in K.C.S.E. examinations in Kenya. Hence the researcher saw
the need to focus her research on the cognitive level of questions used in English language classrooms by the teachers.

1.2 STATEMENT OF THE PROBLEM

The standards and performance in English language are low in K.S.C.E. as noted in local dailies like Sunday Nation July 26, 1998 and Daily Nation, July 2, 2001 and this has raised concern among educationists as it is a crucial subject as the official medium of discourse. The Daily Nation newspaper March 1, 1995 noted Mr. Kamotho the Kenyan Minister for Education comment on the deteriorating performance of English language. Ineffective questioning may be one of the variables, which have caused the declining standards in the performance of English language in K.C.S.E. examinations. The cognitive domain is the instructional goal, which focuses on the transmission of knowledge and skills.

Most educational objectives are aimed at developing the intellectual skills of learners. Questions in the cognitive level are aimed at developing the intellectual skills of learners, which is the main focus of most educational systems like the 8-4-4 system. The pursuit of knowledge and development of intellectual skills has been the most prevalent view of the role of schools and education in the past and to date. The researcher therefore saw a need to focus on the cognitive level of questions asked by the teacher in order to determine the cognitive activity facilitated within the classroom.
English is the medium of instruction in Kenya, therefore its proper teaching and learning is vital for every subject taught in Kenya except other languages. Research undertaken by Gathumbi (1995) and Otieno (1996) has broadly defined the questions in the cognitive level as either open or closed. The cognitive level of questions can be distinctly differentiated into definite categories within the cognitive domain as indicated in Blooms' Taxonomy of Educational Objectives and Sanders (1966). Available research has not adequately addressed the aspect of cognitive interaction within English language classroom in secondary schools, through the process of questioning. Therefore, there was need for the researcher to investigate the teaching and learning of English language to find out whether or not the questions asked attained objectives set in the syllabus. The purpose of the study was therefore to find out the cognitive level of questions asked by the English language teachers in Kenyan secondary schools in Nairobi Province.

1.3 OBJECTIVES OF THE STUDY

The purpose of the study was to find out the cognitive behaviour patterns facilitated by English Language secondary school teachers through the process of questioning and the nature of responses elicited in some Nairobi secondary schools. In view of the problem stated, the following objectives were formulated for the study.

1. To identify the type of cognitive questions used in English language lessons.
2. To find out the frequency of usage of the various types of questions.
3. To establish the question distribution in the various English language teaching areas.
4. To find out the questioning styles of diploma as compared to those of graduate English language teachers in the sample.
5. To investigate if the type of questions posed influence the resulting kind of students' responses.

1.4 RESEARCH QUESTIONS

This study sought to answer the following research questions:
1. What is the nature and type of cognitive questions used in the sample of English language lessons by the teachers?
2. What is the frequency of usage of the various types of questions?
3. What is the question distribution in the various English language-teaching areas?
4. What questioning styles do diploma teachers adopt compared to graduate teachers?
5. Do the different types of cognitive questions influence the type of students' responses?
1.5 CONCEPTUAL FRAMEWORK

Various factors determine the process and outcome of the teaching/learning process. The main determinant essentially is the teacher who has been noted to dominate classroom discourse. The teacher is responsible for determining: the subject matter, the approach adopted in presenting it (teaching method), the classroom environment (atmosphere) and classroom discourse within the lesson.

The classroom input variables and the classroom interaction definitely affect the teaching/learning process and essentially the final learning outcome.
Questioning technique is one of the methods teachers adopt to engage pupils in interaction and to determine whether learners have understood the content. The various types of questions used in the classroom have a direct effect on the learning outcomes. Gullford’s structure of intellect is used to analyse the cognitive level of questions asked and the form of thinking they promote within the classroom. The Gullfords’ structure of intellect consists of four different categories of questions, which entail: - cognitive memory, convergent thinking, divergent thinking and evaluative thinking questions. Blooms’ Taxonomy of Educational Objectives is used to develop objectives by the teachers in the various domains; - cognitive, psychomotor and affective. The Blooms’ taxonomy is
relevant in the analysis of cognitive level of questions existing within the
cognitive domain. The cognitive memory questions, which promote recall of
facts. When the above questions are used they enhance the limited thinking
ability among learners. The cognitive memory questions correspond to
knowledge questions in the Blooms' taxonomy. The second category is the
convergent thinking questions, which encourage pupils to manipulate information.
This category corresponds with the comprehension questions found within the
Blooms' taxonomy. The third category in the Gullfords' structure of Intellect is
divergent thinking questions, which encourage creative thinking. These entail the
application, analysis and synthesis questions within Blooms' taxonomy, which
encourage application and critical review and analysis of information learnt and
creative thinking. The last category is evaluative thinking questions, which
require learners to make judgement over a situation. The use of the last three
categories of questions results with students developing an enhanced ability to
think. The teachers' choice of questions will definitely eventually have a bearing
on the classroom discourse and students' responses and eventually the learning
outcome as illustrated in the diagram below.
Fig 2: The Role of Questions Used Within the Classroom on the Learning Outcome.

Gullford's structure of Intellect

Inputs
Teacher
Class Lesson
Pupil

Two way Classroom Interaction

Part of Class Lesson.

Adopted from Gullfords Structure of Intellect (1956).

The above diagram represents the conceptualisation of the role of the interaction facilitated by various cognitive questions as displayed through the Gullfords' structure of intellect and the ultimate learning outcome generated. The Gullfords' categorisation of questions is broader in nature as illustrated than the Blooms' taxonomy. The category of questions identified in Blooms' taxonomy of educational objectives is within the cognitive domain. These questions include memory, comprehension, application, analysis, synthesis and evaluation.
questions. The researcher proceeded to establish the cognitive level of questions asked within the classrooms to establish whether questioning is one of the variables that has led to the poor performance in English language in K.S.C.E.

1.6 SIGNIFICANCE OF THE STUDY

The study will give feedback to practising English language teachers on the cognitive behaviour patterns facilitated by teachers through the process of questioning. Teachers will be able to revise the questioning techniques adopted and thus help improve the overall learning outcome.

The study will be helpful to English language secondary school inspectors, as they are the people who recommend in service training of English language teachers in the field. They also give advice on how to improve the teaching process, which includes questioning skill. This will ultimately enhance learner participation and output in the learning process.

This study would be helpful to curriculum developers of English at Kenya Institute of Education who develop the English syllabus. The findings will draw their attention to the cognitive interaction possible through questions. They may be able to recommend to teachers better methods of teaching using questions to achieve the set objectives within the classroom.
The study will stimulate research in this and related areas of Classroom Interaction and English language learning with a view to establishing the effect of different questioning styles on learner performance. The research findings will help the teacher training institutions to recommend more effective questioning strategies. This will enhance competency in questioning among teacher trainees.

1.7 BASIC ASSUMPTIONS OF THE STUDY

The researcher based the study on the following assumptions:

1. The presence of the researcher would not drastically influence the interaction of teacher and students.

2. The presence of the researcher would not make the teachers modify their teaching behavior to what they consider best, for this would not be representative of normal teaching behavior pattern.

3. Most of the teachers' oral questions elicit oral responses and not written ones.

1.8 LIMITATIONS AND DELIMITATIONS OF THE STUDY

1. The study was carried out in English language classrooms in Nairobi, which is an urban area. The results generated may not be generalised, as they are not representative of all Kenyan provinces. The results may only be adequate for descriptive purposes and to add knowledge to the existing body, to improve teaching of English language.
2. The Hawthorne effect might have been present. This was reduced by the researcher familiarising herself with the teachers and pupils and research environment by undertaking three visits to the classroom and developing a rapport with them. This was done before the researcher collected data.

3. Teaching and learning processes entail verbal and non-verbal interactions. The researcher was only interested in one aspect of verbal interaction, which was questioning. This approach was reductionistic in nature and did not adequately address all variables involved in interaction.

4. The researcher was only interested in cognitive behaviour patterns of English teachers facilitated through the process of questioning. The researcher did not consider aspects like academic task setting and other teaching processes. This entails looking at only one aspect of classroom teaching, which was not entirely representative of the real situation.

5. Only the verbal questions were addressed while the non-verbal questions and responses were not considered.

1:9 DEFINITION OF TERMS

Classroom Climate:- Learning environment within a classroom arising from behaviour of teacher and students. It can either be conducive or non-conducive.
Classroom Interaction: The chain of events, which occur in the classroom, one after the other, each occupying only a small segment of time.

Cognitive: Having to do with knowing or perceiving related to the mental processes.

Hawthorne Effect: Modified behaviour of a subject in a study that doesn't represent their normal behaviour patterns.

Heuristic: Method in education by which a pupil is set to finding out things for himself. Contrary to its usual meaning in the current research, it encompasses the analytic and critical thinking.

High Level Talk: Discourse which represents high cognitive level responses or communication e.g. analysis, synthesis, evaluation etc.

High Level Thought: Thinking process which is confined to high cognitive level. It entails critical thinking, complex mental activity e.g. analysis, evaluation, synthesis etc.

Interaction Analysis: Techniques for studying the chain of verbal behaviour between a teacher and his pupils in such a fashion that each event is taken into consideration.

Inter-Observer Agreement: A test that is undertaken to ensure that the observer uses the instrument consistently.
Observation System:- This refers to any technique designed for the purpose of identifying, examining, classifying and/or quantifying specific interacting variables of a given instructional-learning situation.

Question:- Any interrogative statement intended to elicit a verbal response or non-verbal response or a written response. Questions can be said to be a teacher-controlled device for promoting thought, making appraisals and moving students to desired goal.

Reductionism:- A limited perspective which does not entail taking a holistic approach towards an issue. It entails considering limited variables affecting a situation.

Teaching Behaviour: Acts by the teacher which occur within the context of classroom interaction.

Verbal Interaction Patterns: These are short chains of verbal interaction events that can be identified and occur frequently enough to be of interest. These include verbal behavior like praising, criticizing, questioning, answering and lecturing.

Verbal Discourse:- Description and analysis of spoken interaction.
Wait Time: Amount of time a teacher pauses after giving his or her pupils a question in order to give them time to think or reflect for a response before he urges them to respond.

1:10 LIST OF ABBREVIATIONS

ESL English as a Second Language.
FIAC Flanders Interaction Analysis Categories.
FLINT Foreign Language Interaction.
GCE General Certificate of Education.
KCPE Kenya Certificate of Primary Examination.
KCENT provinces of education.
PDE Provincial Director of Education.
SLIAS Second Language Interaction Analysis Schedule.
STOS Science Teaching Observing Schedule.
TPQI Teacher Pupil Question Inventory.
CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter is devoted to reviewing related literature. The present study was concerned with establishing the cognitive level of questions used by the English language teachers. The chapter addressed the various approaches used in classroom observation, the areas of study in classroom interaction, the various classification systems of questions, functions of questions and research that has been carried out in these areas. The areas above enable us to effectively harness our attention on the research problem.

2.1 APPROACHES USED IN CLASSROOM OBSERVATION

The main approaches used in classroom observation are Structured and Unstructured approaches. Some researchers have also used Rating scales and Checklists.

2.1.1. The Systematic or Structured Approach

Medley and Mitzel (1963) say that this involves using a preconceived structured schedule, which is used for coding classroom behaviour to produce data, which can be quantified.
Ober et al. (1971) state that the structured observational system usually includes some types of carefully defined categories, which observers may use to record and represent the behaviours in the classroom. Each category focuses the teacher’s attention on the identified types of classroom behaviour and makes it possible to record observed behaviour in quantitative terms. The present study entails analysis of cognitive level of questions asked in the classroom, based on some already predetermined categories. This approach was structured in nature as indicated above.

Systematic observation is an accepted method of organising teaching acts in, classifying and measuring specific variables as they interact within the learning situation. It adds meaning and precision to observational experiences. The observer is able to conceptualise the interaction of the variables making up the instructional learning situation (Ober et al., 1971). In the proposed study the specific variable in focus was the teacher’s questions, the researcher was further interested in identifying and classifying them, to determine the cognitive activity within the classroom. Systematic observation can be used for a number of purposes: - to describe current classroom practices, to monitor instructional approaches, to investigate relationships between classroom activities and pupil attainment and to train teachers (Bennet and McNamara, 1979). In this study, systematic observation is used to describe the current teachers' classroom practice use of cognitive questions.
Systematic observation is an accepted method of organising teaching acts in a manner which allows any trained person who follows the stated procedures to observe, record and analyse interactions, with the assurance that others viewing the same situation would agree to a great extent, with his recorded sequence of behaviours (Ober et. al., 1971). The present study used the same approach. A measure of this is referred to as Inter-Observer reliability. In the case where there is one observer, inter-judge agreement can be used (Bennet and McNamara, 1979).

Direct observation can be used to search for effective patterns of teaching and learning behaviour. Systematic observation provides the opportunity for continuous monitoring of teaching behaviour- the examination of class relevant variables in light of activities necessary to teach as planned (Ober et al., 1971). Systematic observation enabled the researcher to examine the teacher's questioning behaviour.

Researchers like Withall (1949), Galloway (1969), Flanders (1970) and Flanders and Amidon (1970) pioneered the utilisation of the systematised approaches in the study of classroom observation in the United States (Ober et al., 1971). Flanders' observation schedule, Flanders Interaction Analysis Categories (FIAC) has been modified by many researches and has led to development of many observation schedules, for instance Foreign Language Interaction (FLINT) which is used for
foreign language observation. Observation schedules vary in length and scope, Flanders' (FIAC) consists of 10 categories, Gathumbi (1995) developed Second Language Interaction Analysis Schedule (SLIAS) which consists of 55 categories while the instrument used by the researcher in the current study consists of seven categories. The focus and scope of the study determine the number of categories existing within an observation schedule. The current study therefore adopted the structured approach.

2.1.2 Limitations of the Structured Approach

McIntyre and MacLeod (1980) in Gathumbi (1995) state that the structured approach has been blamed for ignoring certain aspects of classroom life (such as personal meanings exchanged by teachers and pupils) and with which it is not concerned about.

Hamilton (1973) points out that structured observation of a classroom event is not enough. It is necessary to be aware of its history, possible outcomes and to be sensitive to the thoughts and intentions guiding the participants. The observer would need extensive time of observing the teacher interacting with the class and coding a brief sequence would not provide a realistic picture of the classroom.
2.1.3 The Unstructured Approach

This approach has no previously designed schedule for coding behavior. The observer has no predetermined method of coding specified events. He selects at random what he thinks is useful and available for description and discussion. The observer’s beliefs, attitudes and interpretation play an important role in determining what is selected (Power, 1977 in Muthwii, 1987).

The researcher determines the variable she selects to observe describes and analyses at random. Ober et al. (1971) states that many studies were undertaken solely using this approach for example; Hamilton (1973) and (Hargreaves et al., 1975).

2.1.4 Limitations of the Unstructured Approach

The results developed from the unstructured approach are liable to distortion, reduction or bias. Also, due to the random nature of data selection, the results generated are questionable (Power, 1977 in Muthwii, 1987). The researcher therefore did not use this approach for the reasons stated above and also due to the nature of unreliable data produced.
2.1.5 Rating Scales and Checklists

Rating scales are associated with units of teaching behaviour specified according to an arbitrary period of time rather than a communication event or activity. Observers using rating instruments are expected to estimate the frequency of specified events at the end of an observation session. The estimations are usually made on a five to seven point scale. One end of the scale represents high frequency while the other end represents low frequency. While using rating scales, the observer looks out only for a specified teaching item. Researchers like Kleinmann (1965) adopted this approach. Researchers like (Power, 1977 in Muthwii, 1987) have questioned the validity of the above approach. The researcher did not therefore adopt the above approach for the current study.

2.2 AREAS OF STUDY IN CLASSROOM INTERACTION

Classroom environments are diverse and so are learning activities. Interest in classroom interaction research, which is part of the classroom environment, has focused on the following aspects: Verbal behaviour, Non-verbal behaviour and Cognitive level (Ober et al., 1971).
2.2.1 Verbal Behaviour

Verbal communication occurs when a sender transmits words or signs in spoken form conveying his thoughts, ideas and messages by means of symbolic words which have meaning to a receiver. He may use words and sounds speaking them in varying tones or pitch to relay different messages (Arends, 1997). Within the classroom context, the teachers spend a great deal of time teaching, explaining, giving instructions and asking questions. The teacher controls most of the variables of conversation, therefore classroom talk is highly regulated (Furlong and Edward, 1978). Research carried out has shown that teachers dominate verbal interaction within the classroom for instance Flanders (1970), Rwakyaka (1976), Omollo (1990) and Gathumbi (1995).

Certain aspects of classroom verbal interaction like questions asked by the teacher are of interest in the current research. Gall (1970), Perrot (1982), Wragg (1984) and Gathumbi (1995) were interested in the questions asked by the teachers in normal classroom discourse. Their findings are stated on the sub-section on questioning. Other researchers may focus on pupils' responses and while others concentrate on pupils' interaction with each other or teacher-pupil interaction.

2.2.2 Non-Verbal Behaviour

Non-verbal communication consists of symbols that are not words, including non-word vocalization, bodily movement, facial expression, the use of space, touch,
vocal cues and dressing. Non-verbal communication may be evident through the physical environment of the classroom, furniture objects and sitting arrangement. Non-verbal communication is also possible through the kinesic movement of pupils or teachers, linguistically through the teacher writing on the blackboard and pupils copying, proxemic and paralinguistic communication (Wilkinson, 1975).

Non-verbal behaviour is an important aspect of classroom interaction. Non-verbal communication is used to reinforce meanings of words and convey their feelings and preferences. This may include eye contact, facial expressions (smile or frown) and gestures. Non-verbal communication within the classroom is an important form of feedback, which determines the activities undertaken by teachers and pupils (Galloway, 1969 and Kruger and Schalkwyk, 1997). Teachers may be able to determine whether pupils have understood the questions within the classroom and respond to them based on the feedback they receive, for instance perplexed looks will hint that the students have failed to comprehend the questions posed.

### 2.2.3 Cognitive Level of Interaction

Bruner (1968) in Gathumbi (1995) argues that language is an instrument of thought and thought is often expressed in language. Discourse may be considered to be an externalisation of thought (Arends, 1997). Inferences may be made about
the level of thinking through observing classroom interaction. Eggleston et al. (1975) developed Science Teaching Observing Schedule (STOS), which consisted of 23 categories of intellectual transactions including teachers' questions, statements and directives and pupil-initiated activities. The instrument was used to observe biology, chemistry and physics lessons. Findings generated revealed a high incidence of teachers' statements of facts and directives to find facts. Fact acquiring or rote learning was highly overemphasised in comparison to practical enquiry. This simply highlights the fact that low-level cognitive interaction is emphasised by teachers in schools. Questioning has been another important method used to facilitate expression of thought. Questions have been used to stimulate thinking (Richards and Lockhart, 1994). This made the researcher interested in the questions asked within the classroom. It has been noted that questions determine the cognitive level of interaction within the classroom (Hunter, 1972).

2.3 NATURE OF CLASSROOM VERBAL INTERACTION

Classrooms are often characterized by central communication, where talk is highly regulated. The teacher in most cases is the center of the interaction process, involving the whole class. The teacher controls most of the variables of conversation including turn taking, turn relinquishing, topic changing and closing (Furlong and Edwards, 1978). Teachers control the type of classroom discourse variables including the questions asked and learner participation (Owen, 1978).
The teachers determine the type of questions asked, which pupils participate in answering and in what manner (turn taking or turn relinquishing).

Research undertaken by Rwakyaka (1976) in "A study of teacher student Interaction in English as a second language (ESL) classes", found that teacher's talk consisted 79% of all the classroom talk. To verify further the above findings, Gathumbi (1995) observed that teacher talk constituted 75% of all classroom discourse therefore dominating it. As Richards and Lockhart (1994) state, the pupils’ participation in classroom discourse is quite often triggered off by the questions posed by teachers.

Njogu (1993) in his research on “The Quality of Classroom Interaction and Its’ Effects on Performance”, observed that the greater the verbal interaction, the better the performance. Questions constitute a large portion of classroom discourse and interaction and they may affect performance. This is why the researcher in the current study focussed her attention on the questions asked within the classroom.

2.4 QUESTIONS AND QUESTIONING

Questioning is an art involved in many fields like teaching, law, counselling, private investigation, journalism and medicine (Dillon, 1982). Questions occur in the classroom as a major instructional device and hence it may be said to be one
of the discourse elements, which form the core, around which communication between teachers and pupils occur (Dillon, 1986). This simply highlights the central role of questioning within the educational process and as a teaching tool. Studying it, may then shed light concerning the effectiveness of classroom communication.

A question may be a verbal utterance, which has the objective of eliciting a response from the person to whom it is directed (Brown and Edmondson, 1984). In this case, the current study focused on the cognitive types of questions posed by the teacher.

Questions are considered to be central in the teaching and learning process. Kochhar (1999) states that "the teacher who never questions never teaches". This simply verifies the central role of questioning in the teaching/learning process. As Hollingsworth (1982) states "the heart of good teaching is found in good questioning." Bossing (1964) states that question are an effective form of stimulus, which are readily available to teachers. Questions can be readily formulated and used by teachers within the learning process.

Cazden (1988) focused on questioning and they observed implicit rules, which concluded that teacher, asked most of the questions in the classroom, they knew the answers to the questions they asked and repeated questions implied
wrong responses. They contended that these rules needed to be confronted directly if the teachers wanted discourse in their classrooms to promote high level thinking.

Given the central role of questions in classroom discourse, it is essential for the teacher to understand the full potential of questions as they manage the learning process (Weigand, 1971). Questioning is a competency and tool that teachers should possess. The results of this research might be very handy for this purpose to establish whether teachers effectively use the questioning technique. Recent developments in education have placed much emphasis on helping children learn how to become independent in their learning and how to think for themselves (Gall, 1970). The discussions which are fostered by thought provoking questions provide opportunities not only for engaging in thinking, but when properly handled they enabled the students to develop a positive attitude to thinking. (Arends, 1997). If questioning is that important in teaching, then studies on the use of questions in the English language classrooms are invaluable.

2.4.1 Functions of Questions

Asking questions is considered to be one of the basic ways, which teachers may use to stimulate student thinking and learning according to Kochhar (1999). Aschner (1961) states that teachers promote four thinking activities through questions namely: - reasoning, remembering, evaluating and creative thinking.
The discussions facilitated by thought provoking questions improve student thinking and help them to construct their own understanding of knowledge (Arends, 1997). The researcher was interested in finding out the type of cognitive questions asked in English language classrooms and the thought processes triggered off.

Kissock and Iyortsuun (1982) state that questions can be used to develop processes of thinking, guide inquiry, decision making, acquiring and clarifying information, providing motivation by encouraging active participation. This further highlights the crucial role of questions in developing thinking processes that is why the researcher focused her attention on this particular area.

Pate and Brener (1967) in their research found that 68% of the teachers used questions to check their teaching effectiveness by measuring pupils' learning; 47% of the questions were used to test pupils' ability to recall facts, 54% of the teachers used questions to make generalisations using facts. This simply broadens our perspective to the role of questions in the classroom.

Teachers to increase pupils' participation in classroom discourse have used questions. Rosenshine (1971) states that probing questions increase pupil achievement. Owen (1978) further indicated that there was a positive relationship
between teacher’s frequency of asking questions and pupil participation. This is something a teacher should be committed to achieving as it enhances the learning process. This may be achieved also through the process of assigning learners tasks.

Kochhar (1999) states that questions have a broad range of functions. They are used to develop and broaden understanding of the information learnt, encourage review of work learnt, emphasise information learnt, create a conducive emotional and intellectual atmosphere for learning and management functions.

Hollingsworth (1982) states that the proper use of questions by the teacher can raise the level of critical thinking and aid pupils in reflective thought. This represents the thought provoking functions promoted by questions asked in the classroom by the teacher.

Aschner (1961) and Gall (1970) further pointed out, that evaluating is an important function promoted by questions asked in the classroom. Creative thinking produces ideas, solutions to problems and new ways of doing things. Questions can be used for discussion purposes in order to solicit student’s opinions.
Richards and Lockhart (1994) stated that questions stimulate and maintain students' interest, encourage participation of students and enable teachers to check students' understanding. They encourage students to think and focus on the contents of the lesson.

Brown and Edmondson (1984) highlighted the following as functions of questions in teaching:-

- **U** - understanding of ideas, encouraging thought.
- **CH** - checking understanding, knowledge and skills.
- **R** - review, recall, revision, reinforcement of recently learnt information.
- **O** - the expression of feelings, views and empathy among many other functions.

This represents or concludes some of the views expressed on the functions of questions. Their role seems indispensable to the teaching-learning process. All the functions cited emphasise the cognitive activity within the classroom, which was of interest to the researcher. The researcher was aware that some of the ends achieved through questioning may be achieved through other processes like provision of academic tasks and brainstorming. Questioning can be acclaimed to achieve those effects when integrated with other teaching styles especially lecturing.
2.4.2 Classification of Questions

Gall (1970) states that many researchers have attempted to describe the type of questions asked by teachers. He cites the various researchers who have developed classification systems as follows:- Bloom (1956), Aschner (1961), Carner (1963), Adams (1964), Clements (1964), Gallagher (1965), Moyer (1965), Sanders (1966), Pate and Brener (1967), Guszak (1967) and Schreiber (1976).

Taba et al. (1964) in Perrot (1982) indicate that different types of questions stimulate different kinds of thinking. Questions may be classified according to whether they are primarily procedural, affective or cognitive based on the function they perform. The researcher was interested in finding out the cognitive level of questions asked in Kenyan English language classrooms and the various thinking activities, which are promoted.

The most common category of questions is 'open' and 'closed' questions. Open questions refer to broad questions, which permit a wide range of acceptable responses, which are not predictable. Broad questions help develop the intellectual skills and ability of the learners. Closed questions are narrow in focus, they require low-level thinking and they evoke short factual answers. (Adopted from Amidon and Hunter, 1966). The two types of questions promote
Either higher or lower-level thinking and they are common in classroom discourse.

Another category of questions is based on the Guilford's Structure of Intellect. It is used for analysing the cognitive level of questions. Guilford's categories include: - cognitive memory questions, which emphasise the recall of facts, convergent, thinking questions, which require a pupil to manipulate information, divergent thinking questions which are thought provoking requiring the pupils to organise information elements creatively and finally evaluative thinking questions which require pupils to make some judgement. (Adapted from Aschner and Gallagher, 1965). Guilford's structure of intellect represents the different thought levels, provoked by different types of cognitive questions used in the classroom. The above system was considered to be relevant to the current research because it dealt with the level of thinking promoted by different types of questions.

Barnes (1969) developed another category of questions. It consists of factual, open, reasoning and social questions. This system represents the different modes of classifying, the questions used in classroom discourse. (Adapted from Brown and Edmondson, 1984).

Long and Sato (1983) in Arends (1997) classified questions according to whether the teachers knew the answers or not to the questions they had posed. The display
questions referred to the questions the teachers posed with prior knowledge of the expected responses and they were distinguished from referential questions. They found that the display questions were more frequent than the referential questions. These are almost similar to the open and closed category stated by Barnes (1969) above.

Another category of questions, which is adapted from Kissock and Iyortsun (1982), is Bloom’s Taxonomy of Educational Objectives. Its questions are classified based on the three domains of learning: - cognitive, affective and psychomotor. Our emphasis in the current research was the cognitive domain. The cognitive domain has six categories of questions; - recall, comprehension, application, analysis, synthesis and evaluative questions. These are relevant to the current research as it is based on cognitive questions within the classroom.

Gathumbi (1995) has developed another category system, (a Multidimensional model for classifying classroom questions) which is based on a modification of Hakansson and Lindberg (1988) model, it was developed originally from Guilford’s Structure of Intellect. The classification of questions is in the cognitive domain. It also includes other questions like repair, prompt, control and communicative level.
2.4.3 Cognitive Level of Questions

Gallagher (1965), carried out a study to describe the kinds of thinking operations, which take place in a variety of classrooms, and to determine the factors, which influence the expressive abilities of gifted children. Majority of the questions teachers used entailed cognitive memory and convergent thinking operations. These represent the lowest cognitive level of thinking. The classification system developed the Gullfords' structure of intellect to analyse cognitive level of questions is relevant to the study.

Rosenshine (1971) in his research concluded that narrow or factual questions were most useful when providing feedback to teachers about correct or incorrect responses. He stated that factual questions were more instrumental than higher order questions in factual learning. It should be noted that this study was confined to the early grade classrooms in primary schools.

Winne (1979) in his study on the use of higher cognitive questions and their influence on student performance, demonstrated that certain kinds of questions promote pupil achievement. Winne concluded that whether teachers predominantly used factual questions made little difference in the student achievement. Some particular kinds of questions and questioning strategies were more effective than others in doing so. The researcher intended to establish the questioning strategies adopted by a small sample of teachers in Nairobi Province.
Dillon (1981) was interested in the cognitive correspondence between teacher questions and pupil statements. He discovered that students exhibited the same cognitive level as teachers' questions. This is important as it indicates that teachers' questions determine or influence the cognitive level of interaction possible through the process of questioning.

Redfeild and Rousseau (1981) stated that asking higher level and thought provoking questions had a positive effect on a student's achievement and thinking. The researcher intends to establish whether the same holds weight in the Kenyan situation.

Kissock and Iyortsuun (1982) stated that many teachers pay more attention to recall learning, which requires pupils to simply repeat information and facts memorised earlier. Teachers neglect higher levels of thinking, which are necessary to develop critical thinking. This is an alarming situation, as it indicates that recall of information is the type of learning advocated within the secondary schools. The researcher intended to establish whether this situation exists within the Kenyan context.

Gall (1984) stated that factual questions were more effective for promoting young and disadvantaged children's achievement, they primarily involved mastery of basic skills. Emphasis on higher order cognitive questions was more effective
on average or high ability students who could think independently. These findings should not be considered conclusive, as that would confine the useful role of the various questions to a limited population of students.

Muthwii (1987) indicated that 76% of classroom questions in some Kenyan Chemistry secondary school classrooms constituted of the lower cognitive level of questions. This findings are relevant to the current study as they are obtained from a local environment and education system which the researcher is familiar with.

McTighe and Lyman (1988) in Arends (1997) studied how to get students and their teachers to ask more questions that promote more higher level thinking and how to analyse the nature of the responses made by the various questions. This was possible through a device called the 'thinking matrix' whereby teachers were advised to create symbols to illustrate the various thinking processes described in Bloom's taxonomy and integrate them into the discussion process. The thinking categories in Bloom's taxonomy are relevant to this study because the conscious knowledge of the teachers and pupils of Bloom's taxonomy would definitely enhance the learning process.

Schools' noted that recall and closed questions were very common in English language classrooms. Closed questions constrained the level of thinking of pupils.

Otieno (1996) noted that 32% of the questions asked were open and facilitated creative thinking while the 68% remaining questions asked were closed which constrained the learners' ability to think. The researcher intended to establish whether this was the current situation in Kenyan English language classrooms.

In many other countries, the study of cognitive level of questions has not been taken seriously. In Kenya, little has been done in the area except by researchers like Gathumbi (1995), Otieno (1996) and Muthwii (1987).

It looks justifiable to study questions in English language, because of the concern, poor performance in English has generated. It is possible that classroom questions do influence performance. The above researches simply highlight the general trend, which has been noted, that is, teachers mainly use recall questions when teaching. This may be attributed to the type of training teachers receive. Allan and Ryan (1969) indicate that this trend may be due to lack of effective micro teaching training. Bwire (1990) revealed that student teachers in diploma colleges considered the use of higher order cognitive questions a difficult skill and they did not even consider it to be an important skill to be integrated into
teaching. This is likely to have a bearing on the use of questions within the classroom. This study may bring out some interesting revelation concerning classroom practices of English language teachers with specific reference to the use of cognitive questions.

2.4.4 General Research on Questioning


Flanders (1970) reported that asking questions and giving information accounted for 70 to 90% of teacher talk. It then seems that questioning deserves studying, because it occupies a large portion of classroom talk.

Rosenshine (1971) indicated that teacher’s questions had a major impact on the quality and quantity of pupil’s achievement. Rosenshine asserts that the type of questions used in the classroom affects the pupil achievement. The researcher intends to find out whether the cognitive level of questions used eventually affects the pupils achievement or performance. That is why the researcher focused her attention on cognitive types of questions, as they are bound to affect the pupil's
achievement and the learning process. In fact, there has been a lot of ‘hue’ and ‘cry’ as concerns the performance of English at K.C.S.E. in Kenya.

Dillon (1982) reports in his study that half of all students' responses exhibited the same cognitive level as that of teachers' questions and statements. Students' response to questions may be analysed according to whether they are accurate or inaccurate or based on the length of the responses. Otieno (1996) analysed the students' responses based on the length of the responses. In the current study the researcher analysed the responses into three categories: - short, long and elaborate and incomprehensible responses.

Riley (1986) observed wait time and related it to the cognitive level of questions posed. The length of the pauses by the teacher seemed to influence learning by high order questions. These findings are relevant because of the current interest in different cognitive level of questions posed.

2.5 CLASSROOM LANGUAGE STUDIES

Bellack et al. (1966) discovered that classroom language was characterised by patterned processes of verbal interaction. Classroom interaction was viewed as consisting of a game governed by rules, which players (teachers and pupils) learn to adhere to and play appropriately. Questions are part of the interaction game
that teachers and pupils are involved in. This is the main focus of the current research.

Barnes (1969) was interested in language patterns of teachers and pupils during lecturing. He looked at the aspects like teacher questions, the language of instruction, social relationships and pupil participation. Barnes discovered that factual questions predominate classroom discussion. The classification of questions developed by Barnes was relevant to the current study in relation to the factual and reasoning questions asked.

Nuthal and Lawrence (1965) analysed initiating statements just as Smith and Meux (1962) did. They also analysed the questions in each episode. They proposed the concept of incident as a unit of analysis: these are series of verbal situations, which are created by teachers’ questions and statements. We are aware that questions are considered as kind of initiating statements that determine the incidents or verbal interaction between teachers and pupils. Questions then play a vital role in starting off classroom talk.

Sinclair et al. (1975) were interested in the functions of an utterance in general. Classroom discourse was analysed using a system developed by Bellack et al., (1966). They also used a descriptive model of rank scale developed by Haliday. The ranks Haliday had developed and used for analysis were adopted by Sinclair
et al (1975). They included transactions, exchange, move and act (the lesson being the highest rank and act being the lowest). Central to this analysis is the basic initiating-response and feedback pattern developed by (Bellack et al., 1966). Questions in this case are considered to be initiations used by the teachers to trigger off responses in form of answers from pupils and feedback from teachers. This was relevant to the study because the initiations by the teachers and responses by students were supposed to be used to determine the cognitive level of questions asked in the class.

Johnson (1979) studied the common understanding, which occurs in teacher-pupil discussion. She analysed moves of classroom discourse as soliciting, responding and reacting. She considered these to be similar to the ones developed by (Bellack et al., 1966). In this case, teachers play the role of soliciting through questions, then pupil respond through answers and teachers react to the pupils' responses. The researcher was interested in the soliciting moves of classroom discourse represented by questions.

Fillmore (1994) in a study of 60 language classes observed that successful language teaching occurred in classes that made great use of teacher' instigated activities. Tailoring questions to suit the learners' level of proficiency is one of the activities she cited. Teachers' use of cognitive questions is the main area addressed in the current research.
2.6 TRAINING OF TEACHERS ON QUESTIONING

Micro-teaching provides the opportunity to train and impart various skills to make teachers effective. The use of higher order cognitive questions and divergent questions is among the skills which student teachers are trained in as indicated in the Standford Component Skills of Teaching. Questioning is central to teaching therefore teachers must develop an effective questioning technique.

Patel (1995) states that probing and high order questions are emphasised in Micro-teaching training. Probing helps students develop critical awareness as they justify their responses. High order questions develop the cognitive level of learning and stimulate learner participation and thinking. Student teachers are trained on when to effectively use high order questions, to develop the cognitive level of learners. They are also trained to use questions to ensure maximum learning goes on in the classroom (Patel, 1995). Hence the researcher seeks to investigate the possible implications of the training that teachers experience.

2.6.1 Effective Questioning

The good questioning practices have provision for different levels of thinking. There should be variation in questions asked for effectiveness in teaching. The questions asked should include both high order and lower order questions. Good questions have clarity leaving no room for doubts of its purpose and provide room for reflective and critical thinking (Kochhar, 1999).
Questions when used effectively facilitate the development of attitudes, the development and sustenance of interest. They provide new ways of dealing with subject matter and give quality and purpose to evaluation (Weigand, 1971). This may be activated by thought provoking questions, which require the learners to manipulate information. In this study we shall look at the broad range of functions that questions have because according to Kissock et al, (1982) “questioning is similar to many other skills”.

They further add:

To be proficient as it requires both knowing what the skill is, and developing it through practice and use. To be skilled at questioning requires knowing what good questions are, knowing how they should be presented and having the ability to make use of them in instructional settings. It is in the classroom that questions are modified to meet the dynamics of the situation, characteristics of the subject, and needs of the teacher and students (1982:127).

Teachers should therefore be tactful in handling the students' responses in order to enhance more effective learning and thinking by the pupils by acquiring effective questioning strategies. The way students' responses are handled makes a difference in the learning experience. When pupils fail to respond to questions posed, the teacher should rephrase the questions or prompt the students. The teacher should acknowledge correct students' responses and reinforce them through praise. When pupils give partially incorrect answers to questions posed, the teachers should acknowledge the correct elements in the answers and encourage pupils through cueing to respond to the rest of the questions. When pupils give inaccurate responses the teacher should make the pupils aware of it
and redirect the questions and add cues to help the pupils to think in the correct line of thought and respond appropriately.

Burton (1981) advises the use of specific kinds of questions for specific purposes and use thought provoking questions. Teachers are encouraged to use thought provoking questions and use related questions that become progressively more difficult, if you want students to acquire a concept in depth.

Hargreaves and Fullan (1984) noted that it was essential to regulate open questions to avoid management problems like long and irrelevant answers, which may cause boredom and disruption among other learners. It is essential for the teachers to pose and integrate open questions tactfully within the lessons in order for them to be productive as intended.

Teachers are encouraged to pose questions relevant to the theme of the lesson and they should help unify the learning process and make it effective (Dillon, 1988). There is need for variety of questions within the classroom. It is essential for teachers to pose questions appropriate and think about the questions before doing so if they are going to be instruments in the learning process. The researcher wonders whether the Kenyan teachers encourage diverse thinking through the questions posed within the classrooms. The researcher intends to establish the cognitive level of questions used within the classroom to determine the cognitive
activity in the classroom. The next chapter addresses the methodology used for this study.
CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

The current research investigated the cognitive level of questions asked by English language teachers in the selected public secondary schools in Kenya. This chapter focuses on the methodology used in the current research. The areas considered are the population and sample selected, the choice of instruments, data collection procedures and data analysis. The study was carried out in two phases, namely the pilot study and the main study. The researcher used the Teacher / Pupil Question Inventory to carry out the observations (refer to appendix 1).

3.1 LOCATION OF THE STUDY

This study was conducted in Nairobi Province. The reason for this is due to the close proximity of the schools to each other. This was an important aspect to consider as the researcher had to observe two or three teachers consecutively and had to harmonize the visits with the time-table.

The transport system in Nairobi Province is well developed and this facilitated field visits to the schools, as they are accessible. The nature of the study was Classroom Interaction Observation, which entails a systematic observation of the
study of the complex behaviour patterns found within the classroom and several observation visits were required. This process was not only time consuming but also expensive. Therefore, the study was confined to Nairobi Province. The researcher was also familiar with the locality, which made it easier to develop an immediate rapport with the subjects, hence making data collection less cumbersome. Best and Kahn (1993) state that research requires careful thought and consideration about a number of practical factors.

3.2 RESEARCH POPULATION

The study population consisted of English language teachers in secondary schools in Nairobi Province, who are Bachelor of Education or Diploma holders. The researcher obtained the total number of teachers teaching English language from the Nairobi Provincial Director of Education’s Office (PDEs) from the Statistics Department. There were 79 Bachelor of Education graduates and 22 diploma teachers, teaching English language in Nairobi secondary schools. Out of this number, the researcher used a sub-sample of ten teachers (five graduates and five diploma holders). This constitutes about 10% of the accessible population, which is considered acceptable for descriptive research by Ary et al. (1972).

In this case, disproportional stratified random sampling technique was used to select the sample size of teachers to be used in the study. This sampling technique ensured that the sample was representative.
In disproportional stratification, an equal number of cases is drawn from each sub-group regardless of the proportions in the population, (Hall, 1967 in Njuguna, 2000). In this case, the diploma and graduate teachers were represented equally. Ary et al. (1972) states that if the emphasis is on the type of differences among the strata, one selects equal number of cases from each stratum. The sample of teachers was obtained from the public schools in Nairobi Province.

To obtain the sample of schools used in the study, the researcher used stratified random sampling method. There were three categories of public schools:- National, Provincial and District secondary schools. National schools normally admit students who have performed best in the K.C.P.E examinations in each of the provinces. The Provincial schools normally admit 80% of student from the home districts while the District schools admit all students from the district. The list on appendix three consists of National, Provincial and District schools, which catered for representation of the varying intellectual differences of pupils which, may influence classroom discourse. There were three boxes used to represent the different categories of school as stated above, they represent the varied intellectual abilities of the pupils. The lottery method was applied whereby the researcher picked three pieces of paper from the three boxes to represent the three categories of schools. An additional paper was randomly picked from one of the boxes to ensure that the total number of schools from which the sample of teachers was drawn was ten. The sample of twelve teachers was initially selected
to cater for any percentage wastage, which would occur in the process of data collection. Percentage wastage would be caused by unforeseen circumstances like possible illness of the teachers etc.

Private schools were not included in the study because of the different curriculum that was adopted in many of the schools, the G.C.E London curriculum. Private schools have administration, which is very critical of research being undertaken within the school. They were therefore omitted from the study.

Form four class is an examination class, therefore it was not found suitable for the study, because most of the teachers would not allow examination classes to be interfered with, as they were preparing for the examinations. Form two class, was considered appropriate for the study as they were well adjusted to the mainstream of high school education and they were familiar with the teachers and the teachers were more willing to participate in the study.

3.2.1 Justification of the Sample

The reason for selecting such a small sample, is due to the fact that classroom observation is more quantitative in nature and it required the researcher to observe one teacher several times so as to get reliable results of what really happened in the classroom. It was vital for the researcher to collect rich data representative of
the variables under observation. The researcher ensured that the teachers sampled for observation had no timetables clashing.

The methodology of classroom observation also limits the amount of data that can be analysed in a single study by a single researcher. The process of analysing data is complex and time consuming. Njuguna (2000) used six teachers in her study on "Verbal Classroom Interaction Patterns of selected school teachers with their students in Nairobi Province". In this study, the researcher limited the sample of teachers to 10 due to the nature of classroom observation, the volume of data generated and that the process of data analysis is time consuming.

3.3 THE INSTRUMENT

The researcher adopted the Teacher/ Pupil Question Inventory (TPQI), which proved to be effective in analysing the cognitive level of questions asked. The Teacher/ Pupil Question Inventory was the instrument, which was devised by researchers to analyse the cognitive questions used in social studies classes in the University of Texas in 1966. The categories of questions within the inventory are mainly developed from the Bloom's Taxonomy of Educational Objectives and were modified by Sanders (1966). The Bloom's taxonomy of Educational Objectives consists of the following categories: - knowledge, comprehension, application, analysis, synthesis and evaluation. Sanders (1966) simply modified the comprehension category into the translation and interpretation questions. The
Teacher/ Pupil Question Inventory consists of nine categories: - seven, which are based on the cognitive domain and the remaining two, are non-cognitive questions. These categories include memory, translation, interpretation, application, analysis, synthesis and evaluation questions, which are within the cognitive domain, while affectivity and procedural questions, which are non-cognitive. In the present study the researcher omitted the two non-cognitive questions as the focus on the research is on the cognitive questions used within the English language classrooms. The students' responses are evaluated also (see appendix two).

In the original instrument the classroom observation was undertaken in thirty minutes, which are divided into five minutes periods. At each interval recording, when the teachers and pupils pose the observer questions the observer decided into which category the question may be classified and a tally is made. This was the case in the original instrument. In the current research to avoid the reductionism, the interval recording was one minute in order to get a better picture of the questions used. The pupils' questions are not coded in the current research as the researchers' focus was on the cognitive questions posed by the teachers within the classroom. The above are all modifications of the original Teacher/ Pupil Question Inventory. The frequency distribution and the percentages of the various questions were calculated.
3.4 TRAINING OF THE OBSERVER

Before the researcher went out for the actual classroom observation, there was a preparatory period, during which she trained on how to identify and code questions into the various categories. The researcher first learnt and memorised the various types of questions. After this, the observer was trained to develop the preferred speed to record questions and to classify them accordingly.

The researcher practised using the tape recordings of live lessons first. This provided good practice to the researcher. The researcher then made observations in the actual classroom situation. This provided a first-hand experience of what happened in the classroom.

Since there was only one observer, there was need to ensure that the observer used the instrument consistently. The test for this consistency was similar to Inter-Observable Agreement. To establish the agreement, the observer coded a double English language lesson on tape. Two weeks later the same lessons were coded and the two observations were compared, code for code to obtain an agreement coefficient of the observations. This was done until there was a high level of agreement achieved as 95%. This coding exercise was also done in conjunction with a trained observer to establish the reliability and validity of the instrument as its consistency.
The formula used for establishing Inter-Observer Agreement is suggested by Frick and Semel (1974) recommended by Unwin and McAlese (1978) in (Groenewegen, 1985).

\[ Po = \frac{\Sigma^A_{all} + \Sigma^D_{can}}{\Sigma^A_{all} + \Sigma^D_{uncanc}} \]

Where

- \( Po \) - Inter-observer agreement
- \( \Sigma^A_{all} \) - stands for the sum of instances for each item where the observations agree.
- \( \Sigma^D_{can} \) - stands for the sum of instances where the differences in the observation cancel each other out.
- \( \Sigma^D_{uncanc} \) - stands for the sum of instances where the differences in the observations are not cancelled out by other differences.

This produces an agreement coefficient. The observer should have 95% agreement while coding the lesson. The observer in the current study got a 90% agreement, which was considered acceptable. This was done in order to confirm consistency in the use of the instrument. The same formula was used to establish Inter-Observer Reliability.
The above process was continued until all discrepancies were sorted out to clear off any differences, this ensured that consistency is developed between the researchers’ and the trainers' results.

3.5 PILOT STUDY

During this stage, the researcher observed two diploma and two graduate teachers teaching English to form two classes. For the pilot study, the researcher chose teachers from those schools not selected for the main study. The four teachers used were from the schools in Kiambu District. The teachers were considered to be an adequate sample as the main purpose of the pilot study was to establish whether the instrument was effective enough to collect the data. The teachers used in the pilot study were not in the main study. The researcher requested the teachers to allow her and the trainee to visit the classes for several lessons.

Before undertaking the pilot study, the researcher made three visits to the selected schools. This enabled her to familiarise herself with the research environment and the subjects and dispel any tension or any misgivings the teachers may have about being observed. By developing a rapport with the subjects in the sample being observed the researcher was able to discard the notion of the researcher as an intruder within the lessons observed. The familiarisation visits entailed quietly observing classroom activity and interaction at the back of the classroom without interrupting classroom teaching and instruction.
These familiarisation visits helped to reduce the observer-effect and ensure that whatever was observed represented the natural class situation. During the visits no data was collected.

After the familiarisation visits, five lessons were observed and discussed. The teachers used in the pilot study were not part of the main study sample. The pilot study was used to ensure that the instrument to be used in the study was effective in data collection.

After undertaking the pilot study, the researcher decided to take down notes of the classroom discourse and questions as well as coding the questions using the instrument. The notes taken down proved helpful in analysis and formed the basis for any modifications and recommendations made later.

3.6 MAIN STUDY

Prior to the main study, the researcher first sent letters to the Principals of the schools in the study, requesting them permission to conduct the research in their schools. The letters indicated that the researcher would visit and observe the teaching of English lessons. She stated that the visits were purely for research, and not for administrative reasons. Some of the Principals requested to see the research permits before granting the researcher permission to observe their
schools. After presenting the research permit, they granted their permission to undertake research in their schools.

The researcher was introduced to the English language Heads of Department (HODs) by the Principals. She proceeded to explain to the HODs of her intentions and they were co-operative in facilitating the process by providing English language teachers to be used in the study.

After contacting the teachers to be used for the study, the researcher collected their timetables and developed a visiting schedule. The researcher did not give them specific appointments, rather the days of observation were determined by the teachers' timetable. This prevented the teacher from making any special preparations which may not be representative of their normal teaching. The teachers were reassured that the observations would not be used for administrative purposes.

The researcher visited the sample schools to familiarise herself with the teachers and pupils thus reducing the 'Hawthorne Effect'. During the three-familiarisation visits, the researcher sat at the back of the classroom without recording, to ensure interaction is free within the classroom and to ensure she was not considered an intruder. This was important as Borge and Gall (1989:490-491) argue:
Unless he is concealed, the observer is likely to have an impact on the observed. For example, an observer entering the classroom for the first time is likely to arouse curiosity of the students and possibly the teacher. This may not reflect his usual behaviour and may provide data, which is not representative. To prevent this situation, the observer should not record any observations for the first time, he is in the classroom.

The researcher did not begin coding the classroom observation until she was familiar with the teachers and pupils. This was possible after familiarisation visits. The researcher observed the various teachers and proceeded to code the questions using the instrument Teacher / Pupil Question Inventory Schedule. When the teacher uttered the question, the researcher identified its category put a tally. Eventually the total tallies of the various questions were recorded. The collected data were presented and analysed. In the current study, the researcher observed each of the teachers in the study four times. Groenewegen (1985) in his study on “The Visual Aspects of Classroom Teaching by Blind Teachers of Sighted Students”, stated that it was enough to observe five lessons to obtain an agreement of 95% and more. The observation of more than five lessons is not productive because it may generate superfluous data. No new information is generated by having more than five observations (Groenewegen, 1985).
CHAPTER FOUR

ANALYSIS, PRESENTATION AND DISCUSSION

4.0 INTRODUCTION

In this chapter data collected from the 40 English language lessons are presented and discussed. The data collected was analyzed by the use of descriptive statistics, that is frequencies and percentages. The frequency distribution of the questions was calculated by taking frequency counts and tallying the various questions in the various categories. The frequency counts of the various questions in the different English language areas was tallied. The percentages of the questions were calculated using the frequency distribution and the total number of questions. The findings are presented in the form of tables. Observations that were made relating to the subject matter are also reported. These form an important derivatory base for the recommendations presented in chapter five.

4.1 NATURE AND COGNITIVE TYPE OF QUESTIONS USED IN THE SAMPLE OF ENGLISH LANGUAGE LESSONS

A total of 578 teacher-formulated questions were recorded from the 40 lessons observed. They were analyzed and grouped in predefined categories as indicated in the teacher/question inventory instrument. (see appendix 2).
Table 1: Frequency Distribution Of The Questions Used By The 10 Teachers

<table>
<thead>
<tr>
<th>QUESTION CATEGORY</th>
<th>FREQUENCY</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower order cognitive questions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>275</td>
<td>47.6</td>
</tr>
<tr>
<td>Translation</td>
<td>40</td>
<td>6.9</td>
</tr>
<tr>
<td>Interpretation</td>
<td>115</td>
<td>19.9</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>430</strong></td>
<td><strong>74.4</strong></td>
</tr>
<tr>
<td><strong>Higher order cognitive questions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td>61</td>
<td>10.6</td>
</tr>
<tr>
<td>Analysis</td>
<td>59</td>
<td>10.2</td>
</tr>
<tr>
<td>Synthesis</td>
<td>22</td>
<td>3.8</td>
</tr>
<tr>
<td>Evaluation</td>
<td>6</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>148</strong></td>
<td><strong>25.6</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>578</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 1 indicates that both the two categories of cognitive questions:- lower order cognitive questions constitute 74.4% while higher order cognitive questions form 25.6% of the questions utilized by the teachers.

4.1.1 The Lower Cognitive Order Questions

Questions used in the lower cognitive domain were the Memory, Translation and Interpretation questions. Teachers predominantly used questions in the lower cognitive domain, which formed 74.4% of the questions used in the English language lessons. Focus of the questions was mainly on recall of information.

4.1.2 The Higher Cognitive Order Questions

Questions used in the higher cognitive domain included Application, Analysis, Synthesis and Evaluation questions. This category constituted 25.6% of the
total number of questions used in the English language classrooms. Higher or critical level of thinking is promoted by the questions in the category above.

4.2 THE FREQUENCY OF USE OF THE VARIOUS TYPES OF QUESTIONS

Table 1 presented a generalized picture of the frequencies of the various types of questions. As indicated in the table, memory questions were the most frequently used category of questions. There were 275 memory questions, which formed 47.6% of the total number of questions used.

Translation questions used were 40 in number. This constituted 6.9% of the questions utilized by all the teachers. There were 115 interpretation questions used. This represented 19.9% of the total number of questions asked by all the teachers. The three categories of questions stated above indicate the predominance of lower cognitive questions and constituted 74.4% of the questions posed by all the English language teachers.

There were 61 application questions used, which comprised 10.6% of the questions utilized while the 59 analysis questions asked formed 10.2% of all the teachers' questions. Teachers rarely used synthesis questions within the lessons. There were 22 synthesis questions asked which constituted 3.8% of the total number of questions asked by all the teachers. There were only six evaluation questions used which constituted 1.0% of the total number of
question used. The categories above combine to form the higher cognitive
domain questions used, which made 25.6% of the questions asked in the
lessons observed.

It can be concluded that all the English language teachers had a preference for
lower cognitive questions within classroom discourse.

4.3 AREAS OF ENGLISH LANGUAGE TEACHING OBSERVED

The researcher observed various English language teaching areas while
collecting the data. The areas observed were Grammar, Poetry, Comprehension, Oral Literature, Composition, Literature and Speech work.

The number of lessons observed in the respective areas was varied as indicated in table 2 below. This was done in order to establish the relationship between the number of lessons and the frequency of the questions used by the teachers.

<table>
<thead>
<tr>
<th>AREA</th>
<th>Number of Lessons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar</td>
<td>9</td>
</tr>
<tr>
<td>Poetry</td>
<td>9</td>
</tr>
<tr>
<td>Comprehension</td>
<td>9</td>
</tr>
<tr>
<td>Oral Literature</td>
<td>7</td>
</tr>
<tr>
<td>Literature (Class Reader)</td>
<td>3</td>
</tr>
<tr>
<td>Speech Work</td>
<td>1</td>
</tr>
<tr>
<td>Composition</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>
The unequal distribution of the lessons indicates the priority areas considered by the English language teachers.

4.3.1 Question Distribution in the Various English Language Teaching Areas

The frequency of the various questions is recorded in the various English language teaching areas as follows.
<table>
<thead>
<tr>
<th>LESSON CATEGORY</th>
<th>GRAMMAR</th>
<th>COMPREHENSION</th>
<th>POETRY</th>
<th>ORAL LIT</th>
<th>COMPOSITION</th>
<th>LITERATURE</th>
<th>SPEECH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question Category</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
<td>F</td>
</tr>
<tr>
<td>Memory</td>
<td>61</td>
<td>38.1</td>
<td>63</td>
<td>41.7</td>
<td>37</td>
<td>29.6</td>
<td>57</td>
</tr>
<tr>
<td>Translation</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>8.6</td>
<td>10</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Interpretation</td>
<td>12</td>
<td>7.5</td>
<td>44</td>
<td>29.1</td>
<td>42</td>
<td>33.6</td>
<td>11</td>
</tr>
<tr>
<td>Sub-total</td>
<td>73</td>
<td>45.6</td>
<td>120</td>
<td>79.4</td>
<td>89</td>
<td>71.2</td>
<td>79</td>
</tr>
<tr>
<td>Application</td>
<td>48</td>
<td>30</td>
<td>9</td>
<td>5.9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Analysis</td>
<td>22</td>
<td>13.8</td>
<td>5</td>
<td>3.3</td>
<td>16</td>
<td>12.8</td>
<td>6</td>
</tr>
<tr>
<td>Synthesis</td>
<td>4</td>
<td>2.5</td>
<td>4</td>
<td>2.6</td>
<td>4</td>
<td>3.2</td>
<td>3</td>
</tr>
<tr>
<td>Evaluation</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1.3</td>
<td>4</td>
<td>3.2</td>
<td>0</td>
</tr>
<tr>
<td>Sub-total</td>
<td>74</td>
<td>46.3</td>
<td>20</td>
<td>13.1</td>
<td>24</td>
<td>19.2</td>
<td>9</td>
</tr>
<tr>
<td>Affectivity</td>
<td>1</td>
<td>0.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Procedural</td>
<td>12</td>
<td>7.5</td>
<td>11</td>
<td>7.3</td>
<td>12</td>
<td>9.6</td>
<td>11</td>
</tr>
<tr>
<td>Sub-total</td>
<td>13</td>
<td>8.1</td>
<td>11</td>
<td>7.3</td>
<td>12</td>
<td>9.6</td>
<td>11</td>
</tr>
<tr>
<td>TOTAL</td>
<td>160</td>
<td>100</td>
<td>151</td>
<td>100</td>
<td>125</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>Average</td>
<td>17.7</td>
<td>14.1</td>
<td>13.8</td>
<td>11</td>
<td>3.7</td>
<td>2.1</td>
<td>1.4</td>
</tr>
</tbody>
</table>

**Key:**
- Compre-Comprehension
- Oral Lit- Oral Literature
- Compo- Composition
- Liter- Literature (reader)
- Speech- Speech work
- Av- Average number of questions.
Table 3 shows the distribution of questions in the seven areas of language. The predominance of the lower order cognitive questions was noticeable in the lessons observed except in the grammar lessons. The proportion of higher order questions to lower order cognitive questions is almost proportional.

4.3.1.1 Grammar Lessons

The syllabus requires the English language teachers to present and practice different structures of language and to demonstrate their form and function contextually. Teachers are also expected to present practice exercises both oral and written, to enable the students to master the grammatical structures. Some of the exercises expected are substitution tables, parallel sentence exercises, transformation exercises, filling in the blank exercises among many others.

It was observed that there were 73 higher order cognitive questions, about 50.3% of all the questions therefore dominating the classroom discourse. Application questions constituted 32.7% of the questions used by all the English language teachers (table 3). These questions were helpful in providing feedback to the teachers as to whether the grammatical concepts taught had been clearly understood by the learners. For example:

(1) Teacher: Put the adjective in the correct form.

The girl is obedient in class than at home.

Pupil: The girl is more obedient in class than at home.
This was one of the questions after a lesson on the superlative and the comparative forms of adjectives.

There were 22 analysis questions used. This formed 14.9% of the total number of questions. After a lesson on adverbial phrases, one of the questions asked was:

(i) Teacher: What type of adverbial phrase is used in the following sentence? John will only go to school on Monday, if his school fees has been paid.

Pupil: This is an adverbial phrase of condition.

Lower cognitive order questions constituted 49.7% of the questions used in the grammar lessons by all the teachers. The 61 memory questions used had the highest frequency of occurrence of 41.5% among the lower order questions. The 12 interpretation questions used amounted to 8.2% of the total number of questions asked. There were no translation questions asked. (table 3).

4.3.1.2 Comprehension Lessons

The lessons are geared towards helping the students understand a passage by following the content, arguments and narrative sequence of the text or information presented. Thereafter the student should be able to read, comprehend, infer meanings, extract important information and present it in a variety of ways.
The skills developed in comprehension lessons include ability to comprehend text, identify and select relevant information. The understanding of grammatical and lexical terms is developed as well as skimming. The evaluation skill is developed whereby students are expected to consider writers' ideas or information and to formulate their own opinions. Therefore a broad spectrum of questions is expected within the comprehension lessons.

The results on table 3 indicated the predominance of lower cognitive order questions. They were 121 in number, constituting 85.8% of the questions used in the classroom by all the English language teachers. The 63 memory questions used comprised 44.7% of the total number of questions asked. This high frequency can be attributed to the fact that the teachers put a lot of emphasis on the learner's ability to recall, understand information and to establish relationships within it. There were 14 translation questions asked, they formed about 9.9% of the total number of questions. The interpretation questions asked were about 44 in number, consisting of 31.2% of the questions used.

Questions in the higher cognitive order represented 14.2% of all the questions posed by all the English language teachers. There were nine application questions which formed 6.4% of the questions used within the lessons by the teachers. The five analysis questions asked by the teachers comprised a mere 3.5% of all the questions used by English language teachers. There were four synthesis questions, which formed about 2.8% of the questions while the two
evaluation questions comprised a minute 1.4% of the questions used by all the teachers (see table 3). These questions required critical thinking and more time for the pupils to deal with and formulate well thought-out responses.

4.3.1.3 Poetry Lessons

The poetry lessons are geared towards developing the learners' ability to critically appreciate the form, language and literary devices used within a poem. The teachers aim at enhancing the learners' ability to comprehend the poem and its content and theme. The teachers direct their efforts to developing creativity among the learners. Poetry lessons mainly entail reading a poem, discussing it, critically analyzing it and responding to any questions related to it. They encourage the pupils to personally interpret the poem. We anticipate a high frequency of interpretation questions as a result of meanings being inferred and a high frequency of analysis questions.

Findings on table 3 indicate that all the teachers predominantly used questions in the lower cognitive order. They represented 78.8% of the questions utilized. The 42 interpretation questions had the highest frequency of occurrence; they had percentage use of 37.2%. This is possible due to the fact that poetry lessons required a lot of interpretation of the possible meanings in the words (surface and inferential) and the relationship they establish.
There were no application questions asked by the teachers. The teachers used 16 analysis questions, constituting 14.2% of the questions utilized. There were four synthesis questions formulated which amounted to 3.5% of the questions used. The teachers asked the pupils to either create their own poems on a specific theme or title when they were analyzing the poems. There were four evaluation questions asked, which formed about 3.5% of the questions utilized that required the pupils to make judgement on certain issues and to formulate their own opinions.

4.3.1.4 Oral Literature Lessons
The teachers aim at developing the learners' ability to critically respond to Oral literature. The teachers further attempt to develop the learners' ability to understand and appreciate Oral literature from East Africa. The teachers proceed to enhance the learners' ability to critically appreciate form, style, narrative techniques and other ideas.

Another of the teachers' objective is to enable the pupils to understand the text in terms of plots, narrative techniques, themes, characters and their relationship to each other. The learners are meant to develop a deeper insight in the appreciation of literature in English by applying their creative and critical thinking.
The findings on table 3 reveal the predominance of lower cognitive order questions, which were 91 in number. They dominated the Oral literature lessons and they amounted to 88.3% of the questions utilized. There were 65 memory questions used in the lessons, forming about 63.1% of the total number of questions asked by all the English language teachers. They had the highest frequency of occurrence. This was due to the subject matter they dwelt with; pupils were meant to recall oral narratives, myths, proverbs, songs or information learnt earlier. Questions asked included:

(i) Teacher: What is a myth?
(ii) Teacher: Give an example of an oral narrative from your community.

There were only 13 translation questions posed by the English language teachers, which required the transforming of information from one form to another. For example:

(i) Teacher: State an equivalent proverb from your community to the one stated below.

'He who eats with you does not die with you, only he who is born with you.'

There were 13 interpretation questions asked, forming about 12.6% of the questions used in the Oral literature lesson. For example:

(i) Teacher: Distinguish between a myth and a legend?
(ii) Teacher: Differentiate between a riddle and a proverb?
These questions are useful in enabling the learner to identify the individual qualities and the possible relationships existing within the information presented.

The 12 higher cognitive order questions used constituted 11.7% of the total number of questions asked by all the English language teachers. There were eight analysis questions utilized. For example:

(i) Teacher: What stylistic devices are used in the narrative presented?

(ii) Teacher: What is the prevailing mood in the Song of Ocol?

The synthesis questions used were four in number, forming about 3.9% of the questions used. These kinds of questions demand creativity on the part of the learner.

4.3.1.5 Composition Lessons

The teachers aim at enabling the students to communicate intelligibly and intelligently in English in different situations. The teachers also encourage the students to effectively use the main structures of English and to write logically and coherently on a given topic. The teachers direct their teaching to enable learners to develop ideas systematically, sequentially in a chronological order and inclusive of the main points. The composition lessons are designed to develop the judgmental skills of learners to write appropriately for a particular audience and function. The composition lessons further aim at nurturing creative ability in learners and the ability to develop thoughts logically and to
exclude irrelevant information. The above information represents the objectives present within the syllabus that the teachers attempt to fulfill within the lessons.

The teachers spent half the lesson time presenting and explaining some of the writing skills. The lower cognitive order questions dominated the questions used. They consisted of 78.4% of the questions within the lessons as indicated on table 3. There were 26 memory questions, forming about 70.3% of the total number of questions posed. They had the highest frequency of occurrence. This could be attributed to the teachers' testing of the writing skills taught they wanted to confirm that pupils had the facts of the various writing skills at hand. For example:

(i) Teacher: What is a business letter?

(ii) Teacher: How do you address it?

(iii) Teacher: What is an apology letter?

There was one translation question used constituting a minor 2.7%. The two interpretation questions used made 5.4% of the total number of questions asked by all the English language teachers.

The eight higher order questions asked by all the teachers, represented 21.6% of the total number of questions used. There was two application questions posed amounting to 5.4% posed and analysis question amounted to 2.7% of the total number of questions utilized by all the teachers.
There were five synthesis questions asked which constituted 13.5% of the total number of questions. This was the highest frequency among the higher order cognitive questions as compared with the application and the analysis questions. This category of questions was relevant to the lessons, as it required the pupils to apply knowledge and also to create new ideas. For example:

(i) Teacher: Write an apology letter to your principal for late remission of fees?
(ii) Teacher: Write a short story with a tragic end?

4.3.1.6 Class Reader

The teacher aims at ensuring that pupils have understood the text in terms of plot, narrative techniques, themes, characters; developing a critical appreciation of form and style, theme, language use ad literary devices. The class reader lessons are geared towards enabling students to see the relevance of written literature to real life and developing the ability to write creatively. All the above is achieved through the various activities like guided analysis, class discussions, character analysis among many others.

The literature texts used in the lessons observed were 'Things Fall Apart' by Chinua Achebe and 'The River Between' by Ngugi wa Thiong'o. The basic procedure of most of the teachers was first to introduce the story line then to proceed in helping the students to develop the analytical ability of analyzing the text in terms of plot, themes, stylistic devices used among many other factors.
The most frequently used category of questions was the memory questions. They were eighteen in number, they formed 72% of the total number of questions asked by all the teachers. (table 3). The main reason for the high frequency of its use was due to the fact that the teachers had to assess the pupils' ability to recall information in the text. The lower cognitive order questions dominated the questions used by all the teachers, they constituted 72% of the questions asked.

The seven analysis questions used constituted 28% of the total number of questions posed by all the English language teachers. The analysis questions were formulated in different formats all requiring critical analysis of the story line. For example:

(i) Teacher: Identify 2 themes in Chinua Achebe's 'Things Fall Apart' and elaborate on them?

(iv) Teacher: What stylistic devices are used in 'The River Between' by Ngugi wa Thion'go?

4.3.1.7 Speech work Lessons

The teacher aims at enabling students to develop the ability to communicate intelligently and intelligibly in English in different situations, achieving correct pronunciation, stress and intonation. The teachers also attempt to enable the students to develop confidence in their ability to express themselves coherently in English. These may be achieved through practicing of minimal
pairs, this entails contrastive analysis e.g. /p/, /b/, /k/, /g/; speech drills, debates, story telling, repetition exercises among other activities.

In the lesson observed the lower cognitive questions predominated the speech work lesson, they formed about 75.1% of all the questions posed by the teachers. The memory questions had the highest frequency of occurrence, there were five in number. These questions constituted 41.7% of the total number of questions asked by the teachers. The interpretation questions were two in number, they formed about 16.7% of the questions asked by the teachers. They were used in instances when pupils had to distinguish between sounds learnt like /k/ and /g/.

Application questions used were two in number amounting to 16.7% and they were used to practice the pronunciation of sounds learnt. There was one synthesis question formulating 8.3% of the total number of questions utilized by the teachers.

4.4 QUESTIONING STYLES ADOPTED BY DIPLOMA AND GRADUATE TEACHERS
Questioning styles adopted by both diploma and graduate teachers are displayed in table 4 on the next page. Previous researchers have identified the questioning styles used by teachers within the classrooms.
TABLE 4. Frequency Distribution of Questions Adopted by Diploma and Graduate Teachers

<table>
<thead>
<tr>
<th>QUESTION CATEGORY</th>
<th>TEACHERS CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G1</td>
</tr>
<tr>
<td></td>
<td>F%</td>
</tr>
<tr>
<td>Memory</td>
<td>30</td>
</tr>
<tr>
<td>Translation</td>
<td>6</td>
</tr>
<tr>
<td>Interpretation</td>
<td>9</td>
</tr>
<tr>
<td>Application</td>
<td>12</td>
</tr>
<tr>
<td>Analysis</td>
<td>0</td>
</tr>
<tr>
<td>Synthesis</td>
<td>3</td>
</tr>
<tr>
<td>Evaluation</td>
<td>1</td>
</tr>
<tr>
<td>Affectivity</td>
<td>0</td>
</tr>
<tr>
<td>Procedural</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>65</td>
</tr>
</tbody>
</table>

**Key**

G = Graduate Teachers

D = Diploma Teachers
4.4.1 Questioning Styles Adopted by Graduate Teachers

There were five graduate teachers observed as indicated in table 4. Teacher G1 predominantly used 48 lower order questions constituting 73.8% of the questions utilized. Out of these 33 were memory questions, they had the highest frequency of occurrence comprising 50.8% of the questions used. The teacher posed 17 higher order cognitive questions forming 26.2% of the questions asked. The application questions were the most questions comprising 18.5% of the questions utilized among the higher order cognitive questions.

Teacher G2 predominantly used 44 lower order cognitive questions constituting 60.3% of the questions used. The same teacher asked 29 memory questions amounting to 39.7%. The teacher also posed 29 higher order cognitive questions, forming 39.7.1% of the questions utilized. The teacher used a relatively higher number of application questions (27.4%).

Teacher G3 asked 43 lower cognitive order questions representing 73% of the questions. The teacher used 25 memory questions constituting 42.4%. Memory questions were the most frequently used category of questions. The teacher above posed 16 higher order cognitive questions, forming 27% of the questions utilized. The teacher used analysis most frequently, constituting 15.3% of the questions posed by the above teacher.
Teacher G4 predominantly posed 46 lower cognitive order questions, comprising 67.6% of the questions used. The teacher used 33 memory questions, which had the highest frequency of occurrence, constituting 48.5%. The higher order cognitive questions formed 32.4% of the questions used in the classroom. The teacher posed the analysis questions most frequently among the higher order cognitive questions, they formed 6.2% of all the questions asked.

Teacher G5 had a preference for lower cognitive questions. The teacher used 45 of them and they constituted 71.4%. The teacher used 18 higher order cognitive questions, constituting 28.6% of the questions used. The teacher above used analysis questions most frequently among the higher cognitive order questions (15.9%). The teacher above posed 33 memory questions which had the highest frequency, constituting 52.4%. The graduate teachers predominantly used lower order cognitive order questions, which emphasized the recall function.

4.4.2 Questioning Styles Adopted by Diploma Teachers

As indicated in table 4 there was five diploma teachers observed. Teacher D1 had a preference for lower order questions comprising 73.8% of the questions posed. The memory questions had the highest frequency of 16, which was 38.1% of the questions asked. The teacher asked 11 higher order cognitive questions, which constituted 26.2% of the questions utilized by the teacher.
The analysis questions were the most frequently used by the above teacher, they formed 14.3%.

Teacher D2 predominantly used 45 lower order questions. They formed about 77.6% of the total number of questions asked by the teacher. The above teacher used 35 memory questions, which represented 60.3% and they had the highest frequency of occurrence. The teacher posed 13 higher cognitive questions, which constituted 22.4% questions used. The application questions posed were the most frequently used higher order questions; they formulated 12.1% of the questions used.

Teacher D3 had a preference for lower order questions. They were 44 questions, which comprised 91.7% of the questions utilized. There were 28 memory questions, which formed 58.3% of the questions used. Teacher D3 posed four higher cognitive questions that constituted 8.3% of the total number of questions.

Teacher D4 also predominantly used lower cognitive order questions. They were 38 in number and formed 79.2% of the total number of questions posed by the teacher. The memory questions were the most frequently; they were 22 in number with a percentage use of 45.8%. The above teacher used a notable number of interpretation questions. They were thirteen in number that is about 27.1% of the questions asked. The higher order questions were ten in number, constituting 20.8%.
The teacher D5 predominantly used lower order cognitive questions. They were 48 in number, constituting 80% of the questions used. The memory questions were the most frequently used. They were 21 in number comprising 35% of the questions. The above teacher had a notable number 19 of interpretation questions, consisting of 31.7. The higher cognitive order questions were ten in number, forming 16.9% of the questions used. The diploma teachers had a preference for lower order questions. They can be said to emphasize recall learning within the learning process.

The table below displays the total frequency distribution of questions asked by the graduate and the diploma teachers respectively.

4.4.3 Comparison of Frequency Distribution of Questions used by Graduate and Diploma Teachers

The frequency distribution of various questions used by graduate and diploma teachers is assessed in the table 5 below.
Table 5: Comparison of the Frequency Distribution of Questions used by Teachers in Lessons Observed

<table>
<thead>
<tr>
<th>Question Category</th>
<th>Graduate Teachers</th>
<th>Diploma Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Memory</td>
<td>153</td>
<td>47.5</td>
</tr>
<tr>
<td>Translation</td>
<td>21</td>
<td>6.5</td>
</tr>
<tr>
<td>Interpretation</td>
<td>50</td>
<td>15.5</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>224</strong></td>
<td><strong>69.6</strong></td>
</tr>
<tr>
<td>Application</td>
<td>46</td>
<td>14.3</td>
</tr>
<tr>
<td>Analysis</td>
<td>36</td>
<td>11.2</td>
</tr>
<tr>
<td>Synthesis</td>
<td>12</td>
<td>3.7</td>
</tr>
<tr>
<td>Evaluation</td>
<td>4</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>98</strong></td>
<td><strong>30.4</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>322</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td>Mean</td>
<td>46</td>
<td>36.6</td>
</tr>
</tbody>
</table>

Key:

%- Percentage F- Frequency

Table 5 indicates the graduate teacher’s preference for questioning style whereby lower order cognitive questions predominated the classroom questions forming 69.6% of the questions. Diploma teachers predominantly used lower cognitive order questions forming 80.5%. The diploma teachers used a noticeably higher percentage of the lower cognitive order questions by 10.9%.

The highest frequency questions used by both categories of teachers were memory questions. The memory questions formed 47.5% of the questions used by graduate teachers and 47.7% of the questions used by diploma teachers. The teachers’ memory questions constitute a major part of classroom discourse; meaning recall learning is emphasized by both teachers.
A relatively low percentage of translation questions is used by the graduate and diploma teachers. Diploma teachers use a higher frequency of interpretation questions, they constitute 25.4% while the graduate teachers' interpretation questions formed 15.5% of the questions utilized. The diploma teachers had a higher percentage use of interpretation questions. Diploma teachers encouraged learners to establish relationships of information learnt.

The graduate teachers had a higher frequency use of higher cognitive questions, they constituted 98 (30.4%) of the questions utilized. The diploma teachers used 50 higher cognitive order questions, this constituted 19.5% of the questions used.

The graduate teachers used the application questions most frequently, they constituted 14.3% of the questions utilized by the teachers, as compared with 5.9% used by diploma teachers. The diploma teachers predominantly used analysis questions (9%) among the higher cognitive order questions. The evaluation questions had the lowest frequency of occurrence in the lessons observed. They constituted 1.2% of the questions utilized by graduate teachers and 0.8% of the questions used by diploma teachers.

A summary of the comparison of the Frequency Distribution of the questions used by the diploma and graduate teachers is presented in table 6 on the next page.
Table 6: Comparison of Frequency Distribution of Questions Used by Diploma and Graduate Teachers

<table>
<thead>
<tr>
<th>Question Category</th>
<th>Graduates Teachers</th>
<th>Diploma Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower cognitive order</td>
<td>224</td>
<td>20.6</td>
</tr>
<tr>
<td></td>
<td>69.6</td>
<td>80.5</td>
</tr>
<tr>
<td>Higher cognitive order</td>
<td>98</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>30.4</td>
<td>19.5</td>
</tr>
<tr>
<td>Highest frequency questions (memory)</td>
<td>153</td>
<td>122</td>
</tr>
<tr>
<td></td>
<td>47.5</td>
<td>47.7</td>
</tr>
</tbody>
</table>

Key:

F = Frequency  
% = Percentage

From the table 6 presented above it can be concluded the graduate and diploma teachers have a preference for lower cognitive order questions. The diploma teachers have a higher frequency use of lower cognitive questions, they constitute 80.5% of the questions used. The graduate teachers used 69.6% lower cognitive order questions.

The graduate teachers use a higher percentage of higher cognitive order questions, they form 30.4% of the total number of questions asked. The diploma teachers ask 19.5% higher order cognitive questions. The memory questions had the highest frequency of occurrence, among graduate teachers they form 47.5% of the questions used. The memory questions used by diploma teachers comprise 47.7% of the questions utilized.
4.4.4 Graduate Teachers' Use of the Various Questions

In this study 5 graduate teachers were used in the sample. The researcher decided to keep a cumulative account of the various questions. The researcher in this case presents the total number of questions used by 4 and then 5 graduate teachers who form the sample of the study. This comparison is meant to establish whether the use of the various questions differs with the size of the sample used.

Table 7: Cumulative Frequency Distribution of the Questions used by Graduate Teachers

<table>
<thead>
<tr>
<th>Question Category</th>
<th>4 Grad (F)</th>
<th>%</th>
<th>5 Grad (F)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>120</td>
<td>46.3</td>
<td>153</td>
<td>47.5</td>
</tr>
<tr>
<td>Translation</td>
<td>21</td>
<td>8.1</td>
<td>21</td>
<td>6.5</td>
</tr>
<tr>
<td>Interpretation</td>
<td>38</td>
<td>14.7</td>
<td>50</td>
<td>15.5</td>
</tr>
<tr>
<td>Sub total</td>
<td>179</td>
<td>69.1</td>
<td>224</td>
<td>69.6</td>
</tr>
<tr>
<td>Application</td>
<td>42</td>
<td>16.2</td>
<td>46</td>
<td>14.3</td>
</tr>
<tr>
<td>Analysis</td>
<td>26</td>
<td>10.0</td>
<td>36</td>
<td>11.2</td>
</tr>
<tr>
<td>Synthesis</td>
<td>10</td>
<td>3.9</td>
<td>12</td>
<td>3.7</td>
</tr>
<tr>
<td>Evaluation</td>
<td>2</td>
<td>0.8</td>
<td>4</td>
<td>1.2</td>
</tr>
<tr>
<td>Sub-total</td>
<td>80</td>
<td>30.9</td>
<td>98</td>
<td>30.4</td>
</tr>
<tr>
<td>Total</td>
<td>259</td>
<td>100</td>
<td>322</td>
<td>100</td>
</tr>
</tbody>
</table>

Key:
F - Frequency % - Percentages Grad- Graduate teachers

Table 7 above indicates that four graduate teachers were observed, it was evident they had a preference for lower cognitive order questions, which were 179 in number, forming 69.1% of the questions used by the teachers. The above teachers used 120 memory questions, forming a percentage use of 46.3%.
This was the most frequently used category within the English lessons. The higher cognitive questions used were 80 in number comprising 30.9% of the total number of questions. The graduate teachers asked 42 application questions, which were 16.2%. The application questions were the most frequently used category of questions among the higher cognitive order questions.

The five graduate teachers in the sample observed had a preference for lower cognitive order questions, they were 224 in number, which constituted 69.6% of the total number of questions used. These teachers above predominantly used 153 memory questions making 41.5% of the total number of questions. The higher order cognitive questions used represented 30.4% of the total number of questions used in the classroom. The teachers predominantly used application questions, they were 46 and they had a percentage use of 14.3% among the higher order questions (table 7). No distinct differences are evident in the sample of teachers questioning styles. The graduate teachers still maintained a preference for lower cognitive order questions.

4.4.5 Diploma Teachers' Use of the Various Questions

In this study 5 diploma teachers were used in the sample observed. The researcher decided to keep a cumulative account of the teachers' use of the various questions. The researcher in this case presents the total number of questions used by 4 and then 5 diploma teachers respectively who form the
sample of the study. This comparison is meant to establish whether the diploma teachers' use of questions differs with the size of the sample used.

Table 8: A Cumulative Frequency Distribution of Questions Used by Diploma Teachers

<table>
<thead>
<tr>
<th>QUESTION CATEGORY</th>
<th>4 DIPLOS (F)</th>
<th>%</th>
<th>5 DIPLOS (F)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>101</td>
<td>51.5</td>
<td>122</td>
<td>47.7</td>
</tr>
<tr>
<td>Translation</td>
<td>11</td>
<td>5.6</td>
<td>19</td>
<td>7.4</td>
</tr>
<tr>
<td>Interpretation</td>
<td>46</td>
<td>23.5</td>
<td>65</td>
<td>25.4</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>158</strong></td>
<td><strong>80.6</strong></td>
<td><strong>206</strong></td>
<td><strong>80.5</strong></td>
</tr>
<tr>
<td>Application</td>
<td>12</td>
<td>6.1</td>
<td>15</td>
<td>5.9</td>
</tr>
<tr>
<td>Analysis</td>
<td>15</td>
<td>7.7</td>
<td>23</td>
<td>9.0</td>
</tr>
<tr>
<td>Synthesis</td>
<td>9</td>
<td>4.6</td>
<td>10</td>
<td>3.9</td>
</tr>
<tr>
<td>Evaluation</td>
<td>2</td>
<td>1.0</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>38</strong></td>
<td><strong>19.4</strong></td>
<td><strong>50</strong></td>
<td><strong>19.5</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>196</strong></td>
<td><strong>100</strong></td>
<td><strong>256</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Key:

Diplos- Diploma teachers  F= Frequency  %= Percentage

Table 8 indicates that the four diploma teachers observed had a preference for lower cognitive order questions. There were 158 consisting 80.6% of the total number of questions used. The four diploma teachers predominantly used memory questions, there were 101 in number. This constituted of 51.5% of the questions utilized by the teachers. The teachers asked 38 higher order questions making 19.4%. The analysis category had the highest frequency among the higher order questions. They were 15 and they formed 7.7%.

The five diploma teachers predominated classrooms with questions of the lower cognitive domain. There were 206 in number consisting of 80.5% of the questions used by the teachers, (table 8). The memory questions were the
most frequently used. They were 122 in number, making 47.7% of the total number of questions used. The higher order questions used were 50, which amounted to 19.5%. There were 23 analysis questions used, comprising 9.0% of the higher order questions.

4.4.6 Summary of the Comparison of the Cumulative Percentages Use of the Questions Used by the Teachers.

A comparison of the percentages use of the various questions can be drawn up as indicated in the table 9 below. This table indicates the Diploma and graduate teachers’ use of the three categories of questions highlighted.

Table 9: Summary of the Comparison of the Cumulative Percentages Use of Questions by the Teachers. (%)

<table>
<thead>
<tr>
<th>Question Category</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diploma</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Lower cognitive order</td>
<td>80.6%</td>
</tr>
<tr>
<td>Higher cognitive order</td>
<td>19.4%</td>
</tr>
<tr>
<td>Highest frequency questions (memory)</td>
<td>51.5%</td>
</tr>
</tbody>
</table>

Key:-
Av- Average %
% = Percentage

Both categories of teachers predominantly use lower cognitive questions. The diploma teachers have a higher percentage use of 80.5%, while the graduate teachers use 69.4%. The graduate teachers have a higher percentage use of higher cognitive order questions 30.4%, while the diploma teachers use
19.4%. The highest frequency questions among both categories of teachers are the memory questions. Among the diploma teachers it constitutes 49.6% having a higher percentage use than among the graduate teachers. Among the graduate teachers the memory questions constitute 47.5% of the questions utilized by the teachers. Increasing the sample of teachers did not result in any significant changes in the questioning styles adopted by the diploma and graduate teachers.

4.4.7 Summary of Cumulative Frequency Distribution of Questions Used by All the Teachers

Table 10 presents the general display of all the questions used by the ten teachers in the study who were observed. The researcher presented a cumulative frequency tally of the eight and then ten teachers who form the whole sample in the study. This cumulative tally of the use of the various questions observed is taken into account, to establish whether any distinct differences are present with differing size of the sample of teachers observed. The total number of teachers in the research is ten.
Table 10: Cumulative Frequency Distribution of Questions Used by Teachers

<table>
<thead>
<tr>
<th>QUESTION CATEGORY</th>
<th>8 GRAD. TEACHERS (F)</th>
<th>%</th>
<th>10 DIPLO. TEACHERS (F)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>221</td>
<td>48.6</td>
<td>275</td>
<td>47.6</td>
</tr>
<tr>
<td>Translation</td>
<td>32</td>
<td>7.0</td>
<td>40</td>
<td>6.9</td>
</tr>
<tr>
<td>Interpretation</td>
<td>84</td>
<td>18.5</td>
<td>115</td>
<td>19.9</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>337</strong></td>
<td><strong>74.1</strong></td>
<td><strong>430</strong></td>
<td><strong>74.4</strong></td>
</tr>
<tr>
<td>Application</td>
<td>54</td>
<td>11.9</td>
<td>61</td>
<td>10.6</td>
</tr>
<tr>
<td>Analysis</td>
<td>41</td>
<td>9.0</td>
<td>59</td>
<td>10.2</td>
</tr>
<tr>
<td>Synthesis</td>
<td>19</td>
<td>4.2</td>
<td>22</td>
<td>3.8</td>
</tr>
<tr>
<td>Evaluation</td>
<td>4</td>
<td>0.9</td>
<td>6</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>118</strong></td>
<td><strong>25.9</strong></td>
<td><strong>148</strong></td>
<td><strong>25.6</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>455</strong></td>
<td><strong>100</strong></td>
<td><strong>578</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Key:
F= Frequency use various questions  
%= Percentage use

The results generated indicated that increasing the sample did not bring any significant differences or distractions in the results. The teachers had a preference for lower order cognitive questions irrespective of whether the sample was increased or not within the English language lessons. The implication is that recall or rote learning is the main focus for teachers within the learning process. Therefore the level of thinking promoted is lower level learning within the English language lessons observed (table 11 and 10).
According to Table 11 above the lower order cognitive questions predominated classroom discourse, forming 74.3% of the questions posed by the teachers. Memory questions had the highest frequency of occurrence among questions used, they comprised 48.1% of the total number of questions asked by the teachers. The higher order questions asked represented 27.8% of the questions used. Teachers predominantly used lower order cognitive questions meaning that recall learning or thinking was emphasized within the English language lessons observed.

4.5 RESPONSES EVOKED BY DIFFERENT TYPES OF QUESTIONS

The students’ responses evoked by different types of teachers’ questions are presented in table 12 on the next page.
Table 12: Frequency Distribution of the Students’ Responses to Teachers’ Questions

| QUESTION CATEGORY | STS FOR GRADS TCHS | | | STS FOR DIPLO TCHS | | | |
| | SH | LE | INCOM | SH | LE | INCOM | |
| | F | % | F | % | F | % | F | % | F | % | F | % | F | % |
| Memory | 71 | 21.6 | 70 | 21.3 | 2 | 0.6 | 46 | 17 | 64 | 23.6 | 3 | 1.1 |
| Translation | 9 | 2.7 | 10 | 3.0 | 0 | 9 | 3.3 | 8 | 3.0 | 1 | 0.4 |
| Interpretation | 21 | 6.4 | 27 | 8.2 | 2 | 0.6 | 26 | 9.6 | 33 | 12.2 | 4 | 1.5 |
| Application | 26 | 7.9 | 19 | 5.8 | 0 | 7 | 2.6 | 8 | 3.0 | 1 | 0.4 |
| Analysis | 13 | 3.9 | 20 | 6.1 | 1 | 0.3 | 4 | 1.5 | 18 | 6.6 | 1 | 0.3 |
| Synthesis | 1 | 0.3 | 8 | 2.4 | 1 | 0.3 | 4 | 1.5 | 5 | 1.8 | 1 | 0.3 |
| Evaluation | 2 | 0.6 | 2 | 0.6 | 1 | 0.3 | 2 | 0.7 | | | |
| Affectivity | | | | | | | | | | | | |
| Procedural | 24 | 7.3 | 0 | 0.0 | | | | | | | | 28 | 10.3 | 1 | 0.4 |
| Sub-total | 168 | 51 | 156 | 47.4 | 5 | 1.5 | 124 | 45.8 | 138 | 50.9 | 9 | 3 |
| TOTAL | | | | | | | | | | | | 329 | | 271 |

Key

STS FOR GRADS TCHS- Students responses for Graduate teachers' questions

STS FOR DIPLO TCHS- Students responses for Diploma teachers' questions

SH = Short Response

LE = Long and Elaborate Response

INCOM = Incomprehensible Response

F = Frequency
Tables 12 and 13 present the pupils' responses to different types of questions asked by all the English language teachers. The questions asked evoked short responses or long and elaborate responses as stated above.

### Table: 13: Summary of Frequency Distribution of the Students' Responses to Teacher's Questions

<table>
<thead>
<tr>
<th>QUESTION CATEGORY</th>
<th>STUDENTS' RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SH F</td>
</tr>
<tr>
<td>Memory</td>
<td>126</td>
</tr>
<tr>
<td>Translation</td>
<td>21</td>
</tr>
<tr>
<td>Interpretation</td>
<td>47</td>
</tr>
<tr>
<td>Application</td>
<td>34</td>
</tr>
<tr>
<td>Analysis</td>
<td>19</td>
</tr>
<tr>
<td>Synthesis</td>
<td>7</td>
</tr>
<tr>
<td>Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>256</td>
</tr>
</tbody>
</table>

**Key:**

- SH - Short response
- LE - Long and elaborate response
- INCOM - Incomprehensible response
- F - Frequency

### 4.5.1 Short Responses

All the English language teachers asked 578 questions. The students responded to 254 of the questions, which comprised 43.9% of them in the short response mode (table 13). The students' responses ranged from one word to five word responses. The 126 memory questions poses by the teachers elicited short responses. This constituted 21.8% of all the pupils' responses.

For example:

(i) Teacher: Who is the main character in 'Things Fall Apart'?

Pupil: Okonkwo
(ii) Teacher: What is the main theme in ‘Things Fall Apart’?
    Pupil: Change brought about by westernisation.

(iii) Teacher: What is an adjective?
    Pupil: A word that describes a noun.

(iv) Teacher: Have you read the poem ‘Modern Girl’ by Ocol?
    Pupil: Yes.

There were 20 translation questions asked which prompted short responses. Out of the 115 interpretation questions posed by the English language teachers, 48 of them elicited short responses from the pupils. The pupils responded to 34 application questions posed through short answers.

The teachers posed 60 analysis questions, the pupils responded to 18 of them in the short response mode. Out of the 22 synthesis questions asked by all the English language teachers, pupils responded to 6 of them through short responses. The two evaluation questions asked evoked short responses from the pupils (table 13).

Pupils readily responded to the questions requiring them to give specific information that they had recently been taught or just acquired. Teachers formulate such questions to ensure learner participation and feedback is available within the lesson learnt. The short responses may border between one word to half a sentence, phrase or sentence responses. The recall function is the thinking level focused on.
4.5.2 Long and Elaborate Responses.

All the English language teachers asked the pupils 578 questions. The students responded to 308 of the questions, that is about 53.3% of them through the long and elaborate response mode. These were lengthy responses, which required the pupils to explain and clarify an idea by the pupils. The responses varied from six words to a number of sentences put together. The teachers' intention is to test whether the learner has fully understood the content of the lesson when they pose such questions. The learner is prompted to provide a long response and may even cite an example.

Memory questions posed by the teachers elicited the highest frequency of long and elaborate responses from the pupils. This constituted 24.4% of all the pupils' responses (table 13). Only learners who were fully confident and who had a full understanding of the content were ready to participate in responding to these questions. For example:

(i) Teacher: What is the importance of Oral Literature?

Pupil: It is used to educate the youth in society of community values. Oral literature is used to inform the youth of the roles they are expected to perform in society. It is also used to entertain people.

(ii) Teacher: Combine the following sentence using who/whom

(a) The town received a fire engine.

(b) It is the largest in the city.

Pupil: The town received the second largest fire engine in the city.
(iii) Teacher: Explain the following imagery used

'The march leapt on chanting like young gazelles to a
waterhole.'

Pupil: The people in the march walked eagerly and excited like they
were expecting or anticipating something good like their
destiny or their heart's desire.

There were 19 translation questions, which elicited long and elaborate
responses. The pupils responded to 61 interpretation questions posed by
teachers through long and elaborate responses.

Out of the 61 application questions posed by the English language teachers, 27
of them generated long and elaborate responses. A high proportion of the
analysis (40) and the synthesis questions (16) generated long and elaborate
responses. There were four evaluation questions posed by the teachers, which
elicited long and elaborate responses.

4.5.3 Incomprehensible Responses

These refer to either wrong responses or illogical responses which pupils may
produce as a result of the failure to understand the concept taught or the
question at hand. They may also arise when a pupil is not concentrating and is
caught off guard by the teacher.

v) Teacher: What is taboo?

Pupil: A belief in something evil.
vi) Teacher: Define personification

Pupil: This is giving a human being animal qualities.

A number of 14 questions asked by the teachers elicited incomprehensible responses from the pupils. Five of the memory questions asked by the teachers generated incomprehensible responses from the learners. Six interpretation questions and one analysis question elicited incomprehensible responses from the learners. These responses from the learners forced the teachers to rephrase the questions in order to get important feedback from the learners.

4.6 GENERAL OBSERVATIONS

There were some general observations or events noted during the study which may be of relevance to the study.

4.6.1 Teachers’ Questioning Behavior

The teachers had an obvious preference for closed (direct) questions, which had specific answers. These questions did not require the pupils to think much, the memory questions for instance. The teachers predominantly used the lower cognitive order questions because they guaranteed instant learner participation.
It was noted that teachers used probing questions when not satisfied with the pupils' responses or when there was a wide range of possible answers available: This probing and prompting questioning technique used encouraged learners to critically think and respond variedly to the questions. This was the result of probing and prompting when the teachers asked higher order cognitive questions. The learners benefited from the above practice as it enabled them to develop clarity with the information in question.

The teachers' questioning behavior either encouraged or discouraged learner participation. For instance when praise was used, learners were encouraged to participate more. The teachers should be careful about how they handle pupils who present wrong responses to the questions they pose. Extreme harshness by the teachers would destroy the learners' interest in the subject and their future involvement or participation within the lessons. The teachers should encourage further attempts by the pupils to respond to the questions. For example:

(i) Teacher A: What is a taboo?

Pupil 1: A belief in something evil.

Teacher A: Not exactly, could someone help us here.

What is a taboo?

Pupil 2: A taboo is a forbidden practice within a community.

Teacher A: Good! Now let us have an example of a taboo from each of your communities?
The extract above displays a teacher who provided positive healthy feedback to a learner even when the initial responses from the learners are not correct. Below is an extract of a different teacher who was extremely critical to the pupils’ responses.

Teacher B: What is an ogre story?

Pupil: This is a narrative about a community?

Teacher B: Don't be absurd, you lazy boy!

The harsh negative response of the teacher above may discourage learner participation in class activities and may not be conducive for the learning process.

4:6:2 Pupils’ Response Behaviour

The pupils preferred to respond to questions in the lower cognitive order especially where they did not have to think critically. This was evident from the large show of hands raised especially when they responded to memory questions. This was unlike the situation evident when higher cognitive questions were asked, that required critical thinking. Only the extremely confident pupils readily responded to these questions. Students were more confident responding to questions requiring minimal thinking. This corresponds the Kenya National Examination Councils’ Report of English,
Learners were more active in participation when teachers specifically directed a question to them, than when questions were directed to the class in general.

4.7 DISCUSSION OF THE FINDINGS

In this section the findings of the study are discussed.

4.7.1 Nature and Types of Questions Used

a) Lower Cognitive Order Questions

Most of the questions asked by the English language teachers were in the lower cognitive domain. They constituted 74.4% of the questions asked by the teachers (table 1). This implies that the English language teachers used questions, which encouraged pupils to think convergently. This means that low level thinking and especially recall thinking was emphasized through the teachers' questioning behavior. The pupils were thus encouraged to recall facts and limit their thinking to the lowest level.

b) Higher Order Cognitive Questions

A small portion of the questions used in English language classrooms, approximately 25.6% were in the higher cognitive domain. This implies that the English language teachers minimally encouraged higher levels of thinking within the lessons. Such questions normally encourage discussion due to broad range of answers acceptable. The limited time available as a result of
the current overloaded curriculum or syllabus is some of the factors that have led to minimal use of this category of questions.

4.7.2 Frequency of Usage of the Various Types of Questions

i) Memory Questions

According to Table. 1, memory questions had the highest frequency of occurrence. They were 275 in number, they formed about 47.6% of total number of questions used by all the English language teachers. This indicated that the teachers had a preference for memory questions. This may be attributed to the instant feedback that the above questions provide to teachers. These questions emphasized recall of information learnt earlier. The teachers could find out whether the learners could remember information learnt. This was the lowest category of thinking promoted, through the memory questions asked by all the English language teachers.

ii) Translation Questions

There were 40 translation questions used by all the teachers. They constituted 6.9% of the total number asked by the English language teachers. These questions required pupils to transform language structures into different forms. The questions were hardly used by the English language teachers. These questions were important in the mastery of the grammatical structures in language therefore teachers should be advised to use them more often within the lessons. The
low frequency of the translation questions could be attributed to ignorance of the teachers of their function and purpose within the lessons. These questions may be a useful indicator of the pupils' mastery of content within literature lessons too. Teachers should therefore be advised to use them more often within the lesson.

iii) **Interpretation Questions**

There were 115 interpretation questions asked. They formed 19.9% of the total number of teachers' questions. The teachers regularly used these questions. This implied that the English language teachers encourage pupils to manipulate information learnt and establish relationship existing within it. This is a vital process within the learning process. This category of questions was very important within the poetry lessons.

iv) **Application Questions**

The teachers used 61 application questions. They formed 10.6% of the total number of questions asked by all the English language teachers. These questions were mainly within the grammar lessons. This means that pupils were encouraged to apply information and concepts learnt in English language lessons through practice questions.
v) **Analysis Questions**

There were 59 analysis questions used by all the English language teachers. This made a small portion of 10.2% of the total number of questions used by the teachers. This was an indication that English language teachers did not encourage critical assessing of information and the analysis of content. The higher level of thinking associated with analysis questions was not integrated in most of the lessons observed. These questions may be very helpful when integrated within the literature lessons for the analysis of the characters, plot, poetry, literary devices among many other features.

vi) **Synthesis Questions**

There were only 22 synthesis questions used by the English teachers. They formed a minor 3.8% of the total number of questions asked. This was an indication that English language teachers did not encourage creativity and original thinking among the learners. This would be attributed to the limited time and demands of the syllabus, which the teachers had to cover.

Most of the teachers avoided the use of this category of questions because of the challenge it posed. The form of learning encouraged by English language teachers could not be said to facilitate divergent thinking. These forms of questions are recommended for composition writing and literary appreciation.
(vii) Evaluation Questions

There were only six evaluative questions used. They represented a minor 1.0% of total number of questions used by all the English language teachers. This was an indication that English language teachers did not encourage evaluative thinking, that required pupils to form their own judgement and opinions. Evaluation questions require discussion also, which may be limited due to the aspect of time. Critical thinking was not encouraged in high portions within the English language lessons.

4:7:3 Question Distribution in the Various English Language Teaching Areas.

i) Grammar Lessons

The grammar lessons were dominated by the higher cognitive order questions. There were 73 in number, constituting 49.7% of the questions asked by the teachers. The application questions used formed 32.7% of all the questions used by all the English language teachers, while the analysis questions consisted of 14.9% of the questions used. These questions enabled the pupils to master and apply the grammatical rules and concepts learnt. There is a need for teachers to be further encouraged to use these questions within the lessons as they would help widen the learners' linguistic repertoire.
Lower order cognitive questions constituted 49.7% of the total number of questions asked by the English language teachers. These enabled the learners to recall and understand the grammatical structures of language.

There were no translation questions and the low frequency of occurrence of interpretation questions indicated a possible oversight on the part of the English language teachers. These two categories of questions can be helpful in the mastery and manipulation of content for instance in grammar lessons where we have transformation exercises and in literature lessons. There was a need for teachers to be well advised on the use of these questions. This would enable the learners to develop the ability to handle a variety of linguistic contexts.

(ii) Comprehension Lessons

The predominance of lower cognitive order questions was noted. They formed 85.8% of all the questions asked by all the teachers. The high frequency of memory and interpretation questions could be attributed to the fact that the teachers were aiming at developing the learners' ability to comprehend the text, recall information and establish relationships within it. The teachers seemed to have directed the lessons to achieving the recall and the comprehension objective and may be said to give little attention to the other objectives. The main
focus of interaction between the learners and the teachers is mainly confined to the lower level of thinking.

Table 3 indicated the low frequency of higher cognitive order questions. They formed 14.2% of questions asked by all the English language teachers. As stated earlier, one of the objectives of comprehension lessons is to develop reasoning and evaluation skills and this is only possible through the use of higher order cognitive questions. The English language teachers may be said to be failing to effectively achieve the objectives stated above. This means the teachers have failed to effectively effect the objectives as set within the syllabus. This is due to the predominance of lower order cognitive questions, which mainly focus on recall of information. The English language teachers should be encouraged to use more higher cognitive order questions within the comprehension lessons.

(iii) Poetry Lesson

The lower cognitive order questions predominated classroom questions. They represented 78.8% of the questions asked by the teachers. The interpretation questions used had the highest frequency of occurrence. They constituted 37.2% of the total number of questions used by all the English language teachers. This high frequency could be attributed to the fact that pupils were expected to
derive the possible meanings of various phrases in different contexts. This created room for pupils' varied interpretations. This was vital in developing the learner's thinking ability. This was in order with the syllabus objectives.

The higher cognitive order questions formed 21.2% of the total number of questions used by all the teachers. They were to assist the pupils in the process of analyzing the poem and identifying the features of styles used. The teachers encouraged creativity and development of evaluative opinions by posing synthesis and evaluation questions. The limited proportions of higher cognitive order questions implied that the teachers did not encourage critical thinking as they should.

(iv) **Oral Literature Lessons**

The oral literature lessons were dominated by lower cognitive order questions, consisting of 88.3% of the questions asked by all the English language teachers. Memory questions had the highest frequency. They formed 63.1% of the questions posed by the English language teachers. The direct implication is that the teachers' main focus was on ensuring that pupils recalled the relevant information learnt related to oral literature.

One of the teachers' objectives in oral literature is to develop the learners' critical awareness of form, style, plots, narrative techniques, themes and other literary devices. This can only be effected through
the use of higher order cognitive questions. The low frequency of higher cognitive order questions suggests that the teachers may not be seriously directing their efforts to achieving the above objectives. The 'higher order questions are expected to facilitate the learners' ability to discuss literary themes, to analyze characters and to relate to real life. There is need for more higher order cognitive questions in order to meet objectives set within the curriculum.

(v) Composition Lessons

A high portion of lower cognitive order questions characterized composition lessons. They constituted 78.4% of the questions asked by the English language teachers. Memory questions had the highest frequency of occurrence, they formed 70.3% of all the questions posed by the teachers. Pupils were given the opportunity to review and recall writing skills taught. The meaningful presence of synthesis questions implied that teachers facilitated creativity and expression of original ideas through composition writing. The frequency of translation and application questions was considered to be low. This may be attributed to the fact that the teachers' main focus was on the pupils recalling different structures and modes of writing. The English language teachers need to develop the learners' other writing skills through the use of varied questions and other learning activities as expected within the curriculum.
(vi) **Literature Lessons (Class Reader)**

The class reader lessons were characterized by a high portion of memory questions, forming 72% of the questions asked by the teachers. The teachers’ focus was mainly based on recalling the storyline, turn of events and character analysis. Generally, more discussion questions were expected. The teacher’s main focus was recalling information on the reader. There were seven analysis questions, this is 28% of the questions asked by the English language teachers. This was on the inevitable function and analysis of the texts. The learners’ critical thinking abilities were nurtured through tackling analysis questions. There were no evaluation questions. There was a need for higher order cognitive questions especially analysis questions to facilitate the critical analysis of the text in terms of the themes, plot, characters and literary devices. These questions were also used by the teachers to help learners develop insight into the appreciation of literature by engaging them in creative and critical thinking. Therefore, the low frequency of higher order questions implied that the English language teachers were not effectively pursuing the above objectives to facilitate the processes.

(vii) **Speech work Lesson**

The lower cognitive order questions dominated the speech work lesson. They formed 72% of all the questions asked by the English language teachers. The main focus of the lesson was on encouraging
pupils to pronounce words accurately, practice sounds learnt in order to improve their communication ability. Application questions were expected in higher frequency. There was need to develop the learners' ability to communicate effectively and intelligibly in English. Many factors have led to the low standards of spoken English especially language interference with reference to mother tongue interference and 'sheng'. Learners need to develop forums to freely express themselves in conventional language through activities like debates and dialogues. The English language teachers need to put more emphasis on speech work to improve the low standards of English. Speech work was not given the attention it merited due to the fact that it is not examinable. The presence of one lesson was an indication that teachers did not consider it a priority area.

4.7.4 Questioning Styles Adopted By the Graduate and Diploma Teachers

The graduate teachers had a preference for lower cognitive order questions. They were 224 in number. They constituted 69.6% of the questions used by all the graduate teachers (Table 5). A higher proportion of lower cognitive order questions, just as the case in graduate teachers' lessons, characterized the diploma teachers' lessons. There were 206 lower cognitive order questions used, this comprised 80.5% of the questions posed by diploma teachers.
Memory questions had the highest frequency of occurrence in all the lessons observed. There were 153 memory questions used by the graduate teachers, this comprised 47.5% of the questions asked. Diploma teachers used 122 memory questions, this constituted 47.7% of the questions posed. Both diploma and graduate teachers can be said to emphasize recall of information learnt and limited thinking within English language lessons, through the questions posed.

The graduate teachers used 98 higher cognitive order questions, forming 30.4% of the questions utilized within the lessons. This formed a higher percentage of use than those posed by diploma teachers, who posed 50 higher cognitive order questions. They constituted 19.5% of the questions utilized within the lessons. The graduate teachers used 46 application questions, which represented 14.3% of the questions asked. The graduate teachers used a relatively higher proportion of application questions than diploma teachers 5.9%. The graduate teachers can be said to encourage application of information learnt.

The diploma teachers used the analysis questions with the highest frequency of occurrence among the higher cognitive order questions. The diploma teachers used 23 analysis questions, comprising 9% of questions asked. The graduate teachers had a smaller percentage use of analysis questions 7.7%. This means that both the graduate and diploma teachers did not seriously
encourage learners to develop the ability to think divergently and evaluatively.

4.7.5 Frequency Distribution of Questions Used by All the Teachers

a) Graduate Teachers

Table 6 has been used to draw conclusions as to whether increasing the sample of graduate teachers resulted in any significant differences. As indicated on tables 6 and 7, there were no significant differences evident.

The five graduate teachers predominantly used lower order cognitive questions. These questions formed 69.1% of the questions asked while the higher order questions constituted 30.9% of the total number of questions asked by all the graduate teachers. The memory category of questions maintained the highest frequency of occurrence of 153 questions, consisting of 47.5% of the questions asked by all the graduate teachers. The graduate teachers therefore predominantly used lower cognitive order questions, putting more emphasis on recall learning and thinking. Increasing the sample of graduate teachers did not generate any new results.
b) **Diploma Teachers**

Tables 8 and 9 have been used to draw conclusions on whether increasing the sample of diploma teachers resulted in any significant difference in results generated. The five diploma teachers used lower cognitive order of questions predominantly. They formed 80.6% of all the questions used by these teachers. The memory questions had the highest frequency of 122. This made 47.7% of the questions used by the diploma teachers. The higher cognitive order questions ranged consisted of 19.5% of the total number of questions used by the diploma teachers. This implies that increasing the sample of diploma teachers did not result in any new observations being generated. Diploma teachers still predominantly used lower cognitive order questions.

### 4.7.5.1 Summary of the Question Distribution of the Lessons Observed.

The graduate teachers predominantly used lower cognitive order questions, they constituted 69.6% of the questions used. The memory questions had the highest frequency of occurrence among the questions posed by the English language teachers. The diploma teachers had a higher percentage use of lower cognitive order questions, they comprised 80.5% of the questions asked. This means that the English language teachers were encouraging recall thinking within the classroom. It should be noted that diploma teachers had a higher proportion of interpretation questions meaning pupils were encouraging their pupils to manipulate the language items learnt.
The graduate teachers used a higher proportion of higher cognitive order questions than diploma teachers. The graduate teachers facilitated higher cognitive level of thinking among pupils.

4.7.5.2 Summary of Frequency Distribution of Questions Used by All Teachers (8-10).

Increasing the sample of teachers observed did not result in any distinct differences in the questioning styles adopted by the teachers. According to tables 7, 8, 9 and 10, the lower cognitive order questions still dominated the questions used by all the teachers. The main level of thinking promoted is the lowest level of thinking and the main focus of teachers’ questions is directed towards recall of information learnt. The lower cognitive order questions constituted 74.4% of the questions posed by the teachers.

Higher order questions were used to a minor proportion of 25.6%, with the application questions having the highest frequency. This implies that divergent and evaluative thinking is not really encouraged by the English language teachers.

4.7.6 Responses Evoked by Different Types of Questions

All the responses were tallied when elicited from the pupils through the questions posed by the teachers. It was observed that all the categories of questions in the lower cognitive order did elicit either short responses or long and elaborate responses. It can be noted that more questions required long and elaborate responses than short and concise responses, (table13). For the
higher cognitive order questions, the teachers posed a higher portion of questions requiring long and elaborate responses. This implies that students could fully respond effectively to questions where short or lengthy responses were required. The lengthy responses were a more useful indicator of the pupils’ understanding of content.

There were 254 short and concise responses, constituting 43.9% of the total number of responses made by the learners in response to questions posed by all the teachers. The brief responses encouraged further participation by learners, but demanded the learners to know the specific information required.

There were 308 long and elaborate responses consisting of 53.3% of the responses made by the students. The pupils seemed ready to respond by giving lengthy responses as long as they had proper understanding of the information required. These questions gave pupils the opportunity to express their ideas freely.

The incomprehensible responses elicited represented 2.8%. This was negligible in proportion to the total responses generated. The incomprehensible responses were generated either when pupils failed to comprehend the lesson content or the questions they were not fully attentive during the lesson.
4.8 GENERAL OBSERVATIONS

(a) Teachers’ Questioning and Pupils Responding Behavior

The teachers’ questioning behavior was important in determining pupils’ response to questions. The use of praises when appropriate and how a teacher responded to negative or wrong responses determined or affected the pupils’ responding behavior.

General apathy was noted among the learners especially when posed with challenging questions requiring critical thinking. When the pupils were not sure of the responses, they felt no obligation to respond to the teachers' questions. In such cases, no hands were raised, the teacher either picked on the active students to respond or picked the pupils at random to respond. The random selection of pupils by the teacher ensured maximum participation among the learners and involvement.

The pupils were more ready to respond to questions that had obvious responses and which required minimal thinking.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5:0 INTRODUCTION
This chapter presents a summary from which conclusions are formulated. Suggestions and recommendation are made too at the end of the study.

5.1 SUMMARY OF THE FINDINGS
The main purpose of the study was to find out the frequencies of occurrence of cognitive questions asked by English language teachers and how this affects the interaction within the classroom. Five objectives and the findings are presented.

5.1.1 Identifying the Nature and Types of Cognitive Questions Used in the Sample of English Language Lessons.
There were 578 questions used by all the teachers in the 40 lessons observed. They were classified into three major categories as follows: -Lower order cognitive questions which represented 74.4% of the questions posed by the teachers, higher order cognitive questions which formed 25.6% of the questions asked.

The sub-categories in the lower cognitive order include memory, translation and interpretation questions. The sub-categories in the higher cognitive order
questions, which include application, analysis, synthesis and evaluation questions.

5.1.2 The Frequency Use of the Various Types of Questions

The memory category of questions had the highest frequency of occurrence. There were 275 in number, constituting 47.6% of the questions asked by all the teachers. The translation category of questions were 40 in number. They made 6.9% of the questions used by all the English language teachers. There were 115 interpretation questions posed by the teachers. This represented 19.9% of the total number of questions used by all the English language teachers. These three sub-categories formed the questions in the lower cognitive order questions, which constituted 74.4% of the questions used in English language lessons.

The 61 application questions used constituted 10.6% of the total number of questions used by all the English language teachers. The 59 analysis questions used amounted to 10.2% of the questions posed by all the teachers. The 22 synthesis questions used formed a minor 3.8% of all the teachers’ questions, while the six evaluation questions used amounted a negligible 1.0% of the questions used by all the English language teachers. These categories of questions formed the higher order questions, which constituted 25.6% of the questions used. The following findings correlate with other findings done by researchers like Muthwii (1987), Kissock and Iyortsuun (1982) and
Otieno (1996) who had discovered that the lower cognitive order questions dominated classroom discourse.

5.1.3 The Distribution of the Various Questions in the Various English Language Teaching Areas

All the lessons observed had a higher proportion of lower cognitive order questions than the higher order cognitive questions. The comprehension lessons had the highest portion of lower cognitive order questions. They were 121 in number, representing 85.8% of the total number of questions asked by all the English language teachers. The memory questions had the highest frequency of occurrence in the comprehension lessons. They were 63 in number, forming 44.7% of the questions posed by all the English language teachers.

The grammar lessons were predominated by higher cognitive order questions. There were 74 in number, amounting to 50.3% of the questions asked by all the English language teachers. The application questions were used in a relatively higher proportion to analysis questions. There were 48 application questions, which formed 32.7% of all the questions asked by the teachers. There were 22 analysis questions used, which represented 14.9% of the total number of questions used by all the English language teachers. The memory questions still had the highest frequency of occurrence. There were 61 in number forming 41.5% of the questions used by all the English language teachers.
The poetry lessons were the only lessons with the highest frequency of interpretation questions. They were 44 in number, consisting of 31.2% of the total number of questions asked by all the English language teachers. The lower cognitive questions still dominated the classroom questions. They represented 78.8% of the questions asked by all the English language teachers. The oral literature lessons were dominated by lower cognitive order questions. They formed 88.3% of the total number of questions used by all the English language teachers. The memory questions had the highest frequency of occurrence. They were 65 in number, consisting of 63.1% of the questions asked by all the English language teachers.

The composition lessons were characterised by lower cognitive order questions, forming 78.4% of the questions asked by all the English language teachers. Memory questions dominated the questions asked by teachers, representing 70.3% of the questions used by the English language teachers. The literature (class reader) lessons were dominated by memory questions. They had the highest frequency of occurrence of 18 questions. They formed 72% of the questions used by all the English language teachers.

The speech work lesson had the lowest average number of questions used. The memory questions used had the highest frequency of occurrence. They were five in number amounting to 41.7% of the questions asked by the teachers.
The lower cognitive order questions dominated the questions asked, and constituted 74.4% of the questions used by all the English language teachers.

Though it is necessary for us to realise that the subject matter may influence to an extent the questions asked within the classroom, it is vital for the teacher to first evaluate the situation before using a particular type of question. Questions used should be appropriate and help the teacher achieve the intended intention. Barnes (1969) states that different subjects impose different constraints on the type of questions asked. It is essential to realise that questions require thought and contributions from pupils and are helpful in promoting motivation and conceptual development, but they may pose a management problem (Robbertson, 1981). It is therefore necessary for teachers to use them wisely. Hargreaves and Fullan (1984) noted that it is essential to regulate open or higher order questions to avoid management problems like long and irrelevant answers, which may cause boredom and disrupt other learners. There is need for the teachers to know how to appropriately use all types of questions and to integrate them into the lessons.

5.1.4 The Questioning Styles Adopted by Graduate and Diploma Teachers

The graduate teachers predominantly used lower cognitive order questions within the classroom. They constituted 69.6% of the questions utilised. The graduate teachers’ lessons were characterised by a high occurrence of memory questions, forming 47.5% of the questions used. These teachers mainly used
the application questions among the higher cognitive order questions, consisting of 14.3% of the questions used by them.

The diploma teachers predominantly used lower cognitive order questions, forming 80.5% of the questions used. The memory questions were the most frequently used category of questions constituting 47.7% of the questions used by all the diploma teachers. The analysis questions had the highest frequency of occurrence. They were 23 in number amounting to 9.0% of the total number of questions posed by all the diploma teachers. They used a lower proportion of higher cognitive order questions constituting about 19.5% of the total number of questions used while the graduate teachers used 30.4% higher cognitive questions of the total number of questions.

These findings may confirm those of Bwire (1990) who discovered that student teachers in diploma colleges considered the use of higher order as not an important skill to learn but also considered it difficult to use during the lessons. This therefore resulted in the student teachers hardly using the higher order cognitive questions. Bwire (1990) further revealed that lecturers considered that the use of higher cognitive order questions should not be prevalent unless one was studying literature at an advanced level, for 'O' level lower order questions were considered to be sufficient. This is an alarming comment and crucial to note that if teacher trainers were biased on the use of higher order questions, pupils were likely to be influenced by the
above attitude. This may eventually have long-term effects on the teachers trained and the learning outcomes within the schools.

5.1.5 The Students’ Responses to the Different Types of Questions

The proportion of questions which elicited short responses from the learners were about 43.9% while 53.3% of the remaining questions evoked long and elaborate responses. The type of question did not seem to influence the students’ response rate, rather the content of the questions did.

About 141 memory questions, which formed about 24.4% of the questions generated long and elaborate responses. The memory questions, which were 126 in number, elicited the highest frequency of occurrence of short and concise responses, which was 21.8% of the total number of responses by the pupils.

5.2 CONCLUSIONS

1. Most of the questions asked by all the teachers seemed to emphasise the recall function. The teachers mainly addressed the information learnt at the moment or earlier. The learners were therefore mainly exposed to questions, which restricted their thinking ability and confined it to recall and the convergent thinking function. This may be backed by the fact that Kenyatta University introduced a common unit among the first year students called Critical Thinking in the Philosophy, Religious Studies and Literature since 1986/87 academic
year. This was meant to help the students to cultivate the reasoning skill that would require them to evaluate, reason and think critically before making judgement (Wambari, 1992). This suggests that the secondary education has not developed fully the higher level of thinking among the students.

2. The memory category of questions had the highest frequency of occurrence. Though, this category is important as it formed the knowledge base for learners, it was over-emphasised by the teachers.

3. Application questions were the most frequently used category of questions among the higher cognitive order questions. They were mainly used in grammar lessons to exercise the grammatical rules, structures and concepts learnt.

4. The area of English language being taught to some extent influenced the types of questions prevalent in the lesson. Grammar lessons had the highest frequency of occurrence of application questions while the literature lessons had the highest frequency of occurrence of memory questions.

5. The diploma and graduate teachers predominantly used lower cognitive order questions. Increasing the sample of teachers observed did not result in any new findings. The teacher's main focus was information learnt and this limited the thinking ability developed. Different categories of questions could either elicit a short and concise response or a long and elaborate response. The main determinant was whether the response adequately addressed the question at hand.
6. The teacher's prompting encouraged lengthy responses and explanations, when not satisfied with the responses given by the students. Question distribution within the lesson was affected by the aspect of time, which was considered to be a limited factor. Most of the higher order questions and discussion questions which could have greatly benefited the learners were restricted in use due to the limited time teachers had to cover the detailed syllabus.

7. The teachers' questioning behaviour and response to various questions were important in determining the pupils' responding behaviour.

5.3 SUGGESTIONS

1. There was a need for English language teachers to use a higher proportion of higher cognitive questions within the lesson when deemed appropriate. This would help the learners to develop the ability to think creatively, discuss their views logically. The use of more evaluation questions would enable pupils to develop the ability to make sound judgement on issues and formulate their own opinions especially in literature lessons. This would be helpful in composition and discussion lessons.

2. There was a need for English language teachers to encourage more learners to respond more to higher cognitive questions. This can only
be possible when the learners are confident and the teachers have to create a facilitative environment (democratic), by encouraging pupils to participate or to respond. The teachers can improve learners' participation or responses to questions by improving their own questioning behaviour. This is possible through the teachers use of praise when appropriate, probing and prompting questions, including wait time and expanding on pupils' responses.

3. The teacher training institutions should train English language student teachers on how to formulate and regularly use higher cognitive order questions within the lessons. First, there was a need for the teacher trainers to be enlightened on the benefits of integrating higher order cognitive questions within the lessons. This would help eliminate the negative biased attitudes to higher cognitive order questions as research has shown, (Bwire (1990).

4. The teacher training institutions should be encouraged to use higher cognitive order questions. There is need for higher order cognitive questions and thinking to be encouraged and cultivated early in the educational process. These can be achieved by integrating higher cognitive questions into the questions posed within the lessons from primary schools to the later stages of tertiary education. This will help develop students ability of critically thinking, accessing information and making decisive judgement about issues they encounter.
5. There is need for the examination and the education system to encourage creativity and critical thinking among the learners. The questions constructed should be geared to encouraging creativity and critical thinking, through the use of more synthesis and evaluative thinking questions.

6. There is need for the teacher training institutions to train teachers on the use of Lyman (1986) 'thinking matrix' appropriately within the lessons. This would enable teachers to ask more questions, which would promote higher level thinking within the classroom.

7. The curriculum developers should recommend to Kenya National Examination Council to introduce an oral examination, as this would ensure that teachers put more focus on speech work lessons. This would ensure that pupils develop the ability to communicate effectively through oral practice.

5.4 RECOMMENDATIONS FOR FURTHER RESEARCH

1. Further research is encouraged using a larger sample, at a comparative level. The research would entail finding out the cognitive interaction facilitated through questioning. The sample would include both rural and urban schools.

2. Research should be undertaken to find out if there is any relationship between wait time given and the cognitive question category.

3. A study should be undertaken to investigate the effect of the teachers' questioning behaviour on the learner’s response behaviour.
4. A study should be undertaken to compare the cognitive types of questions used by English language teachers and other subjects.

5. Due to the limited nature of the above study, it is hoped that research on the non-verbal behavior, which contributes to cognitive interaction, may be addressed and investigated on.

6. A qualitative longitudinal study should be undertaken which should focus on the effect of higher order cognitive questions on the performance of learners. The study should establish the teachers with tendencies of using lower cognitive questions and the possible effect of training them on the use of higher order cognitive questions and how this affects the learners' performance.
BIBLIOGRAPHY


Daily Nation 1 March 1990.

Daily Nation 1 March 1995

Daily Nation 17 February 1996.


Mehan, H. (1974). “Accomplishing Classroom Lessons”. In Cicourel et al. (eds. 16- 142)


APPENDIX I

THE INSTRUMENT

TEACHER PUPIL QUESTION INVENTORY

The Teacher Pupil Question Inventory (TPQI) is used for the research. It consists of seven categories, constituting of Cognitive questions.

The categories are as follows:

1. **Memory** - These questions require one to recall or recognise information, facts or generalisations.

2. **Interpretation** - The questions require one to state the relationship between various types of questions.

3. **Translation** - These type of questions change information to different form.

4. **Application** - These questions require one to solve realistic problem, or identify crucial issue, selection and use of appropriate skills and knowledge.

5. **Analysis** - These questions require student to know how something works, the elements which form an object.

6. **Synthesis** - These questions require speculative or original answers.

7. **Evaluation** - These questions require one to make judgement according to an explicit criteria.
APPENDIX 2

THE OBSERVATION SCHEDULE: TEACHER Pupil QUESTION INVENTORY

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**KEY:**
- N = Time Sampling Unit (Minutes)
- INTER = Interpretation
- APPLIC = Application
- MEMO = Memory
- ANALY = Analysis
- TRANS = Translation
- m = Response to Memory
- SYNTHE = Synthesis
- ls = Response to Synthesis
- EVALU = Evaluation
- SH = Short
- LE = Long and Elaborate
- le = Response to Evaluation
- INCOM = Incomprehensible
- lin = Response to Interpretation
- la = Response to Analysis
- lap = Response to Application
- It = Response to Translation
### PUBLIC SCHOOLS IN NAIROBI PROVINCE.

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44. Nile Road Special MD
45. Nile Road MD
46. Mutu-ini High MD

KEY:-
G - GIRLS
B - BOYS
D - DAY
MD - MIXED DAY
BB - BOYS BOARDING
GB - GIRLS BOARDING
# APPENDIX 4

## SCHOOLS INVOLVED IN THE STUDY

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