Influence of Teacher Cognition on how teachers understand, Teach and Test English Grammar

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Abstract: **The purpose of this study was to analyse how teacher cognition influenced how English language teachers taught and tested English grammar in selected secondary schools of Luanshya District. The objectives were to; analyse how teacher cognition influenced how teachers understood and taught English grammar and to analyse how teacher cognition influenced how teachers tested English grammar. The study was purely qualitative and the study sample consisted of six schools and from those schools, 12 participants were purposively sampled. The 12 participants included 2 teachers of English from each school. Data was collected through class observations, semi-structured interviews and document analysis. Data was analyzed using thematic analysis. The findings from the first objective showed that the teachers understood grammar to be the rules of the language. Their understanding and beliefs about grammar were reproduced in their classrooms as they taught grammar. Teachers taught grammar systematically and explicitly using deductive techniques such as teacher exposition and question and answer. They also believed in rule explanation, the use of metalanguage and frequent correction of errors. In testing of how grammar should be tested, teachers believed that grammar should be tested explicitly using written assessments in form of transformations, fill in the blanks and complete the sentence exercises. Class exercises analysed through document analysis were consistent with teachers' cognition about testing of English grammar. Conclusively, the study showed that there is a connection between how teachers understand grammar and how they teach and test it. In view of the findings, the study recommended that teacher trainers should teach various forms of grammar and expose student teachers to various ways of assessing English language grammar beyond manipulation of grammatical rules. Moreover, secondary schools should organize Continuous Professional Development programs for teachers to improve their cognitions for successful implementation of the curriculum.**

Keywords: **Teacher cognition, grammar, English, Teaching, Testing, Zambia**

I. INTRODUCTION

Grammar teaching has become more communicative since communicative language teaching views language as an instrument of communication and grammar as a tool that helps to convey meaning and comprehend other people's messages (Nachiengmai, 1997). The Senior Secondary School Syllabus for English language in Zambia recommends that teachers should use the Communicative Language Teaching Method and Text-based Integrated method in the teaching of English grammar (Senior Secondary School Syllabus, 2013). This entails the use of methods that encourage learners to reflect, think and do rather than reproduce language from rote learning. It is within this context that this study was conducted to examine how teacher cognition influence how teachers of English teach and test grammar in selected secondary schools of Luanshya district considering the strong link which exist between teacher cognition and curriculum implementation.

According to Borg (2003), teacher cognition refers to what teachers think, believe and know and its relationship to teachers' classroom practices. It refers to an inclusive term referring to the complex, practically-oriented, personalised and context sensitive networks of knowledge, thoughts and beliefs that language teachers draw on in their work (Borg, 2015). Kagan (1990) also describes teacher cognition as pre or in-service teachers' self-reflections; beliefs and knowledge about teaching, students and content; and awareness of problem solving strategies endemic to classroom teaching. It is believed that all the factors mentioned in the definitions above play a vital role in the decisions that teachers will make before and while teaching including the teaching and testing of grammar.

To better understand the study of teacher cognition, it is important to have a glimpse of its emergence. In the 1960s, teacher education had concentrated on the observable aspects of teaching. Research on teaching focused on the search for effective teaching behaviours. This meant looking for classroom behaviours that would result in greater teaching and learning. This was called a process-product model of research and its purpose was to identify these effective behaviours in the belief that they could then be applied universally by teachers (Borg, 2009). However, this is considered as a simplistic notion of studying teaching and learning. This is because the paradigm undervalued the previous lives and experiences of teachers by conceptualising teaching as an *"abstract, decontextualized body of knowledge and a quantifiable set of behaviours"* (Freeman and Johnson, 1998:399). However, teacher cognition research postulates a swing from searching for better ways to train teachers towards a need to understand how teachers learn to teach by examining their understanding, beliefs and experiences and how that affects their instructional choices. This is because teachers as human beings are active decision makers and no matter how much educational systems may try to program teachers to act in certain ways, they may not.

In the 1970s, influenced by Walberg's (1977) term of "teachers' mental lives", and the leading-edge work of Lortie (1975) on the *apprenticeship of observation*, researchers

began to research into the aspect of teaching being more than a simple set of behaviours. Furthermore, they asserted that the complexity of learning to teach could not be explained by the dominant process-product research model which had a behaviouristic perspective (Öztürk, 2015). This led to the coming together of an influential panel that convened in 1975 in the United States of America which directly and largely fuelled the emergence of teacher cognition. This panel was part of the national education conference in the United States of America. In their report they concluded as quoted by Borg (2009:1):

> *It is obvious that what teachers do is directed in no small measure by what they think...To the extent that observed or intended teaching behaviour is "thoughtless", it makes no use of the human teacher's most unique attributes. In so doing, it becomes mechanical and might well be done by a machine. If, however, teaching is done and, in all likelihood, will continue to be done by human teachers, the question of relationships between thought and action becomes crucial. (National Institute of Education, 1975: 1)*

Also, developments in cognitive psychology stressed the complex relationship between what people do, what they believe and what they know and teachers are not an exception. Cognitive psychologists consider it important to look at the mental processes of an individual and how these processes influence behaviour (McLeod, 2015). This engendered interest in the area of what teachers think when teaching language which was termed as teacher cognition. As a result, teacher cognition was strongly established as a discipline in the 1990s as evidenced in the following words

> *"We need to understand more about how language teachers conceive of what they do, what they know about language teaching, how they think about classroom practices and how that knowledge and these thinking processes are learned through formal teacher education and informal experience on the job" (Freeman and Richards, 1996: 1).*

Consequently, from the mid-1990s going forward, there has been a steady increase in the bulk of research done on what language teachers know, believe and think and how that influences their classroom choices and practices (Borg, 2003).

Following the establishment of teacher cognition as a discipline, many studies have shed light on the importance of the cognitive processes of teachers in the teaching process. It is now a recognised fact that teachers are active decision makers in the process of teaching and their teaching is not mechanic. There is something that influences their instructional choices and they do not implement curricula designed by others in a thoughtless manner but teachers make decisions before and while teaching (Borg, 2009). It is concluded from research done in teacher cognition that teachers base their instructional decisions including in the teaching of grammar on their own practical theories

(knowledge, beliefs, experiences and attitudes). These theories are formed through experience and grounded in the teachers' understandings of their teaching contexts (Borg and Burns, 2008). Teachers' instructional choices in the teaching of grammar are therefore motivated by diverse psychological, instructional, institutional and social influences.

Therefore, understanding these influences is central to a better understanding of teachers' English grammar teaching and testing. It is believed that teachers will hold personally defined understandings of the value of the teaching and testing of grammar which will shape the way grammar is taught and tested (Borg and Burns, 2008). This might be the reason why despite the emergence of numerous second language (L2) acquisition theories and teaching methods over the years, teachers have not deviated from the more traditional grammar oriented approaches as (Thornbury, 1998) argues. It is for this reason that research in teacher cognition in the Zambian context is of utmost importance. This is because studies have been done in Zambia that were primarily focused on how teachers apply certain methodologies to teach the English language (Mwanza, 2016, Mumba, 2019, Lungu, 2006) and on the factors affecting the use of certain methodologies when teaching language (Mwanza, 2016, Mumba and Mwanza, 2019, Lungu, 2006). However, these studies did not consider the cognitive elements to understand why teachers taught and tested language in the way they did.

Since teacher cognition is realized through teachers' understanding, experiences and beliefs, these three concepts will be used in this paper especially teachers' understanding and beliefs to represent teacher cognition. In other words, this study is mainly concerned with two elements of teacher cognition namely, teachers' understanding and beliefs about how English language grammar should be taught while appreciating the fact that teacher beliefs inform their knowledge base and their classroom practice.

II. STATEMENT OF THE PROBLEM

There is a lot of research on teacher cognition but no research has been done to ascertain the extent to which teacher cognition influences the teaching and testing of grammar in secondary schools in Zambia. Therefore, the problem that this study sought to address was how teacher cognition influenced how teachers of English taught and tested English grammar in selected secondary schools of Luanshya District. As a question, the problem was; how does teacher cognition influence how language teachers' teach and test English grammar in selected secondary schools of Luanshya District?

III. RESEARCH OBJECTIVES

The objectives of this study were to:

   a. Analyze how teachers understand grammar and how their cognition influence how they teach grammar
   b. Analyze how teacher cognitions influence how teachers test English grammar.

IV. RESEARCH QUESTIONS

The following were the main research questions of the study:

a. How do teachers understand grammar and how does their cognition influence the way they teach grammar?

b. How do teacher cognitions/beliefs influence how teachers test English language grammar?

V. RESEARCH METHODOLOGY

5.1 Research Design

According to Tromp and Kombo (2009) a research design is the structure of the research. The structure that this study employed is a qualitative descriptive research design. Qualitative descriptive research seeks to discover and understand perspectives and worldviews of the people involved (Caelli, et al, 2003). It is particularly relevant when information is required from those directly experiencing the phenomenon under investigation (Carmel, et al, 2017).

5.2 Target Population

White (2003) defines population as a universe of units from which the sample is to be drawn. The population that this study targeted was all the teachers of English language, all learners of English language and all secondary schools in Luanshya District on the Copperbelt province of Zambia.

5.3 Sample Size

A sample is defined as a segment of the population that is selected for Investigation (Bryman, 2004). Therefore, the sample size of this study included 6 schools from Luanshya District. The schools consisted of 2 from the low density areas of Luanshya, 2 from the medium density areas of Luanshya and 2 from the high density areas of Luanshya. Twelve (12) teachers of English language, two (2) from each school were considered for oral interviews and lesson observation. Learners were considered for observation and document analysis. In the document analysis, learners' exercise books were analysed.

5.4 Sampling Techniques

This study used expert purposive sampling technique. Expert purposive sampling is defined as an intentional selection of informants based on their ability to elucidate a specific theme, concept or phenomenon (Robinson, 2014). Purposive sampling was used to come up with twelve participant teachers and six schools. This was done to find individuals who could provide rich and varied insights into the phenomenon under investigation so as to maximize the quality and depth of data (Dörnyei, 2007). The schools were purposively sampled because the researcher wanted to include schools that were based in the low, medium and high density areas of Luanshya District.

5.5 Research Instruments

This study utilized semi-structured interview guides, observation schedules, audio recorder and document analysis guides. Interview guides were used to interview teachers. Secondly, the researcher employed observation schedules to observe the teachers and pupils during lessons in their particular classrooms. An audio recorder was used to record the lessons during observation. Finally, the researchers used the document analysis guide to analyse the lesson plans to see if they adhered to the teachers' cognitions. The document analysis involved analyzing pupils' books to see how teachers assessed and marked pupils' grammar tasks and identify how teacher cognition informed their assessment and marking.

5.6 Data Analysis

The data collected was analysed qualitatively using thematic analysis. According to Patton and Cochran (2002:23) "thematic analysis is one that looks across all the data to identify the common issues that recur, and identify the main themes that summarise all the views you have collected." Data for this study was gathered and put into identified themes and categories. Data collected from the interviews, observations and documents analysis was categorised and analysed under the identified themes. Thereafter, interpretations and discussions were made. In the case of this study, the identified themes were the research objectives under which any of the data fell.

VI. PRESENTATION OF FINDINGS

As stated in the methodology section, the data will be presented thematically guided by research questions/objectives. Under each objective, the data has also been categorized according to type of data.

6.1. How do teachers understand Grammar?

To answer this question, the researcher used interviews. The majority of the teachers stated that grammar meant the rules of the language. The teachers stated that grammar meant the correct application of the grammatical rules of the language. They emphasised that the placement of words in sentences must be rule based in order to be correct when using the language. Here are some of the responses:

> T2: To me grammar means language rules, the placement of words must be rule based.

> T6: It has to do with the rules of the language, basically that.

While another group said grammar meant proper sentence structuring or the way words come out. This group of teachers felt that if a person can construct a grammatically correct sentence then they know grammar. They stated that it had to do with correct sentence formation. Here is what the teachers had to say:

> T1: I would summarise it as proper sentence construction.

T5: Implies vocabulary, correct sentence formation and usage

The last two teachers stated that grammar was language itself. They felt that grammar had to do with all aspects of language such as the rules of the language, the pronunciation of words and the use of tenses. Here is what they said:

T10: Grammar is language itself.

T11: Grammar is language itself, the language rules, pronunciation of words and the use of tenses.

Then the teachers were asked to express their views on what they considered to be the most important aspects of grammar to teach. The responses to this question fell into two categories. There were those teachers who generally stated that learners needed to know the grammatical rules of the English language and they leaned towards being correct. For instance, T1 and T5 had the following to say:

T1: I think for me, it's the rules. Learners should learn the grammatical rules because knowing the rules will help learners know how to use the particular grammar items.

T5: Learners should understand the rules, understand patterns, that each rule has a specific pattern peculiar to the rule and also understand the modifications because without rules the person may jumble and misplace, misuse and abuse the language.

In addition, there were those who mentioned specific aspects of grammar that they felt more important to teach. One of the aspects that was prominent in the responses was the aspect of vocabulary. The teachers said that learners needed to learn specialized vocabulary. They said that the learners needed to be able to classify words and use them to combine sentences. They also said that learners needed to know how to use adjectives and adverbs in order to add emphasis to what they were saying and so on. Here are some responses:

T2: Children should learn specialised vocabulary. Every area of life is a unique entity with its own language. The child who uses specialised grammar will be considered as someone who has mastered the language. For example, doctor can refer to gynecologist, neurologist.

T3: The learners should know how to classify words and also how they combine to form sentences.

Apart from vocabulary, the respondents emphasised the importance of writing conventions. Writing conventions in this case referred to all the rubrics of standard writing. The teachers felt that when teaching grammar, the learners needed to learn how to punctuate sentences properly, write correct spellings of words, construct proper sentences, use proper word order, use correct writing especially in letter formation and have a neat general layout. Here are some of the responses they gave:

T7: Generally, they should write correct spellings, construct proper sentences, punctuate properly because usually when teaching English we consider everything, sentences will be wrong based on spellings, punctuations, sentence construction and word order.

T2: Spellings, dotting, punctuation, letter formation-avoid wrong forms of letters when writing alphabetic symbols (handwriting), agreement of subjects and verbs for cohesion and coherence and finally the use of language to be correct and appropriate.

T9: Structure of the sentence should follow the conventions taught. Then the spellings and handwriting.

Other respondents stated that it was important for them to teach tenses to the learners. They stated that learners needed to know the tenses and the reason was that tenses were the foundation of language. For instance, T3 went to the extent of treating rules and tenses as synonymous terms. Here is what the teachers had to say:

T3: They should also know the tenses because in any language the native speakers determine whether somebody knows the language by how well they know the rules.

T10: They have to know to use words, proper construction of sentences and differentiating the tenses. Tenses are the foundation of the language.

The findings show that the teachers understood grammar to mean the rules of the language, proper sentence structuring and specialized vocabulary. Consequently, they stated that the most important aspects of grammar to teach were the rules of the language and some particular aspects such as tenses, vocabulary and all the rubrics of standard writing which they felt were the foundation of any language.

6.2 How teacher cognition influenced how teachers taught English Grammar: Lesson Observation Data

During lesson observation, grammar lessons were observed from the beginning to the end and they were analysed to determine whether the teachers practiced their stated beliefs about how grammar should be taught. In total, six lessons were observed to ensure non-biased conclusions on the teachers' beliefs about grammar teaching. During the observations, the researcher listened and made notes following the observation schedule designed for the same purpose. From the six lessons observed, three were chosen for presentation as each one represented the categories of schools chosen for the study.

a. Lesson Description 1 on the Conditional Tense : School A

The school is an all-boys school located in a low density area. The teacher is a male and holds a teacher's diploma. He has been teaching English for twenty-one years. The class is a Grade 10 class and it consists of 45 learners. The teacher has a

lesson plan. The aim of the lesson was to teach the conditional tense using 'whether' and 'if' interchangeably and independently.

The teacher asks the learners if they have ever heard people say 'if' to say things. And the learners say yes. Then the teacher tells the learners to construct any sentence using 'if'. The learners construct oral sentences using 'if'. Here are some of the learners' responses:

1. *If we train hard, we shall win.*
2. *If I come, I will kill you.*
   The teacher then tells the learners that they are speaking conditionally. Then again the teacher asks the learners if they have ever heard anyone use the word 'whether' and asks the learners to construct sentences using 'whether.' For any wrong sentences he looks for another learner to reconstruct the sentence correctly. Here are examples from the learners:

1. *Whether you like it or not I'll eat your chicken.*
2. *Whether you like it or not today at break time I will beat you.*
   He tells the learners that they are still speaking conditionally. He then introduces the topic and writes conditional tense on the board. He then writes more examples on the board using whether. For example:

   1. Bupe asked whether we are married.

   He then asks the learners if the word 'if' can be used to rewrite the sentence and the learners say yes. Here is the response;

   Bupe asked if we are married.

   The teacher then explains that this is one of those rare moments where the words can be used interchangeably. He gives another example on the board to see if both 'whether' and 'if' can best complete the sentence or if both can apply.

1. *--- Nandi goes to South Africa she'll buy me a laptop. A learner says 'if' the teacher asks the class "Do you agree with him?" the class says "yes."*

   The teacher explains that it is only some of the times that 'if' and 'whether' are interchangeable. He writes more notes on the board and tells the learners to be fast when coping. He writes the use of whether on the board as follows; Whether can be used when someone doesn't know which of the two possibilities is true. For example;

   1. There is some doubt as to whether the illness is contagious.

   Teacher asks what is the meaning of the word contagious… learner says a disease that can easily spread… teacher tells class that it is synonymous to 'infectious'

2. *She doesn't know whether her daughter is dead or alive.*
   The teacher further goes on to state the second rule of use which he writes on the board with examples and it states; 'Whether' can also be used to say it doesn't matter because the situation will remain the same. He gives the following examples;

1. *Whether or not Seer1 has the power to change nature is immaterial.*
2. *The journey whether by road or rail takes three hours. Teacher tells the class that now they are about to move into a deeper understanding of specific sentence construction that requires the use of whether.*

   Rule #1

   Use 'whether' not 'if' before an infinitive.

   The teacher asks, "What is an infinitive?" The class choruses, "to" he gives the following example:

1. *She can't decide whether to marry him Rule # 2*

   Use 'whether' not 'if' after a preposition.

1. *There are doubts about whether the power cuts are a result of low water levels in our dams. To conclude he makes the learners recite all the rules taught. He called them the hard and fast rules. He then gives a class exercise where the learners fill in the blanks with either 'if' or 'whether' and also learners complete sentences. Then the teacher goes round marking the books.*

b. *Lesson Description 2 on the Future Simple Tense: School B*

The school is located in a high density area. The teacher is a female and holds a Bachelor's degree. She has been teaching English for five years. It is a new Grade 8 class created in the sixth week of the term due to high demand for school places and it consists of 45 learners. The teacher has a lesson plan. The aim of the lesson was to teach the future simple tense using 'going to'

The teacher begins the lesson by saying 'I am going to Lusaka on Friday.' She then asks the learners, "what did I say?" and the learners in chorus respond, "You are going to Lusaka on Friday."

The teacher then asks the learners if she has already gone and the learners say no. she then explains that that was an example of the future simple tense because the action has not yet happened but is expected to happen at a later time and she writes the topic on the board.

This is followed by rule explanation. The teacher tells the learners that the future simple tense can be expressed by using 'going to.' She explains that it is used to express an action that hasn't happened yet but is expected to happen at a later time.

The teacher then starts writing notes on the board on the future simple tense and writes the examples from the book as well. Then she explains that it is used to express what has already been decided. After this the teacher continues for about five minutes writing notes on the board for learners to copy and there is silence in the room the whole time. The learners copy down the notes into their exercise books.

The teacher again emphasises that the future simple tense is used for an action that has not yet happened using 'going to'. The teacher then draws the learners' attention to the examples she's written on the board. She reads every example one by one as she asks the learners to state the meaning of each sentence. For example;

1. *He is going to finish the book tonight.*
   Can someone explain the meaning of the sentence? The learners state that he hasn't finished reading the book

2. *I am going to be a farmer when I grow up.*
"Is he already a farmer?" the teacher asks. The learners say no and then she asks, "When is he going to be?" The learners respond, "when he grows up" and she explains that that is at a later time.

She says that there are some rules that they should follow when constructing sentences such as positive and negative forms of sentences as well as when using singular pronouns and plural pronouns. She explains and comes up with examples with the help of a table.

For practice, the teacher writes a list of words in a table from which learners construct sentences. The learners discuss in pairs and construct sentences using the table and they write them at the back of their books. She tells the pairs to present the answers and she explains that the whole class will determine whether the sentences are correct. Here are some examples;

1. *I am going to school.*
   She asks the class if it's correct and the learners say yes. But the teacher to get them to the correct answer asks when he   is going, the class says now. She asks if that is future they say no and they conclude that the sentence is wrong.

2. *You are going to Ndola on Monday.*
3. *It is going to Lusaka yesterday.*
   Teacher asks are they correct the class says no with doubts and one learner explains that yesterday makes it wrong

4. *We are not going to play football today.*
5. *They are going to the wedding on Saturday.*
   And for the exercise, the teacher writes pronouns on the board for learners to construct five sentences in the future simple tense individually in their books and then the teacher goes around marking

c. *Lesson Description 3 on Determiners 'much' and 'many' : School C*

The school is located in a medium density area. The teacher is a male and holds a Bachelor's degree. He has been teaching English for nine years. It is a grade 10 class with 62 learners. The teacher has no lesson plan.

The teacher introduces the lesson by talking about nouns in general as he leads them to the aspect of countable and uncountable nouns. He does this to bring them down to the topic on determiners and he writes the topic on the board.

He lets the learners come up with the rule for using much and many. The learners state that many is used for countable nouns and much for uncountable nouns. The learners construct many more oral examples which he writes on the board such as the following:

1. *There are many cars in town.*
2. *There are many pupils in this class.*
3. *There are much oil in these vegetables.*
   The teacher asks if sentence 3 is correct and the class says no. They explain that it is wrong to use 'are' for oil.

For oral practice, the learners construct two sentences in pairs which they present to the class and the participation is overwhelming. The environment in the class is so liberal during the class discussions. The learners freely ask question as in the following exchange:

Girl: Teacher, would you define determiner?

T1: (silence)

Girl: Teacher, please define determiner for me.

T1: (silence)

Girl: Teacher, determiner, definition please?

T1: No, just write. Definitions will confuse you.

During the class discussions, the learners present their answers and the teacher writes the answers on the board. For example:

1. *Many of the teachers at this school are corrupt.*
2. *There is much juice in the bottle.*
Then the fellow learners discuss whether the answers are correct or not. Errors are corrected immediately by peers and emphasised by the teacher. For instance, one pair presents the following answer:

There are much oil in the soup.

The class says the answer is wrong and the teacher explains that subject verb agreement is required for uncountable nouns. The teacher says that you only use 'are' when talking about countable nouns

Another pair gives the following example:

'There are many tears,'

The teacher asks; "Can we count tears?" The class says no in unison and the teacher explains that however one can count drops of tears but not tears. The teacher explains the use of

units to count uncountable nouns such as 'drops of tears,' 'glasses of water' and so on.

After this, the teacher gives a written exercise where the learners fill in the gaps with either much or many. After marking the teacher discusses the answers with the class.

The findings show that the teachers followed a particular order when teaching grammar. The teachers taught grammar in isolation. The emphasis of the teachers was expounding the grammatical rules using grammatical terms freely. They corrected errors immediately mostly by using the peers.

6.3 What are Teachers' cognitive beliefs on how Grammar should be tested?

Teaching and testing are closely interrelated that this study could not be complete by just considering the teaching of grammar alone. This is because developments in language teaching theories and approaches also influence language testing. Therefore, the respondents in the study were interviewed, observed and their documents analysed to understand their beliefs on how grammar should be tested. The documents analysed included the lesson plans and the learners' exercise books. The lesson plans were analysed to appreciate the assessment formats teachers used and the learners' exercise books were analysed to ascertain the grammar testing practices of teachers.

6.3.1 How teachers' cognitive beliefs influenced how they tested English grammar: Interview Data

It was discovered from the responses that the teachers' prominent ways of assessing grammar was in written form. The respondents said that they gave learners fill in the gap exercises, complete the sentence exercises and transformations from the prescribed books they used. This can be seen in the following responses:

T7: After the lesson I give exercise, mostly I follow the ones in the books; rewrites and fill in the blanks from the books.

T6: Through written and oral exercises; constructing oral sentences, fill in the blanks and transformations.

T2: I give exercises in class, testing the use of items of grammar, fill in the blanks, completing the sentences, spellings, and picking out the correct words.

After stating the ways in which they tested grammar, the respondents were asked as to whether they knew any other ways of testing grammar apart from the ones they mentioned. Out of the twelve teachers interviewed, six indicated that they also tested grammar through oral exercises. Here are some examples from T3 and T7:

T3: By giving oral examinations using oral questioning.

T7: Ask them to construct oral sentences using the words I give them.

Furthermore, two other respondents indicated that they used composition to test grammar although they rarely used it because of the number of learners in their classes. Consider the following responses:

T1: Using composition but I rarely give compositions because the learners are too many and they also use structures you have not taught them, it's a lot of work.

T3: Also the use of composition lets you know how well learners can construct sentences given freedom to write.

Another teacher suggested that it was also okay to ask another teacher to assess on her behalf. This is what she had to say:

T11: Asking another teacher to assess them for you.

After that the respondents were asked what they considered to be the most important things when marking grammar. Most responses pointed towards the importance of rule application. There was a consensus among the teachers that rules must be followed. For instance, for T1 and T7 even stated the content didn't even matter whether appropriate or not as long as the rules were adhered to. Here are some of the responses:

T1: The rules they have been taught have to be adhered to. Regardless of the content as long as the rule is correct, I mark correct.

T7: First and foremost, if they applied the rules I was teaching them… As long as they followed what I taught I'll mark it correct and insert the punctuations they missed.

Another common feature was that teachers also considered how well the learners adhered to the conventions of writing when marking grammar. They stated that spellings, punctuations and the general layout of the work really mattered. Here are some responses;

T2: Spellings, dotting, punctuation, correct forms of letters when writing alphabetic symbols

T3: I consider punctuations, capitalization, and grammatical correctness including spellings. Also, the general preparation of work.

T9: …then the spellings and handwriting. I'm very particular with letter shaping, handwriting; children have problems with letter shaping.

The findings show that the teachers tested grammar by using fill in the blank exercises, complete the sentence exercises and transformations that were provided in the prescribed books they were using. However, there were some who said they tested using compositions but did it sparingly because their classes were big. When marking, the teachers stated that they mostly considered how well the sentences adhered to the grammatical rule taught and after that they also considered all the rubrics of standard writing.

6.3.2 How teachers' cognitive beliefs influenced how Teachers' tested English grammar: Document Analysis

During lesson observations, the researcher observed that the most prevalent grammar assessments the teachers used were complete the sentence exercises, fill in the blanks exercises and transformations. Here are some extracts from the learners' exercise books:

Figure 6.1: T2- Here learners were only required to complete the sentences using 'whether'

Figure 6.2: T3-The learners were required to complete the sentences using 'but for'

Figure 6.3: T4- Here T4 gave the learners a fill in the gap exercise to fill in with the necessary preposition

Figure 6.4: T1- Here learners were expected to fill in the blanks using 'much' and 'many'
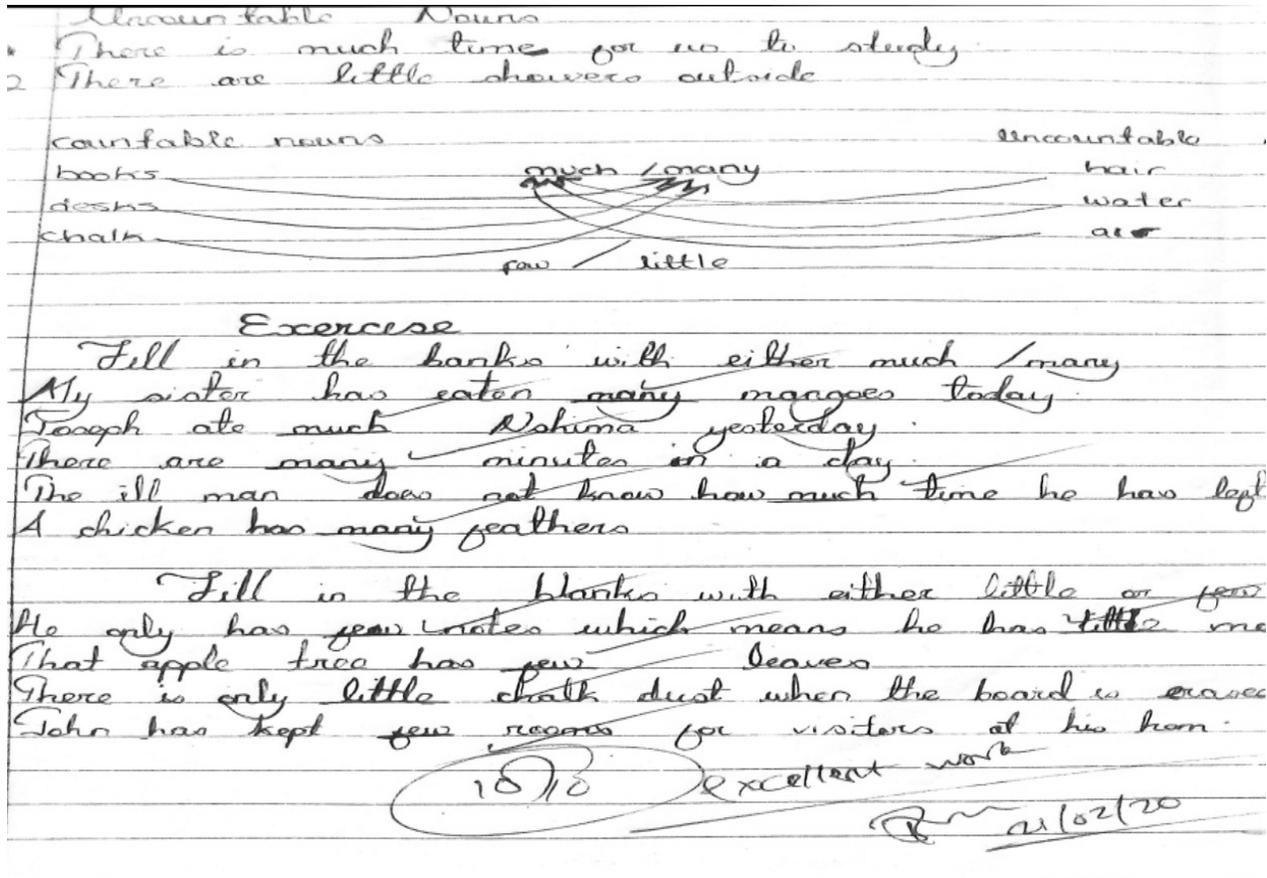
Apart from complete the sentence and fill in the blank exercises some of the teachers also gave transformations as evidenced in the following extracts from the learners' exercise books;

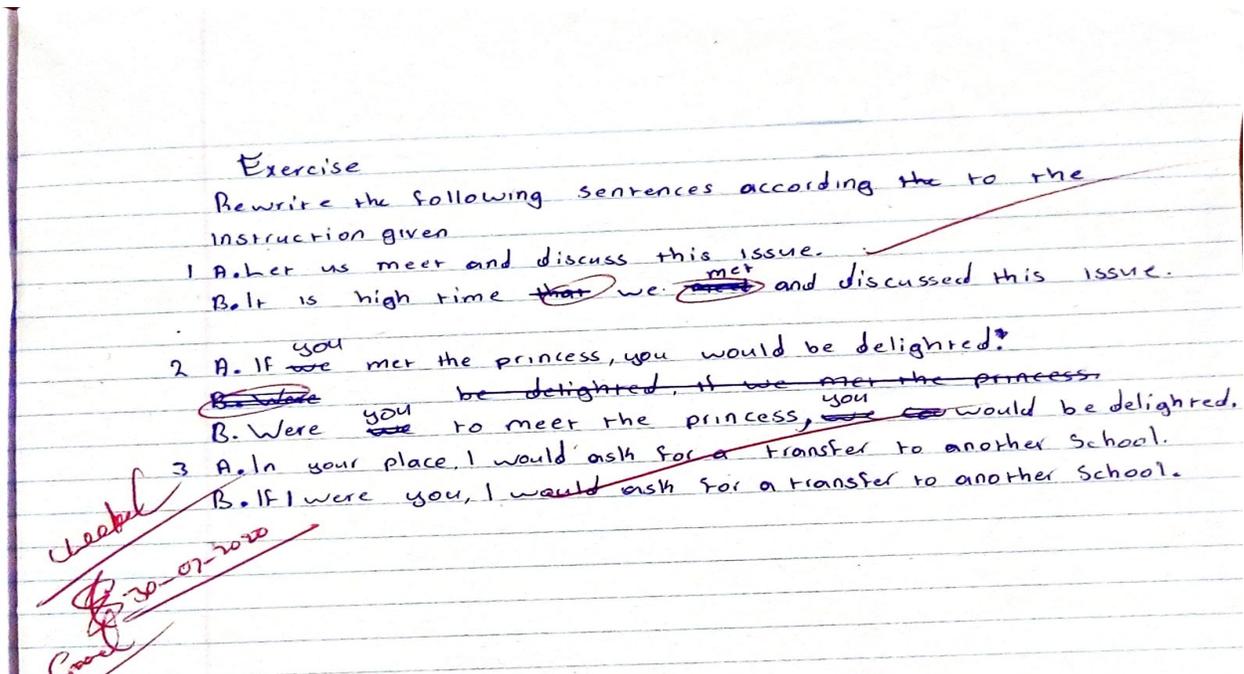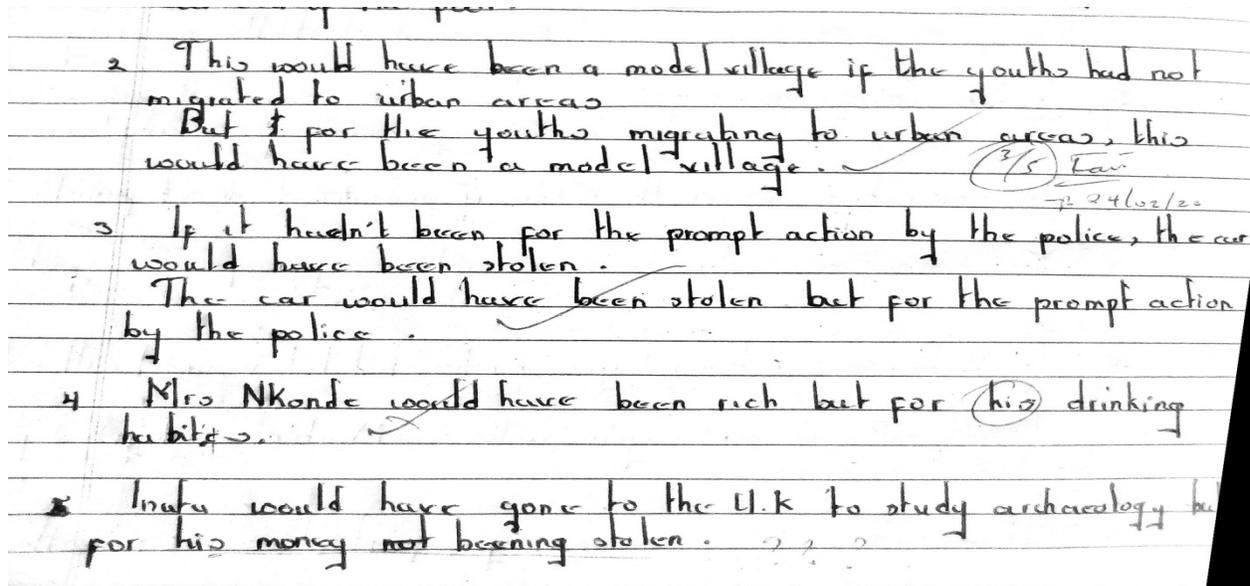Figure 6.5: T11-gave a transformation exercise on the unreal past.

Figure 6.6: T3- Here T3 gave transformations on the use of 'but for'

The findings from the document analysis show that the teachers frequently gave written assessments in form of transformations, fill in the blanks and complete the sentence exercises.

VII. DISCUSSION OF FINDINGS

As hinted earlier, the findings are discussed under each research objective/question. In this cases, the data is analyzed under two themes as follows:

The first part of the first objective sought to establish teachers' understanding of grammar through the use of interviews. Teacher understanding is a very cardinal aspect in the study of teacher cognition because as earlier stated in the introduction, the decisions teachers make in class will depend on the teachers' understanding of that particular topic or lack of it. The study revealed that to some teachers, grammar meant the rules of the language while to others, grammar meant sentence structuring and the last set of teachers said that grammar was language itself. The teachers also felt that the most important aspects of grammar to teach were the rules of the language and specialized vocabulary. From the responses of the participants, it was discovered that the teachers' view of grammar was that of transformational generative grammar. The teachers viewed grammar as the rules of the language and according to them learners had to show their understanding of grammar by how well they applied the grammatical rules when structuring sentences. The findings of this study are in tandem with the findings of Mwanza (2016) who also found that teachers in the central province of Zambia had a traditional view of grammar.

The views of the teachers agree with Brown's (1994) view of grammar who defines grammar as a system of rules governing the conventional arrangement and relationship of words in a sentence. This definition is in tandem with transformative generative grammar which was proposed by Chomsky (1957)

who states that grammar is a set of rules for generating language. It is primarily focused on linguistic competence. Linguistic competence is defined as the ideal language system that enables speakers to produce and understand an infinite number of sentences in their language and to distinguish grammatical sentences from ungrammatical ones (Chomsky, 1965). Arising from this understanding of grammar, teachers who were observed taught rule dominated lessons. Lessons that only focused on form and not function and which taught grammar out of context. Thus, it is clear that one element of teacher cognition, understanding in this case, influence the other- the belief of how it should be taught. This is the reason why since teachers' understanding of grammar was that of transformational generative grammar, they practiced it in their classrooms without bearing in mind the dissatisfactions that come with this view or what the English language syllabus stipulates- communicative competence. The teachers in this study mainly focused on the correct application of the rules and not the appropriacy of the sentence. In their own words, they stated that what really mattered the language rules were and not what was actually said.

From the observation of the lessons, the researcher found that the teachers were predominantly preoccupied with grammatical rules, a high regard for accuracy and the use of deductive techniques which showed the influence of the cognitive code approach. However, some teachers also seemed to have a noteworthy influence of behaviourism as noted in their use of pattern practice and the use of tables to practice grammatical rules. Some teachers actually in their own words indicated that they were trying to cement good habits in their learners. For example, the teachers explained the grammatical rules to the learners which is a cognitive approach but they also used tables and pattern drills to practice grammar. This shows that the teachers understanding of grammar was not followed by corresponding

methodologies. While they viewed grammar as language rules, their view of teaching was influenced by behaviorism and this was manifested in the classroom where rule explanation was done through the use of oral drills. Therefore, this study concludes that some teachers' cognition in the teaching of English grammar was marred by conflicting sets of knowledge and this was reflected in their classroom practices.

The teachers practiced the beliefs they professed in the interview about how they viewed grammar. This finding was in tandem with the findings of Deng and Lin (2016) who concluded that the teaching behaviours of the teachers in their study were synchronised with their teaching beliefs. From the findings it was established that the beliefs of the teachers in the present study favoured the cognitive code approach and the grammar translation way of teaching grammar as it was observed in their lessons that they valued systematic, explicit and deductive grammar instruction. This is because what the teachers know and understand grammar to be influences their beliefs about how grammar should be taught and it consequently reflects in their classroom practices. This is just to show that teacher cognition is a complex dynamic system where understanding will influence beliefs and beliefs will influence classroom practices because there's internal connectivity among the dimensions of teacher cognition.

It is also important to state that teachers' beliefs about grammar and how they taught it contravened the syllabus stipulation that they teach the English language using the communicative approach. This is because the communicative approach gives superiority to an inductive approach to grammatical rules and generalisations. They also contravened the communicative approach in the sense that they mostly taught grammar at a sentential level without any context. They did not involve meaningful communication nor did they use authentic situations and materials which are some of the tenets of communicative teaching (Manchishi, 2017). What this means is that teachers will not just follow syllabus stipulations just because they have been outlined but they will practice what they understand, know and believe. The teachers in this study understood grammar to be transformational generative grammar and there was no way of them applying a functionalist approach to grammar teaching because it was not part of their cognition

Regarding how teacher cognition influenced how teachers tested grammar, it was discovered that the participant teachers in this study tested grammar explicitly just as they taught it explicitly. The explicit assessments used by the teachers in this study only focused on testing linguistic competence and sidelined sociolinguistic, discourse and strategic competences. The document analysis revealed that they gave learners fill in the gap exercises, complete the sentence exercises and transformations from the prescribed books they used. These formats are among the explicit tests listed by (Larsen-Freeman, 2009). The testing formats they chose reflected their understanding and beliefs of grammar. They did not test the

learners' grammatical knowledge communicatively. The structural formats that the teachers in this study used only looked at the linguistic competence and they tested the learners' grammatical knowledge out of context. However, it was just a reflection of the teachers' cognition which in turn hindered their adherence to the syllabus. Their testing practices were directly in line with their understanding of grammar and their beliefs about how grammar should be tested. One can see consistency in their understanding, beliefs of how grammar should be taught and now the testing of grammar. This is the reason why teacher cognition in this study is considered as a complex dynamic system. There's internal connectivity between understandings, beliefs and practices. These elements are not independent from each other but are facets of the same complex dynamic system.

Furthermore, in their marking of written work the teachers were primarily concerned with rule application before anything else. For instance, T1 and T7 even stated that the content didn't even matter whether appropriate or not as long as the rules were adhered to. These findings echo the findings of Zulu (2016) and Zulu and Manchishi (2018) which revealed that the teachers in their respective studies only tested linguistic competence using mostly multiple-choice questions and they were not familiar with communicative testing techniques. The point here is that, teachers' decisions to test learners besides the recommendations of the syllabus were influenced by their cognition. Without the knowledge of communicative assessments, they had no ability and basis for communicative assessments. Instead, they opted for assessments which resonated with their understanding of grammar and how they taught it in the classroom. It is for this reason that how they understood grammar influenced how they taught it and similarly, how they taught influenced how they tested. This attest to the interconnectedness of teacher cognition where one element influence the other.

These findings have implications on teacher education. There is need to reform teacher education and enhance teacher cognition in all its manifestation because as Manchishi and Mwanza (2018) explain, the quality of teachers depend on the training they underwent. It is hoped that when teachers' cognition is developed and tested during teacher training including practicum, teachers will hold teaching beliefs and knowledge of grammar which will extend beyond rules and teachers will be able to teach with easy while developing learner communicative competence (Mwelwa and Mwanza, 2020) in the classroom by creating a free, relaxing and democratized language learning environment (see Mwanza and Bwalya, 2019; Mwanza and Manchishi, 2019). This implies that those teachers who are already serving in school need CPDs to enhance their teacher cognition in as far as English language grammar teaching is concerned.

VIII. CONCLUSION

The study has shown that teachers understood grammar to be the rules of the language. From the interviews, it was clear that cognitively, teachers saw language rules as the bedrock

upon which language rests. Consistent with their belief and understanding of grammar, their teaching in the classroom focused on rules explanation and rule application by learners. The teacher also emphasized correctness. From a cognitive point of view, it can be concluded that although understanding and beliefs are two different facets of teacher cognition, the two are inter related and influence each other. In this case, the way teachers understood grammar and their belief about how it should be taught was manifested in the lesson observation where their theoretical beliefs informed their classroom practice. Similarly, the document analysis attest to this conclusion where assessment was in the form of rule application, correctness and accuracy. Logically, this means that how teachers understand or misunderstand a concept is how they will teach it in the classroom. For this reason, it is imperative that teachers constantly undergo continuous professional development to ensure that their cognition is in tandem with the expectations of the curriculum and principles which support learning.

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