LEARNER ATTRIBUTES INFLUENCING INSTRUCTION IN MATHEMATICS CURRICULUM IN PUBLIC PRIMARY SCHOOLS OF BUNGOMA SOUTH SUB-COUNTY, BUNGOMA COUNTY, KENYA

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ABSTRACT

The purpose of the study was to investigate learner attributes influencing the instruction in Mathematics curriculum in public Primary Schools. The research objectives were to: investigate the influence of learners' language comprehension on the instruction in Mathematics curriculum and determine the influence of learners' perception towards Mathematics on instruction in Mathematics curriculum in public primary schools in Bungoma South Sub County. The research used the descriptive survey design. Two theories guided this study: Wieners' (1992) theory of attribution and Rohner's (1980) theory of self concept. The target population was 80 schools, 80 teachers and 960 students. The study sample consisted of 16 schools, 16 teachers, 320students. Stratified sampling was used to select the schools to take part in the study. Simple random sampling was used to get teachers who taught Mathematics from every school sampled and to select pupils to take part in the study. Purposive sampling was used to select class seven pupils to participate in the study. Instruments that were used were questionnaires for teachers and students, written test and document analysis for students. Quantitative data was analyzed using descriptive statistics while Qualitative data was analyzed thematically. The study findings showed that learners' language comprehension and learners' perception towards Mathematics instruction had great influence on instruction in Mathematics curriculum. The study recommended that all stakeholders in the Sub County should ensure English language is given priority during instruction and change the negative perception towards Mathematics. It is hoped that the study findings will be useful to the ministry of education, Kenya institute of curriculum development, school administration, pupils, teachers, parents, and other stakeholders to come up with measures to change the trend of Mathematics implementation in public primary schools.

Key Words: *attributes, instruction, mathematics, curriculum*

INTRODUCTION

Mathematics is a compulsory subject for both primary and secondary schools in Kenya (KNEC, 2005). This is because Mathematics knowledge is important to individual's advancement in the day to day activities. When students leave secondary school they are able to get competitive courses, for their future education development. In Kenya the selection of candidates to join University is by the Kenya Universities and Colleges Central Placement Service (KUCCPS). It has been noticed that candidates may do well overall but fail to pursue a competitive course in higher institutions of learning due to performance in Mathematic. Mathematics is a prerequisite subject to many advanced careers like medicine, pharmacy, accounting, finance and banking. A student has to score highly in Mathematics in order to secure a lucrative course in university (Eshiwani, 2008). Mathematics need not to be learned by students for the sake of good competitive courses in future only but also as a way of understanding and therefore be able to apply ideas later in life (Cockcroft, 1982). It is in this

view that Kenya Institute of Curriculum Development (KICD) has developed primary syllabus that helps students become numerate and literate in thought (KIE, 2002). Efforts by the Ministry Of Education (MOE), teachers, parents and other stake holders have to come up with mechanisms to change the current Mathematics performance has had no success. Education cannot just be imparted to learners by teachers, there is need for positive learner attribute to help in the learning and teaching process to avoid learners becoming passive recipients.

Although, Onwuakpa and Nweka (2000) states that Mathematics learning largely depends on the teacher to impart knowledge, skills, attitudes and Mathematical concepts into the learner. It is prudent enough to note that without the positive learner attributes like learner attitudes, learner practice in Mathematics, role of motivation on instruction and learners language comprehension on instruction of mathematics curriculum. Learners will continuously perform poorly in Mathematics because these attributes greatly affect the achievement in Mathematics. Although understanding of Mathematics is an asset if not essential, for applicants 'interested in obtaining good grades which will help learners get better employment in the world of competitive work. This has not been achieved yet. In other words, Mathematical competence is essential in preparing numerate citizens for employment hence, it is needed to ensure the continued production of highly skilled persons required by industries, science and technology (Mikulski 2001, Steen 2001). It is true that technological development has a solid Mathematics background because Mathematics is the language of sciences in that it is used as a vehicle in doing other sciences.

Learners who have low language comprehension will greatly affect the instruction of Mathematics curriculum because these learners are not able to adequately comprehend questions to answer them well. On the other hand learners who have negative perception towards the instruction of mathematics curriculum will tend to do poorly because of the feelings that Mathematics is hard and that it not important. Learner practice is another factor that greatly affects the performance of Mathematics. When learners do not practice they can't cement the learnt concepts and also get new ideas hence there is need for learner to do practice to improve in Mathematics.

Kenya can achieve the sustainable millennium goals if it gives emphasis in the teaching and learning of mathematics. Vision 2030 is another area which can help our country develop very fast if what is stipulated in the vision 2030 is implemented. For this to be implemented there is need to invest in education which will propel the economy through ICT. This can only be done if Mathematics as vehicle that drives science subjects is given more emphasis. It is important that the learning of Mathematics is emphasized because it is fundamental in every education system that aims to prepare its citizen for a productive life in the 21st century. It was therefore necessary to assess and compare learners' attributes influencing the instruction of Mathematics curriculum in primary schools in Bungoma South Sub County, Bungoma County Kenya.

STATEMENT OF THE PROBLEM

Many researchers have endeavoured to highlight the causes of poor achievement in Mathematics curriculum. Cow and Bishop (2001) did a study on poor performance in Mathematics among Australian learners and established that learner attributed their failure due to negativity towards the subject (Nyauma et al., 2004) did a study on poor teaching methods among learners in Kenya and established that teaching methods influenced learner perception in Mathematics. Njue, (2005) did a study on learner attitudes influencing the achievement in Mathematics among learners in Kenya just to mention but a few. This indicates that the challenges facing the implementation of Mathematics curriculum is far from being solved. Teachers have also tried to improve the performance in Mathematics but it has continuously not been positive. Learner attributes need to be fully dealt with to solve the problem of low achievement in Mathematics in public primary schools. It is in this picture that the study aims at establishing learner attributes influencing the instruction of Mathematics curriculum in public primary schools in Bungoma South Sub County.

OBJECTIVES OF THE STUDY

1. To investigate the influence of learners' language comprehension on the instruction in Mathematics curriculum in public primary schools in Bungoma South Sub County.
2. To determine the influence of learners' perception towards Mathematics on instruction in Mathematics curriculum in public primary schools in Bungoma South Sub County.

LITERATURE REVIEW

Instruction in mathematics curriculum for primary schools in Kenya

Education in Kenya before the coming of Europeans was important because it helped children pass from one stage of life to another. After Kenya got independence it impressed the system of education that was like colonialist. There have been various systems in the education since independence .The system of education now is 8.4.4. It shows that learners take eight years in primary then four years in secondary, then four years in the university. The aims of the curriculum are to ensure that all children are provided with learning opportunities that recognize and celebrate their uniqueness, develop their full potential and prepare them to meet the challenges of the 21st century. The focus on the child as a learner and the use of a variety of teaching methodologies is an essential feature of the curriculum. The curriculum aims to foster the development of the key skills in communication, problem-solving, critical thinking, inquiry, investigation, analysis, social and personal awareness and interaction in a particular way; it places key emphasis on the acquisition of literacy and numeracy skills. The curriculum emphasizes the importance of achieving functional literacy and numeracy. The curriculum also gives attention to the special needs children.

In Kenya the KICD (2005), has set objectives of primary Mathematics as follows:

1. Have clear skills, approach to problem solving and acquiring a level appropriate to the age and attained using content across the syllabus.

2. Indicate competence in the knowledge, understanding and application of mathematics concepts, facts and algorithms expected in numbers, money, measurement and geometry space and shape.
3. Make sense in function by demonstrating the steps in the statistical process.
4. Have clear positive attitude by experiencing mathematics in a real life context through practice and experimental activities.
5. Appreciate the nature and purpose of mathematics by identifying patterns, sequences and network within and across topics in the syllabus and in other subject areas.
6. Apply pleasure in learning mathematics by creating simulations and imaginary situations.
7. Allow each pupil act according to her or his ability and interest taking into account the particular needs of each pupil and groups of pupils.

The methods employed in the teaching and learning of Mathematics curriculum depends on the content and level of learners. The following are examples of methods used in the teaching and learning of Mathematics in primary schools e.g. discussion, demonstration, problem solving, assignment, project, games, simulation, lecture and probing (Mukwa & Too, 2000). The primary Mathematics curriculum evaluation basically is through formative and summative evaluation. Formative evaluation is where there is use of continuous assessment on the learners during the teaching and learning process. Another method that is commonly used is the diagnostic evaluation which is also done during the teaching and learning process. This is done as child enters primary school until when he or she sits the KCPE examination. The summative evaluation is employed at the end of the educational cycle i.e. eight years in primary education. Kenya certificate of primary education is offered at the end primary education in Kenya. The KNEC is mandated to do evaluation after the eight years of primary education. A good test item should follow learner competencies such as knowledge, comprehension, application, analysis, synthesis, evaluation so that learners are tested well. This is done or evaluated by KNEC (Kenya National Examination council). This examination has of recent years been criticized because it evaluates the learner at that time not looking at other factors that could affect the performance of the learner. A learner who may be unwell during the exam will be disadvantaged because continuous assessment marks are not included in the final score in KCPE.

Learners' language comprehension in Mathematics and its influence on instruction

Language is very important for communication because language has sentence structures, vocabulary or words. Speaking and listening is very important within primary Mathematics curriculum. It is not only developing listening but also it helps a learner to be a productive member of the society. So, English language is important in the learner's comprehension of Mathematics concepts and skills. The vocabulary and sentence structures are key to comprehension of Mathematics word problems .There are government efforts to support the aspect of children using home language in the teaching and learning of Mathematics (Gottieb & Ernst Slarit, 2013). This can only succeed if learners share a common local language and Mathematics concepts, terms, facts, theories that can be adequately translated into local languages so that it can be applicable in teaching and learning of Mathematics.

Although Johnson and Sheffield (2012) says that language influences Mathematics achievement due to the words used, but this could be influenced more by the comprehension part of the sentence structures not merely the language because a learner may be fluent in the language but fail to comprehend the sentences read. Children whose first language is English also experience similar comprehension problem. Learners stumbled to understand sentences when vocabulary is found in their reading but when replaced they read fluently (Adams, 1990). Learners' language comprehension can hinder learning or promote depending on the level of development.

A sentence may have inner meaning and outer meanings .The structure of a sentence can give different meaning depending on context. It is with this perspective that learners' Language comprehension has a far reaching implication to the teaching and learning of Mathematics. The structure of a person's language has a determining influence on that person's cognitive process e.g. Classification, recognition of sentence which are central to the learning and teaching of Mathematics. If the language used at home and one used at school is not the same, it has effect on the learning of Mathematics in primary schools (Gottlieb & Ernst Slavit, 2013). Mathematics is most appropriate to achieve better scores in Mathematics knowledge learnt in class and the real world. In this context there will be link between classroom learning and the real world situation.

This makes learners' language comprehension a factor in the teaching and learning of Mathematics. The discrepancy between performance in verbal and numeric format problems clearly indicate that factors other than Mathematics skills contribute to success in solving word problems (August & Hakuta, 1997; Cummins, Kirtsch, Reusseer & Weimer, 1988). When learners are given sums which are numeric they tend to achieve better than when the same sums are translated into words. It is true that English Language Learner (ELL) pupils will score lower than English language proficiency students in one exam if they are tested because the language learner will have some limitation in language than one who is proficient in the same language. A study by Cocking & Chipner (1988) and Mestre (1988) showed that there is a relationship between language proficiency and achievement in Mathematics.

Mathematics has many terminologies and concepts; a child who does not understand them tends to perform lower than one who understands them. Words like twice as much, thrice as much, as many as, makes learners puzzled if they are not guided well by the teachers. A study done in Los Angeles reveals that when students were interviewed on test items using original language and revised language structures, they showed that out 17 students who took part in the study 16.9% choose the original language structures when 83.1% choose the revised version .This shows that language proficiency and understanding plays big influence on the child's teaching and learning of Mathematics. The students got the meaning and understood the items because they were easy to read and the cognitive processes were able to solve the puzzle for the child, which was earlier hard for the child or learner.

In most cases items which have vocabulary hinder the achievement in Mathematics because learners are not able to get the Mathematics meaning from the sentence structures. In

addition students who cannot read fluently have problems in understanding the sentence structures, this stops them to comprehend what the sentence is all about .A child who cannot see due to reading difficulty caused by eyesight fail to connect the sentence parts hence affecting the understanding of the sentence. Mathematics has also its own symbols and formulae. The meaning of a sentence may change if a child misses to use this symbols and formulas well. Some words have more than one meaning and their use in the context may not be the same as the one commonly used in English .This has made students have difficulty in understanding and comprehending language structures in Mathematics. Mathematics has its own dictionary of words that tend to hinder children understanding of the language. It will be seen that some words can only be used in mathematics the way they are but when used in other subjects the meaning changes .When children come across hard words they tend to pause, the mind process stops, the connection of the sentence is affected .When students are reading and pause for unfamiliar words or sentence structures, it may disrupt the flow of comprehension (Adams, 1990).

Most students who can read sentence structures fluently tend to comprehend Mathematics meanings better than those that cannot .So questions that are difficult to comprehend make learners misunderstand the questions, but when the same questions are simplified and have the same content, learners will have higher scores unlike before they were simplified. There is need for teachers to give learners items that are of the level of the learners in terms of language comprehension during the teaching and learning process .From these context children from better social economic background may have higher language development due the access to televisions, newspapers, and storybooks, speak English and develop a strong language for understanding. De Corte et al. (1985), viewed that inexperienced problem solvers, lacking highly developed semantic schemata for solving, rely more on the text and if this is the case, we would expect that the complexity of the text would be a more significant factor for in experienced and in expert problem solvers .It will be seen that it will greatly affect the learners' language comprehension.

Another factor affecting comprehension is the readability of students .Students come from different environments .A school that had language policy ,a good library ,communication strategy for teaching will tend to influence the student development in a particular language. Children who did not practise may not be able to distinguish the used vocabulary and their application. Learners in primary schools, who did not read to understand the concept well, had difficulty in language comprehension. Studies carried out in South Africa, link readability with achievements in Mathematics. Gibbs & Orto (1994), Said that Mathematics discourse generally contains items that have linguistic, cognitive and contextual dimension. A pupil had to comprehend the linguistic part of the sentence which involved reading and writing .This is then connected to the cognitive which is the process of reasoning, critical analysis and interpretation of abstract concept. A learner who connect this had higher achievement in Mathematics than one who cannot because it is through this that a child or a learner is able to comprehend the sentence structures.

Mathematics has moved from the traditional use of numbers alone to linguistically word processing type hence the need for language comprehension for better Mathematics

achievement in Mathematics. In the earnest to improve Mathematics performance, learners need well developed language. They will be able to discover roots and the context in which the sentence is written hence they will be able to comprehend it. The importance of learners who can read well and have developed language skills is that the learner will develop good Mathematics thinking skills e.g. generalizing, inferring, describing, representing Mathematical ideas adequately. Researchers in this area clearly linked language proficiency and readability to high scores in Mathematics. There are other factors that influence language comprehension like school environment, learner background, teacher competence, teacher qualification.

It is true, to educate poor children is hard (Bradley and Corwyn, 2002), so it is necessary to note that economic background has an influence in the teaching and learning of Mathematics and in this context language development which is key to the teaching and learning of Mathematics. Resources have impact on the teaching and learning of Mathematics .Here resources play a role of exposing the learner to facilities that help develop the language that is used in the teaching of Mathematics. On the other hand teachers who are qualified and competent can mould learners in their language development. Teachers should be the starting point to help learners' development language comprehension by training them well on the techniques of developing language comprehension in Mathematics. There are many ways of teaching Mathematics including discovery, discussion and lecture just to mention but a few. Teacher needs to use a method that supplements the concept language comprehension in the teaching and learning process. It is also important for teachers to use concrete objects and simplify language structures for better understanding (Clement, 2014).The importance of language comprehension in Mathematics cannot be overlooked because it greatly affects the achievement in Mathematics .This helps develop learners Mathematical skills and reasoning (Gottlieb, Ernst Slavist, 2013).

Learners' perceptions towards Mathematics and its influence on instructions

Perception can be defined as a state of readiness, a tendency to act or react in a certain manner or way when confronted with stimuli or challenges. But, Wasiche, (2006) defines perception as, feelings towards something or somebody which is sometimes reflected in a person's behaviour. Attitudes on the other refers to the aspects of Mathematics learning such as ,beliefs about Mathematics and its usefulness interest and enjoyment in learning of Mathematics ,appreciation of the study and beauty of mathematics, confidence in using Mathematics and perseverance in solving problems.

Mathematics achievement has not been good in many counties, Bungoma Sub County inclusive. There are varied reasons that have contributed to the low achievement in Mathematics e.g. social economic, school environment, teacher factors, and student factors. Learners' perception towards Mathematics is very important to their performance. Children who have negative perception tend to achieve lower grades than learners who have positive perception towards Mathematics. One of the reasons why learners perform lowly is due to their perception that Mathematics is a hard subject. Mathematics is seen as a difficult subject among many stake holders. Most parents said that Mathematics is hard and even made

comments that were discouraging to young learners (Yohannes Bekele GezaZegh, 2007). When this is done, it impacts negatively to learners hence affecting the teaching and learning Mathematics. They even don't allow their children to take courses that need Mathematics because they believe Mathematics is a hard subject and their children are unlikely to do well. This research done in Ethiopia may not apply to Kenya's situation because most parents Kenya yearn for more lucrative courses like medicine, engineering, architecture unlike in Ethiopia. This is clearly seen when more parents openly complained that the 2014 (KUCCPS) selection had a lot of complaints from students who missed out on lucrative courses and it explained that the reason was due to their performance in mathematics.

Yohannes (2007) says, curriculum vastness causes low achievement in Mathematics because teachers rush through the syllabus not minding whether learners have understood or not. This will influence learner perception towards the teaching and learning of Mathematics. The researcher's view is that schools in the same environment may have the same factors hence other factors like learners' attributes had an influence on Mathematics achievement. Most learners attribute their failure to external factors that learners have no control over them, such factors include teachers shortage, incompetent teachers (Tachie & Chireche, 2013), but fails to greatly look at internal factors that the researcher thinks plays a bigger role in influencing mathematics performance. A factor like learner attitude adversely affects Mathematics. If all external factors are conducive but internal factors are unfavourable, learner achievement will be compromised (Frazer et al, 1998).

This was supported by parents and society at large to the extent that they said, those who did Mathematics are not normal. Truly, this is not correct because Mathematics is just like any other subject which can be done by any learner because other learners have done so earlier. When most students are asked about Mathematics, they show negative perception towards it. A study in Ethiopia by Yohannes (2007), showed that 85% of the learners perceive mathematics as a hard subject while 14% disagree in the same study on the importance of Mathematics. Teachers agreed by 100% and students by 98.3% that Mathematics is an important subject but they were in disagreement with its relation to other fields. Although they show this data they still do not perform well in Mathematics.

It is then possible for students to develop negative perception towards Mathematics which has a direct linkage with their achievements (Aiken, 1970, Johnson, 1984, Shearman 1980, Tsai and Walberg 1984). These learners who have developed negative perception will tend not to understand mathematics processes and thinking hence lower their achievement in Mathematics. Teachers' lack of competent skills and qualification in the subject also influence negative perception among primary school children as supported by Du Preez (2004).A teacher who struggles to teach Mathematics clearly shows the children that Mathematics is a hard subject because they see it in the teacher who is supposed to be the comforter when Mathematics tasks are challenging.

Poor teaching methods also influence learner perception towards Mathematics as supported by (Nyaumwa et al., 2004). Teachers who have poor teaching methods and boring lessons will make learners not like the subject but on the other hand teachers who have simulating

methods will arouse learner interests and perception towards Mathematics. Other researchers have clearly indicated that internal factors cause poor performance e.g. negative attitudes towards Mathematics. Cow & Bishop (2001) established that Australian learners attributed their failure in Mathematics due to subject difficulty. This negativity is influenced by significant others, peers and parents that Mathematics is a difficult subject and that is way Mathematics is done poorly.

Although Mathematics is supposed to be linked to the world's social economic development, there is a perception that it does not link well with other subjects like science (Fennama & Sherman, 1976). Learners showed this as a reason for not doing well. It was seen in primary schools in cases where a child did well in other subjects but fails to do well in Mathematics. Another negativity that makes students dislike the subject is because of teachers teaching methods. Teachers sometimes teach themselves forgetting the complexity of the subject while others are not concerned about scores in Mathematics. They are heard telling learners that they finished schooling long ago and if they get zeros it is not their concern.

Teachers that use corporal punishment create negative perception towards the subject because learners become helpless in that scenario when faced with hardship in the working of Mathematics sums because they will have nobody to help them. Learners should be guided and helped to like Mathematics. Imagine a teacher who enters a class with no greetings, not dressed well, drunk will cause children to have negative perception to his or her students because learners will associate this to the presenter of the lesson and what is to be taught. The learners' brain is not a machine to be switched on and off, it needs preparation for any meaningful learning to take place. A good learning environment needs both psychological and physiological readiness.

Njue (2005) explains that attitudes may be negative or positive and it is this that makes people hate or like something. Some students do well in Kiswahili, English, science, social studies and religion but perform poorly in Mathematics and this is likely to be caused by learner perception towards the teaching and learning of mathematics. Another factor that influences learner perception towards Mathematics is the type of tasks given. If tasks are hard and children continuously fail, learners tend to start showing negative feelings about the subject hence negative perception hence the need for guidance and counselling for the learners. Teachers need to give tasks that are equivalent to the level of the learners (Twoli, 1986). Due to repeated low performance in Mathematics tasks, learners show negative perception that will affect the teaching and learning of Mathematics .This study attempts to find such factors in Bungoma South Sub County.

The researcher's experience in primary schools teaching is that learners score highly between classes one to class three but their achievement goes down from classes four to class seven. It shows that there are factors that cause this change in performance. A study done in Ethiopia showed that low performance in mathematics could be due to complexity of the subject .We have those who view mathematics as a subject done by real men and extend this perception negatively hence affect the teaching and learning of Mathematics (Costello, 1999). A survey done in the Britain by Her majesty Inspectorate (HHM) (1977) Says learners who do well

and are not given attention usually get bored, develop negative perception towards the subject. Teachers need to give extra work to high achievers to contain them. Learner activities after a Mathematics lesson is necessary as a follow up for what has been taught but too much work may not be necessary.

Stanic (1995) while quoting Fennema (1976) stated that some boys enjoy more learning of Mathematics than girls. But this is more stereotype because Mathematics is equally done by both sexes. Although they insist that children should be given more work, it should not be cumbersome to learners because it makes them start hating the subject. Society also influences learners' perception about Mathematics. From the play things in their young hood, parents buy girls and boys different play things; this makes them view the world of education in varied perspectives. A learner who is told these items are for boys and these are for girls influences their attitude towards a given subject. When a child is introduced to some types of jobs, a child will grow up knowing that some jobs are meant for men or women .Boys will be given items of play which are geared towards a given field in a child's future. All this will in one way or another influence the teaching and learning Mathematics.

This is asserted by (Orton, 1994), who says that there is noticeable difference in learning among girls and boys due to societal perception and expectation. This will give thinking in children that subjects like Mathematics are meant for men. In primary school teaching and learning process, some teachers seem to be harsh and brutal which impacts negatively to the learning of Mathematics. .Mathematics needs a good environment for good instruction to take place. An environment that is not conducive will not promote good learning of Mathematics.

According to Eshiwani (1984), emphasis should be given to provision of adequate resources so that learners can learn and achieve the best in Mathematics. Learning resources stimulate pupils teaching and learning unlike schools which do not have adequate facilities. According to professor Kiptoon, a former permanent secretary in ministry of education states that poor performance in Mathematics is caused by teachers, a view the researcher feels is not conclusive because other factors like learner attributes play a big role in the learning and teaching of Mathematics .It is in this regard that the ministry started the teacher education program to help teachers develop skills and understand how children learn Mathematics (MOEST, 2001). Another factor that affects learner perception towards Mathematics is the assignment or homework.

Assignments or homework can be a subject of controversy to education used inter changeably. We can define assignment as tasks given to students by teachers that are meant to be carried out during non school hours (Cooper 1989). Homework has been a for more than 75 years (Cooper & Valentine, 2001). The literature demonstrates that it's about 90 years since its discussion started formally. It demonstrates that it has been a common thinking tied to the changing education philosophies and theories. Early in the 20thcentury, homework or assignments was seen as exercise of the mind and memorization was important in acquiring knowledge. This had to be done to change ways of doing things, because oral work and memory was too easy. The only way was to have homework to replace the

previous teaching and learning of Mathematics. Hagar (1927) was the first American researcher to examine homework effects on academic achievement compared to the effect of supervised study in school.

In 1940s health organization opposed the issue of giving assignment. People started focusing on children initiatives and interests in the learning and teaching process .There was need for a closer interest in the learning of children hence scholars started challenging the role of assignments to students in the teaching and learning process. It came out that assignments ate into the learners' time that was not meant for learning. At this time came the changes in the education curriculum in most countries after the Second World War. It raised the need to give children assignment to cope with the changes or speed up the learning process in schools. In the mid 1960s the educators perception towards assignment changed and there was resistance to it again .They felt that homework was too much for the children because it exerted too much pressure on the learners (Cooper, Lindsay, Nye & Greathouse, 1998). Another interest in this research was the US education in 1983, a nation at risk (National commission on Excellent in Education, 1983). It emphasized that homework was a means to end the mediocrity of the US education. It meant that more work was to be done at extra hours of the learning. Assignments have had many perceptions in the recent years on the teaching and learning process. It was until (Gill & Schlossman, 1996), blamed homework for students mortality rate and even described it as 'legalized criminality (Nash, 1930).

Again Gill and Schlossman (2004) opened a new feeling about giving of assignments to children where they talked about how it should be done to be beneficial to the learners. The assignments or homework given has a bearing on mathematics performance or grades (Cooper et al., 1998). He says that this will reinforce the learnt concepts. The Brookings Institute Press released (2003) writes that, since 2001 feature stories about affluent families have been common. Such children from rich families are greatly supported by their parents because they understand the importance of assignments hence they provide necessary resources and conducive environment. Learners are faced with many challenges ranging from not having enough time and lack of good environments, lack of resources in doing assignments among others that face children. This impacts negatively to the child's educational development and in particular performance in mathematics. Researchers have shown that an increase in homework time by one hour per week will increase the achievement by 0.243 standard deviation (Betts & Neison, 2005).

They are also quick to agree that there are other hidden factors that will influence that study variable homework or assignment to having positive index or negative index. Some of the factors are student ability, home ground influence, incentives or motivation because they will influence the results on homework or assignment. Assignments given can influence achievement if planned and done well by the teachers but if not, it will have negative impact to learner achievement in mathematics. Today there is disagreement among researchers about the issue of homework, on if children should be given homework or not. Some people insist that assignment should be given while others support the inclusion of assignments in the teaching and learning. Homework has had many views about its significance ranging from its source, time allocated, evaluation, factors affecting its completion, all this has left

educationists in dilemma about its importance. The researcher's view is that homework is not bad but it is abused by teachers, students and parents .If it is done in the right way, assignments can help the teaching and learning of Mathematics as it speeds up the learning process.

From different perspectives homework tend to frustrate children, exhaustion of learners, lacking of time for the learners to the home environment, possible loss of interest in the learning process, parents lose link to children because they are too much occupied with the assignments. It can be seen that assignment has a big discussion from both sides of the concept. In most areas parents may be seen openly complaining about the issue of assignment while others say it is good. The researcher's view gives us a picture that a lot need to be done on the issue of assignment to students and its influence on the teaching and learning of mathematics in primary schools hence the researcher's study on learner attributes influencing the teaching and learning of mathematics and in particular to determine the influence of learners perception towards instruction of mathematics curriculum in public primary schools in Bungoma South Sub County in Kenya.

RESEARCH DESIGN AND METHODOLOGY

The research used the descriptive survey design. This study was concerned with learners attributes that influence the teaching and learning Mathematics curriculum. The survey design enabled the study to look at individuals, groups and institution in order to describe, compare and contrast, classify, analyze and integrate the entities and events that constitute the field of study. Two theories guided this study: Wieners' (1992) theory of attribution and Rohner's (1980) theory of self concept. Attribution theory describes the cognitive process by which people see the origin of what has happened to them as both originating internally or externally and the self concept theory that states that a person sees himself or herself in some way as successful or un successful due to learning attributes. The target population was 80 schools, 80teachers and 960students. The study sample consisted of 16 schools, 16 teachers, 320students. Stratified sampling was used to select the schools to take part in the study. Simple random sampling was used to get teachers who taught Mathematics from every school sampled and to select pupils to take part in the study. Purposive sampling was used to select class seven pupils to participate in the study. Instruments that were used were questionnaires for teachers and students, written test and document analysis for students. Quantitative data was analyzed using descriptive statistics while Qualitative data was analyzed thematically. The package that was used was the SPSS. The results from the analysis were presented using tables.

RESEARCH FINDINDS AND DISCUSSIONS

The study was carried out in 16 schools in the Bungoma Sub-county. The schools were identified for the study through simple random sampling technique. A large number of schools were mixed day primary schools. The objectives include:

1. To investigate the influence of learners language comprehension on instruction of Mathematics' curriculum in public primary school in Bungoma South Sub-County.

2. To determine the influence of learner perception towards the instruction of Mathematics curriculum in public primary schools in Bungoma South Sub-County.

Learner language comprehension and its influence in instruction of Mathematics curriculum

The objective sought to investigate the influence of learner language comprehension on instruction of Mathematics curriculum in public primary schools. To measure this objective, learners and teachers were given questionnaires to fill. Learners were also exposed to test items in both numeric and word problem and results compared to determine the influence learners' language comprehension on instruction of Mathematics curriculum. A big number 56.30 % of teachers said that learners liked numeric sums compared to word sums. On the statement that Mathematics should be taught in English only. The study findings showed 50.00% of the teachers agreed that Mathematics should be taught in English alone. It was seen that 31.30 % of the teachers disagreed with the statement. This showed that there is great pull between those who agreed and those who disagreed. Those who disagreed argued that learners' comprehension is not a hindrance to Mathematics achievement. While those who strongly agreed argued that if Mathematics is taught in English only then many learners could comprehend terms and concepts used in Mathematics curriculum instruction. It is true that some concepts cannot be accurately translated into mother tongue or Kiswahili hence the need to be taught in English.

A big percentage 56.30% of the teachers strongly agreed that language comprehension influences achievement in Mathematics. This is because Mathematics is no longer set in numeric form only but has grown to more comprehensive and wordy problems hence learners who cannot comprehend well will tend to pass only non-wordy sums. So 56.30% who agreed supported the statement that language comprehension influences achievement in Mathematics. The study also found that 25.00% disagreed that it did not influence the achievement because they indicated that Mathematics has also numeric sums. This assertion is not true because the percentage of numeric sums is minimal hence it can't influence the final score in Mathematics. So there is need for educators to help learners develop language comprehension strategies for them to do well in Mathematics. From the analysis it was found out that 75.00% of the teachers revealed that teaching word problems was hard.

These are teachers who teach the learners in classes and their confession was true. The teachers need to get a way of imparting skills of comprehension in Mathematics. This will make learners not to be affected by wordy problems or sum. Teachers can use teaching aids and defining important words in question items to help learners improve in language comprehension. It was established that 18.8% of the teachers disagreed that teaching word problem is not hard. Such teachers had developed mechanisms to help learners comprehend word problems e.g. using English alone in the teaching and language policies in their schools. Furthermore the study established that81.3% of the teachers agreed that learners get questions when changed into numeric form. It is important for teachers to help learners develop skills of comprehension, to help learners comprehend word problem by developing skills needed to understand word problems. The number of teachers who disagreed with the

statement was only 3 (18.80%). These are teachers who felt that comprehension did not affect Mathematics achievement. They felt that other factors influenced Mathematics instruction.

From the research findings it was seen that most learners 193 (60.30%) said that they preferred numeric sums to word sums The study findings further indicated that learners lacked comprehension techniques that help them to tackle word problems and that was why they preferred numeric sums. There is need for learners to develop language comprehension to assist them achieve better results in Mathematics. The analysis indicated that196 (61.30%) of the learners disagreed that Mathematics should be taught in English alone and a further 55 (17.20%) strongly disagreed with the statement. This showed that most of them had negative perception towards the instruction of Mathematics curriculum. These learners feared the subject due complexity of language in Mathematics which made them not like to pursue the subject at higher levels of education. They failed to understand that Mathematics is a key subject in learning other science subjects at higher levels of learning. This showed that most of the learners did not connect the importance of English language as a medium of instruction. Mathematics is set in English hence teachers who use it as medium of instruction enable the learners get acquainted to the vocabulary used in Mathematics. It was seen that some terms are not easily translated into other languages. There is need for teachers to use English to help learners get used to the vocabulary and terms used in the instruction of Mathematics curriculum. Most of the schools in rural areas did not emphasize the use of English as a medium of instruction.

Although there is disagreement about the medium of instruction in Mathematics but it's important to note that a child who practices the same language in Mathematics may score higher than that one who did not. It was seen that teachers need to make learners understand the value of Mathematics in secondary education, the world of lucrative courses and the world of work. Those learners who agreed with the statement are those that did well and had exposure on the importance of Mathematics in life. When learners were asked the statement, they understood questions better when presented in numeric form, most of the learners 193 (60.30%) strongly agreed followed by 112 (35.00%) agreed with the statement. A very small percentage 3 (0.94%) strongly disagreed with the statement. This result showed that most of the learners got or enjoyed questions in numeric form than in word form. It was clear evidence that most of the learners had a problem in language comprehension that affected learner achievement in Mathematics. A small proportion 10(3.13%) of the learners disagreed with the statement, language comprehension influenced instruction in Mathematics curriculum. These were learners' who were able to read and understood the language well. Learner language comprehension is important in the instruction of Mathematics curriculum. Learners who did not have developed language feared wordy sums even if the sums were easy.

It was seen that some learners got questions when presented in numeric than when presented in word form. Teachers need to encourage learners to impress both word problems and numeric form because these days Mathematics has moved away from only numeric to word forms. Apart from that Mathematics instruction for each sum is given in words hence the

importance of learners' language comprehension in Mathematics instruction. The study revealed that140 (43.75%) of the learners strongly agreed and a further 80 (25.00%) agreed that they did well in English and so to Mathematics. This indicated that most of the learners who did well in Mathematics also did well in English. The percentage showed that these learners had a developed English language to tackle the sums that were in word form. Learners who did well in English had a strong foundation in Mathematics when it came to comprehension in Mathematics. The small percentages that did not do well in both subjects had other factors that hindered the achievement in Mathematics.

Learner perception towards the instruction of Mathematics curriculum

This objective sought to determine the influence of learner perception towards the instruction of Mathematics curriculum in public primary schools. To measure the objective, teachers and learners from sampled school were issued with questionnaires to fill. The items in the questionnaire comprised of closed ended questions about the objective of the study. From the study findings it is revealed that12 (75%) of the teacher felt that learners did not do excellently in Mathematics. This showed that most of the learners did not perform excellently in Mathematics. Low achievement in Mathematics could be because of learners' attributes that influence the instruction of Mathematics curriculum. Learners could be having difficulty in comprehension, their perception towards Mathematics, learners' frequency practice in Mathematics and learners motivation and its influence in instruction of Mathematics curriculum.

If 75% of the respondents said that learners did not do well in Mathematics, then something should be done to help improve the performance in Mathematics. Teachers and other stakeholders need to find the solutions to the problem in Mathematics implementation. This showed that a large percentage of learners had negative perception towards teaching of Mathematics curriculum. Learners' interest in Mathematics is important to their achievement in Mathematics. Positive perception towards Mathematics is very important because it helps in intrinsic motivation to achieve better scores in Mathematics hence teachers who felt learners had negative perception also affected the delivery because they had a belief that their efforts were futile. In the implementation of Mathematics curriculum, there is need for teachers to view learners as having positive perception to strike a common starting point in the implementation of Mathematics curriculum.

A large proportion of teachers 8 (50.00%) disagreed and further 7(43.80) strongly disagreed that learners give value to Mathematics as a subject. This showed that most of the learners did not value Mathematics in the society. These results showed that many of the teachers know that Mathematics is important in the day to day life. Mathematics is useful to the business society, not to forget the importance of Mathematics in the world of lucrative courses like engineering, medicines, architecture just to mention but a few. Mathematics is a pillar in other subject like Physics, Chemistry, Business education, Geography and Agriculture. A learner who does not do well will automatically not do well in other subjects in secondary schools which will in turn affect their college and university courses chosen.

A small percentage said that learners give a lot of importance to Mathematics compared to 8(50.00%) who said that most of the learners did not give a lot of importance to Mathematics as useful in their lives. Mathematics is very useful in the lives of learners because it is a vehicle for learning other subjects. This could be seen in the way the implementation of Mathematics curriculum where there is little linkage to the needs of society. There is need to have a curriculum where the needs of the society are integrated in the teaching and learning of Mathematics curriculum. The examples given should come from the environment of learners.

Today, innovation of ICT is also an important aspect in our society hence there should be a close link between Mathematics and ICT. Teachers need to show positive perception to the learners about the connectivity of Mathematics to the needs of the society. A teacher needs to let learners be aware of the relationship between Mathematics to the needs of the society. Those who have positive perception about the relation of mathematics to the needs of the society will do well unlike those who have negative perception towards Mathematics.

The study findings showed that 75.00% of the teachers indicated that learners did not attempt questions on their own. These perceptions come from varied factors that could make them not like doing exercises on their own. The causes could be the syllabus, content and time for teaching and learning. All these in one way or another affects the instruction of Mathematics curriculum. It was seen that there are various reasons to why learners did like Mathematics. If the teaching and learning resources are in adequate it greatly affects the delivery of Mathematics curriculum.

It was found out that wordy problems were not imparted well because learners needed to read for comprehension. On the other hand abstract concept also hinders the teaching of Mathematics curriculum because it will be seen that even teachers also seemed not to be conversant with some Mathematics terminologies. So if this is the case then learners got the effect of this. In addition poor results always will tend to de motivate the teachers. Some are heard saying that even if they taught well results were not good. Teachers need to be motivated and told to persistently work to improve Mathematics achievement in primary schools.

On the other hand when teachers were asked if learners asked questions during Mathematics lessons, 10(62.50%) of the teachers disagreed and further 4(25.00%) strongly disagreed that learners asked question during Mathematics lessons. This showed that a big percentage viewed that learners did not ask questions during Mathematics lessons. Learners who did not ask may have two main challenges either they did not understand the subject or had negative perception towards the subject. This has a great effect on the instruction of Mathematics curriculum. Teachers need to encourage learners through various methods to help them like the subject and have a positive perception towards the subject

The research revealed that 290 (90.63%) of the learners said that they did not enjoy learning Mathematics. In the same table 28 (8.80%) strongly agreed that they enjoyed learning Mathematics. Those learners who did not enjoy learning are greatly affected by learners

attributes influencing the implementation of Mathematics curriculum. From the same table 260(81.25%) of the learners showed that they would not like to do Mathematics in future courses in higher learning. This was caused by their negative perception towards Mathematics. This negative perception is greatly caused by teachers, learning materials, environment of learning and significant others. There is need to help learners develop positive perception towards Mathematics.

On the same aspect 20(6.25%) said that they will do mathematics in future. These are learners who had interest in Mathematics and positive attitudes in Mathematics. Learners who had search attributes will tend to achieve better than those learners who had negative attributes. Learners still said that Mathematics is useful in life by 197 (61.60%). Learners knew that Mathematics is useful but still did poorly in Mathematics. They still did not rank Mathematics as one of the best subjects learnt. Those learners who did not say that Mathematics was useful was small i.e. 22(6.90%).As said earlier Mathematics is not done well yet learners know its importance. There is need for teachers to help learners realize the importance of Mathematics and work hard in the said subject. Although teachers had told the learners' the value of Mathematics there could be other factors that influence the instruction of Mathematics curriculum the research on learners attributes is important.

When asked whether Mathematics should be made a compulsory subject, a big percentage 196 (61.30%) said that it should not be a compulsory subject and a further 55 (17.20%) strongly support or strongly agree with the statement. The cause of this could be the influence of learners attributes on implementation of Mathematics curriculum. These learners felt Mathematics should not be made compulsory but still felt that Mathematics is important to their lives. These learners had an influence of Mathematics learners' attributes i.e. learners perception towards the statement, the statement Mathematics is difficult showed that a big number 209 (65.30%) agreed that Mathematics is hard and a further 39 (22.20%) strongly agreed that Mathematics is difficult. Those that disagreed are those that did well in Mathematics and had no influence of learners attributes in the implementation of Mathematics curriculum.

A Large proportion 190 (59.38%) of the learners revealed that they were not sure if they ask questions during Mathematics lessons. Most of the learners' said that they were undecided because one cannot easily evaluate oneself hence such a big percentage. If this is the case there is need to encourage learners to take part in the lessons actively for them to benefit from the learning and teaching .It was clear that for a good lesson we need active participation of learners and an instructor. It was seen that learners who took part in lessons understood the concepts better than those who did not take part in the lesson. When learners were asked whether they attempted exercises on their own the results showed that SA was 72 (22.20%), 48(15.00%) Agreed with the statement, 60(18.80%) was Undecided, 126(39.40%) showed disagree. From the result it was seen that most of the learners did not do exercises on their own. Learners who did not work on their own and only waited for teachers' guidance may not go far because learners need to do extra work so that they can muster what they have learnt. Education is not only imparting of knowledge but also as social interaction among the learners. Mathematics has moved away from teacher centered to child centered where

learners do more of the work while a teacher becomes a guider. If this is done then we shall be moving in the right direction.

A Large number209 (65.50%) said that Mathematics is difficult compared to 61(19.10%) who said that Mathematics is not difficult. When learners were asked if they liked their Mathematics teacher, most of them strongly agreed by 30% followed by agree by 28.75%.Although 26.87% disagree with the statement it showed that most of the learners liked their Mathematics teachers due to fear hence they may just show that they like their Mathematics teachers. Teachers have a role to strike a rapport with learners so that they can improve the delivery of Mathematics lessons because learners who had a liking of their teachers developed a positive attitude towards Mathematics instruction. Learners need to be close and like their Mathematics teachers if they have to do well in Mathematics. A big number 220 (68.80%) of the learners agreed that their family members encouraged them to learn Mathematics. Although family members help them to do Mathematics there is still low achievement in Mathematics scores hence the influence of learner attributes on instruction of Mathematics curriculum. Some of the learners' believed that teachers are the imparters of knowledge.

On the statement the best way to learn Mathematics is learn concepts by oneself, it showed that most of the learners 157(49.10%) disagreed with the statement. It showed that learners did not understand that Mathematics should be taught through discovery of concept. Learners' perception is important in the instruction of Mathematics curriculum hence the learners attribute that influence the instruction of Mathematics curriculum.

CONCLUSIONS

1. The study revealed that learners' language comprehension greatly hindered instruction of Mathematics curriculum in public primary schools. This was evidently revealed by positive responses by majority of the pupil and teachers.
2. The research established that most of the learners had negative perception towards instruction of Mathematics curriculum.

RECOMMENDATIONS

The study found the following recommendations as significant in Mathematics instruction in public primary schools:

1. With regard to learner language comprehension and its influence in Mathematics instruction, teachers and other stake holders should ensure that English language is given a priority during instruction of Mathematics curriculum.
2. With regard to learner perception towards instruction of Mathematics curriculum, teachers, parents, school administrators and other stake holders should ensure there is change in negative learners' perception towards Mathematics.

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