# Utilisation of Instructional Media in Teaching and Learning by Secondary School Teachers. A Case of MKOBA 1 High School

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**Abstract:-** The aim of this research was to investigate the extent to which instructional media is effectively used by secondary school teachers in their day today activities. The research design which was used in this research is the case study. Instruments which were used to gather data were interviews, questionnaires and observation. The population of the research were all 85 teachers and heads of departments (H.O.Ds) at Mkoba 1 High School from which simple random sampling was used to select a sample of 32 teachers and H.O.Ds. The literature reviewed showed that, there were various types of instructional media which could be used for teaching and learning but however there were also various changes which hindered teachers from using instructional media. Findings from the study revealed that, there were a variety of instructional media at Mkoba 1 High School which could be used for teaching and learning. However, teachers did not often use instructional media due to a number of challenges which included, lack of time, lack of knowledge on how to prepare and use the media, inadequate media, and lack of financial resources among other challenges. Teachers and H. O Ds proposed that, Mkoba1 should do staff improvement meetings in order to teach teachers on how to make and use media, and also reduce work load for them so that they could have enough time to use media and also hold fund raising activities in order to raise money to buy teaching media

**Keyword**:- *Instructional Media, Teaching And Learning, Secondary School.*

## I. INTRODUCTION

Learning is a very difficult process requiring strategies to optimize it. As Nyoni (2014) suggests, one such strategy that helps to facilitate learning is the use of teaching media. Scanlan (2000;24) concurs saying,' Good aid is like a window, it should not call for attention to itself, but should just let it in the light.' The tenacity of this study was to investigate the degree to which teaching and learning media was used by secondary school teachers, to stimulate and enhance teaching and learning. It aimed to analyse the degree to which media was utilised in the process of teaching and learning especially in high schools and their effectiveness as well.

### A. Background of the Study

The researcher decided to do a research on the use of instructional media because, for the duration of her teaching period as a high school teacher for the past eleven years, she realised that, usually, teachers were not using relevant instructional media in teaching and learning. According to Mhashu (2011), sometimes in many secondary schools standard educational resources would not be accessible. In the secondary schools where these teaching resources were present, it seemed as if some teachers lacked the skills necessary to make effective use of them in their instruction. It also seemed as though some educators were not interested in learning how to use some of the instructional media. Some teachers did not have interest in using instructional media since it at times they were not readily available, while others seemed to lack innovation in finding suitable local alternatives to help their pupils understand their lessons. According to Section 4.3.6 of the October 2005 policy framework for Zimbabwe's National Information Communication Technology (ICT), and strategy paper, emphasis is placed on the need to include fresh ICT-based education. Section 4.3.8 states that ICT, teaching literacy in schools, universities, and universities need to be embedded.

### B. Statement of the Problem

Past study on educational media mainly focused on researching the perception of educators about the role of media in high school learning in the classroom (Taiwo 2009). Some academics like Seth (2009) considered educational media as an instrument in junior high school to ensure quality teaching and learning. However, these studies have not analyzed the use of teaching technology by secondary school educators, particularly in Zimbabwean schools, an area that is quite critical in today's Zimbabwean education. This research will therefore explore the extent to which teaching media is currently being used by secondary schools, an area which many academics have failed to enter.

### C. Research Questions

The problem gives rise to the following research questions:
- Which kinds of teaching and learning media are accessible at Mkoba 1 High School and how often do teachers use them?
- What difficulties do educators face in the use of teaching media at Mkoba 1High School?

➢ What can be done to improve the use of teaching media at Mkoba1High School?

*D. Assumptions of the Study*
➢ This study assumes that, educators have received training on how to construct teaching media.
➢ The study also assumes that, teachers were trained on how to use instructional media in teaching and learning.
➢ It assumes that teachers know how important use of instructional media is, in students performance

*E. Significance of the Study*
The Ministry of Education, Sports and Culture, will likely benefit from this research as it may be sensitized to know the state of secondary school teaching and learning with emphasis on the use of instructional media.The ministry may be made aware of the issues in secondary schools that educational media use can assist to address. Secondary school teachers may also be familiar with alternative educational media that would assist improve teaching and learning quality in classrooms. UNICEF, World Vision International and other educational quality assurance bodies will have the data they need first-hand to make their job efficient. The Curriculum Development Unit (CDU) can also use the findings of this study as a reference source for the need to develop syllabi, handbooks for teachers, and provide adequate educational media to enhance high school education. This study may also be of excellent importance in the academic field, as it may also assist aspiring researchers who may find it useful for further study purposes in creating literature.

## II.    REVIEW OF RELATED LITERATURE

*A. The Definition of Instructional Media*
In this research, teaching media and teaching technologies are used interchangeably and according to Grabe and Grabe (1998).They are cash, equipment and individuals needed to pursue an objective. He further observes that, in a particular topic region from which learners may learn, they are resources and facilities that include educators, students, computers, skill models and other knowledgeable individuals. These learning methods are called by Romiszowski (1974), teaching aids to assist teach a subject. They are rich text materials combining multimedia such as printing, models, mock-ups, movie strip slides, transparencies, audio and video into a well thought-out and designed package (Roblyer, 2003).It implies that aids do not perform all the duties as a teacher performs components of the assignments in a well-controlled way.

Hooper and Reinartz (2002) argue that today's instructional technology is about contemporary computer software that involves combinations of text, graphics, animation, audio and video. They also acknowledge that educational technology involves several separate classes of software that are used to achieve obviously defined educational goals. In this research, the investigator regarded print media, electronic media, predicted media, media generated by teachers, media generated from the

setting (realia) and display boards because these are the ones accessible at Mkoba 1 high school for teaching and learning.

*B. Categories of Instructional Media*
Instructional media includes all equipment and physical means that an educator may use to enforce instruction and promote the accomplishment of educational goals by learners. According to Newby (2000), these may include traditional materials such as chalkboards / whiteboards, hand-outs, charts, slides, overheads, actual items, and videotape or movie, as well as new materials and techniques such as pcs, DVDs, CD-ROMs, the Internet, and interactive video conference.

There have also been attempts by various educational technologists to classify educational technologies for example, Dale (1969) categorizes as instructional technologies visual, audio and audio visual materials. The visual materials include: illustrated books, pictures, photographs, flashcards, charts, maps, posters, displays, self-instruction elements, flip books, bulletins, magnetic panels, flannel graphs, dioramas, drawings, mock-ups, film strips, slides, transparencies, silent films, chalkboards and drawings. Dale argues that, audio materials include ; radio, language laboratories, tape and disk recording, telephone, telereading and sound distribution system, and audio visual materials including television, films, video recordings, sound movie strips, recorded sound printed materials, study journeys and demonstration. These have been categorized by Ayot (1986) into three broad groups of learning technologies. Software resources such as books, magazines, newspapers, posters, flashcards, charts, cartoons, globes and maps, flannel boards, chalkboards, displays and panels are included in the first category. The other category comprises of resources such as projectors recording players, radios, movies, televisions, magnetic tapes, slides, sound and still projectors, and the third category consists of community resources such as field trips, environment and individuals. Kemp and Dayton (1985) postulate that, nine types of media are classified as instructional technologies. They include: print media, display media, overhead transparencies, slide series of audiotape recordings, film strips, multi-image presentations, video recordings, and computer-based training.

The investigator suggested in this research that instructional technology should be categorized into three wide classifications: print, display, and ICT materials. Print materials include textbooks, charts, flash cards, magazines, brochures, newspapers, newspapers, newspapers, newspapers, handouts, and college brochures. Realia, models and mock-ups, diorama, globe, diagrams, maps, charts, pictures, photographs, posters and paintings are on display. ICT materials include television, video, live radio, computer and web broadcasting. This categorization is justified because in most secondary schools, including Mkoba 1 high school, these are the most frequently used materials for teaching and learning.

In the table below, Nyoni (2014) also provides an overview of educational media.

| Print material | Projected work | Teacher produced materials | Display boards | Computers | From the environment |
|---|---|---|---|---|---|
| Books, newspaper articles magazines, Charts, Hand outs pictures, flash cards, crossword puzzles, posters, newspaper articles and cuttings, cartoons, dictionary thesauruses | Video tape Slides Overhead transparencies Audio tapes | Transparencies Charts wall charts Sequence pictures Flash cards Work cards Maps Puppets Painted materials | White boards Flip charts Flannel boards Magnetic boards Chalkboard Roll over boards Roll up boards Easel displays | Internet CD-ROM spread sheets word | Realia |

Table 1:- Teaching Media Types

*C. Challenges Faced by Teachers in the Use of Instructional Media*

Most schools have been left behind in the use of educational media, as Bolick et al (2003) noted, and there are some that are very restricted in their use despite many research on educational media. This is primarily due to the different difficulties that schools and educators face when using educational media. Bolick et al (2003) articulates that the absence of professionalism or skills of educators is a challenge leading to inadequate use of teaching and learning media. This indicates that, in developing and using educational media for classroom use, skilled educators have less problems.

According to Onasanya (2003), research has shown that, because some of them are quite costly, many schools suffer from non-availability of needed materials to be used, and many schools lack resources to buy them. According to Aggarwal (2005), the other issue with using educational media can be storage and transportation for, for instance, heavy, bulky and sensitive educational media, rock samples that can be used in Geography classes. While educators may want to use these to teach and learn, it may not be feasible to do so. Bolick (2003) presents another likely challenge to electricity, especially in Zimbabwe, which is a significant challenge. If a teacher wants to use a projector, DVD videos or television to teach and learn, it may not be viable if there is no electricity, thereby jeopardizing the use of instructional media for teaching and learning.

Harford and Baid (1997), also take time into the planning and preparation of educational media for use in teaching and learning. Most educators have too much workload per week, so they hardly rest, and most of the time they would be marking, scheming, and recording, among other tasks, so they hardly find time to prepare educational media such as graphs, maps, diagrams, and job cards, as they are almost always busy .Omwenga (2001) observed that while many teachers complain about the lack of instructional resources, they are guilty of not using available resources. The present investigator is attempting to figure out why these educators are not acquiring and using in their reach / school environment what is available. Ogechi (1992) and Orina (2001) also revealed the frequent use of print media without teaching mediation .ICT training

costs were recognized as another challenge. Jegede (2009) claims the cost is so large that some colleges are unable to satisfy the cost of providing for computer teaching and learning. In some cases, ICT-trained teachers did so at their own expense. Even where colleges and computer centers arranged the training, payments.

*D. Strategies that Can be Used to Counter Challenges in the Use of Instructional Media.*

Different academics have attempted to come up with different alternatives to different problems related to the use of educational media. Onasanya (2003), among them, proposed that educators should improvise resource materials, be creative, and develop media for training. This means teachers don't have to wait for hem but they can use available materials to make teaching media and make lessons concrete. According to the UNESCO (2009) report, through in-service training programs, seminars and workshops, educators also need to define and take benefit of resources from local setting. Teachers can use firewood and empty tins to do the same instead of using Benson burners and beakers for experiments.

Lau and Sim (2008) suggest that measures should be placed in place to guarantee appropriate access to technical assistance. They also recommend that in each college, a teacher with ICT skills be appointed as ICT coordinator to provide other educators with technical and pedagogical assistance. Lau and Sim (2008) created that educators required to receive training on a constant, one off basis. So that their knowledge of instructional media is lifted up all the time. It is indeed hoped that, the benefits from the use of ICTs can be fully realised and optimised in teaching.

Hareshwar (2000) defines the use of low-cost or no-cost educational media as one of the key approaches for reducing the issue of school media accessibility. He claims that a paradigm shift is needed in teachers ' pedagogies. This indicates that educators should innovate fresh learning resources, which means that attention should be focused on low cost / no cost instructional medi a. These are produced of household waste and discarded products from products that should be easily accessible in the environment. UNESCO (2009) also echoed the same feelings that college heads should explore methods to expand and improve

educational media by using low-cost or no-cost educational media. UNESCO claims that teaching media such as, empty tins can be produced from scrap material such as, empty tins, match boxes, pieces of wire, old posters or discarded boxes. Nevertheless, this requires teachers ' dedication, and it heads as Hareshwar (2009) suggests. The result of using low-cost or no-cost educational media is that the college will become self-reliant and lower educational expenses. Teachers need not care about the accessibility on the market of resources, transportation expenses or even the scarcity of educational media.

### E. Summary

Different scientists have disclosed that in teaching and learning, educational media like graphs, model, mock-ups, realia maps and flash cards are very essential. There are, however, different difficulties that educators face when using educational media. Onasanya (2003), UNESCO (2009) and Aggarwal (2005) observed that, because educational media are not available, storage facilities are not available,unavailability of funding,electricity and time in preparing teaching media as some of the challenges faced by teachers.The school however can adopt low cost or no cost teaching medias advocated by Dasgupta(2007).

## III. RESEARCH METHODOLOGY

### A. Research Design

Cole (2003) argues that a research design effectively offers a plan, framework and approach for how information can be systematically described and analyzed in order to provide responses to particular study issues and control variance. A case study has been used as the suitable research design in this study. This research design is suitable because it helps study components carefully and develop suitable results as Elton (2010) says. It also provides more detailed information compare to other methods as Chiromo (2006) says. This research uses both qualitative and quantitative research designs. Mcleod (1994, 78) says that, qualitative research is a "process of systematic enquiry into the meanings which people employ to make sense of their experiences and guide their actions". Quantitative research design on the other hand is a type of research where by results are presented in numerical form.

### B. Population

The population being studied were department heads, educators and s O ' and A' level students at Mkoba 1 High School. This is because in terms of enrollment, Mkoba 1 high school is the largest school in the Midlands region. It has 2050 learners and 85 educators from Form 1 to A level.

### C. Sampling And Sampling Procedures

In this research, the investigator used the simple random sampling in which each member of the population has an equal and autonomous opportunity to be chosen. (Chiromo 2006, 17).The investigator used simple random sampling because, by chance, reasonable persons are selected and there is no predetermined feature except in the study world (Chiromo 2006).

A sample of 36 respondents was chosen, which 42% of the teaching staff is. The researcher randomly sampled 2 teachers and the head of department from each of the 12 departments in the school. A total number of 24 (32%) teachers and 12 (100%) heads of departments were respondents in this research. However 32 out of 36 questionnaires distributed were returned.

### D. Research Instruments

This study however uses observation, questionnaires and interviews as its research instruments.

#### ➢ Observation

The researcher observed Mkoba 1 High school teachers teaching. She was able to establish the frequency at which they use instructional media for teaching and learning in their classrooms. This allowed the researcher to gather authentic information without being prejudiced by the informants. This helps the information gathered to be real and true.

#### ➢ Questionnaire

The questionnaires were distributed to 36 Mkoba 1 teachers and heads of departments so that they could respond to them. These were later on collected by the researcher. Of the 36 questionnaires distributed, 32 were returned so the percentage response was 89%. Questionnaires were used because they are potentially useful, easy to use and are a reliable method of data collection. The fact that they are anonymous makes information collected to be authentic, people express their views clearly knowing that they are anonymous. Questionnaires were made up of both open- ended and closed questions to enable the respondents to give their personal views about the extent to which instructional media is used by secondary school teachers. Open ended questions enabled respondents to add some remarks and explanations. Closed questions on the other hand enabled comparison to be made. They could also generate frequencies of responses amenable to statistical treatment and analysis. However questionnaires have a disadvantage that, most of them may not be returned. The researcher therefore had to administer them herself and made a follow up.

#### ➢ Interviews

The researcher also conducted interviews to H.O.Ds, so 12 interviews were conducted. These were done in order to supplement questionnaires. The researcher designed semi- structured interview questions in order to guide the researcher but at the same time eliciting more information from the respondents. She could adjust some of the questions according to how the interviewees were responding. The researcher conducted interviews during break or lunch time or even off session when the respondents were not busy and she would take down notes during the interview session.

*E. Validity And Reliability*

Observation, interviews and questionnaires all proved to be valid and reliable.Participant observation provided clear first-hand information or picture of the extent to which secondary school teachers used instructional media in teaching and learning. Teachers who were being observed were highly reliable as they were the ones who used instructional media in teaching and learning in the classroom. The research instruments were then administered personally to the sample by the researcher to make sure that they are given to the right people. The researcher also used triangulation of research instruments which complemented each other. Hewit and Cramer (2005) defined triangulation as "the use of multiple measures of a concept, interviews, questionnaires and observation".

*F. Ethical Considerations*

Before involving teachers and department heads, the investigator requested approval from the head of Mkoba 1 high school. The investigator clarified that the study was voluntary to the educators and H.O.Ds. They were ensured of confidentiality and there was no attempt to identify individual components. The investigator did not ask or create embarrassing statements that interfered with the self - esteem of the respondents just as Gay (1996) advised. The investigator had to conduct the research with self-funding and the funds were not used for other reasons as this was to interfere with the study quality leading to incorrect information. An introductory letter to the head and the participants was provided and served as an indication of the study's intended studies and rationale.

*G. Data Collection Procedures*

The investigator received an introductory letter from Midlands State University in this research, which she used to get approval from Mkoba 1 High School head. As one of the professors at Mkoba 1 high school, the investigator gathered information on the practice of teaching.The researcher was, at times, a complete participant observer being part of the teaching staff at the school and observing the teachers as they worked. This helped her to get authentic information as the participants were being observed in their natural environment. This also helped to avoid the Hawthorn effect which Chiromo (2006) says, is a situation whereby people change their behaviours when they know that they are being observed.

Various steps that were taken in administering the instruments and collection of data from the subjects. The researcher first sought permission from the respondents before giving them questionnaires and before interviewing them. The researcher administered the interviews and questionnaires personally. The researcher made arrangements with teachers to interview them during their free periods and during break and lunch time. Questionnaires were distributed to all concerned teachers to fill in and the teacher would make a follow up. Observations were made every day on the extent to which teachers used instructional media in their day to day teaching.

*H. Data Analysis Procedures*

According to Anthony (2006) data analysis refers to interpretation and scrutinisation of data that has been gathered. Generally data which was analysed was from questionnaires, interviews and observation. This data was analysed both qualitatively and quantitatively. Data from the interviews was captured and transcribed manually through making notes. The researcher systematised and organised data depending on the degree of variation of responses by the respondents. Data from questionnaires was analysed quantitatively. Data from observation schedules was analysed qualitatively and quantitatively. Data was then classified and tabulated. The tabulated data was studied to determine inherent facts or meanings. Data was then presented through the use of tables and pie charts. The data was then analysed at a descriptive level. A cluster analysis was made, which tries to group a set of objectives into smaller sets based on their similarities. The cluster analysis is convenient enough since it allows subjects to be chosen from all sectors of the population, more so when the population is spaced.

## IV. DATA PRESENTATION, ANALYSIS AND DISCUSSION

*A. Types of Instructional Media Available*

The first research question attempted to explore the kinds of educational media accessible for procedures of teaching and learning. The investigator asked thirty-two (32) educators at Mkoba 1 High School about the accessibility of educational media. More than one type of educational media could be selected by each respondent. Teachers ' selection of media depended on the type of media available in the respondent's department.

The teachers" responses were analysed as follows:

| Instructional media | Frequency | Percentage |
|---|---|---|
| Realia | 2/32 | 6 |
| Internet | 6/32 | 19 |
| White boards | 28/32 | 88 |
| Chalk boards | 30/32 | 94 |
| Charts | 25/32 | 78 |
| Work cards | 8/32 | 25 |
| Maps | 8/32 | 25 |
| Overheard projectors | 3/32 | 9 |
| Video tapes | 2/32 | 6 |
| Pictures and Handouts | 7/32 | 22 |
| Text Books | 26/32 | 81 |
| Articles | 7/32 | 22 |
| Cartoons | 2/32 | 6 |
| Journals | 5/32 | 16 |
| Magazines | 4/32 | 13 |
| Slides | 2/32 | 6 |
| The globe | 3/32 | 9 |

Table 2:- Teachers' responses on the availability of instructional media

According to table 2, 2/32 (6 percent) of the 32 participants revealed the accessibility of realia they use in teaching learning and 6/32 (19 percent) said the internet is accessible. 28/32(88%) recorded the accessibility of white boards, whereas 30/32 (94%) recorded the accessibility of chalk boards, 25/32 (78%) reported the accessibility of white boards, while 8/3 2(25%) recorded the accessibility of wooden boards. Availability of work cards and maps and 3/32 (9%) reported that there is also overhead projectors at the school. About 2/32 (6%) of participants reported the availability of video recordings and 7/32 (22%) said that images and hand outs were accessible while the largest amount of participants recorded the availability of 26/32 textbooks (86%), which demonstrates that this is the most common teaching and learning media used by educators. Respondents 7/32 (22) stated that articles were also used as part of teaching media probably by English teachers. 5/32 (16%) recorded the availability of newspapers, while 4/32 (31%) recorded the availability of magazines as part of the educational press. 2/32 (6%) said that slides are most likely accessible from the computer department, while 3/32 (9%) of participants said that the world is also accessible as part of the learning media that can be used for teaching purposes.

From the percentages shown above, out of the total number of 32 respondents, the largest group of respondents 30/32 (94%) confirmed the availability of chalk boards and followed by 28/32 (88%) who conform to the availability of white boards. This shows that they were the most commonly instructional media because they were readily available in the classroom so the teacher had no hustle of preparing them. A high percentage of respondents again conformed to the availability of text books. These were from the departments which were given text books by UNICEF. These include, Maths, English, History, Geography, Sciences and practical subjects. These could use text books frequently because each child had his or her own text book. The other percentage which is a bit high conformed to the availability of charts 25/32 (78%). Charts were said to be available because they are easy to prepare and could be used over and over again. Maps and work cars were said to be available by 8/32(25%). These were from the Geography department and Religious studies who usually used maps in their lessons. Work cards could be used in any department but very few teachers knew how to prepare and use them. This accounts for the number of teachers who conformed to their availability .Articles were usually used by people in the English department who could use them in composition writing, comprehension or language lessons.

Internet was usually used by those in the Computers department who used them for computer lessons or they were used by A 'level teachers who encouraged their students to research. Most teachers did not want to use the internet because they were either computer illiterate or they were discouraged by the red tape which has to be observed when one wants to use the computer laboratory. Media, such as realia and the globe were not usually easy to store as there is no store room for instructional media at the school. Other media such as overhead projectors, video tapes, slides were rarely used, actually some teachers were not aware that they had such media at the school because, most teachers did not know how to use them so did not even want to try and use them. In an interview one of the respondents said,

 ' *We do not know how to use these things so we cannot use them. How can you use something which you don't know how it works? Probably if we are taught how to use them, we can try"*

This statement shows that, teachers lack the expertise on how to use some of the instructional media available for teaching and learning.

*B. How Often Teachers Use Instructional Media in Teaching and Learning*

The results which came out of the interviews and questionnaires are as follows:
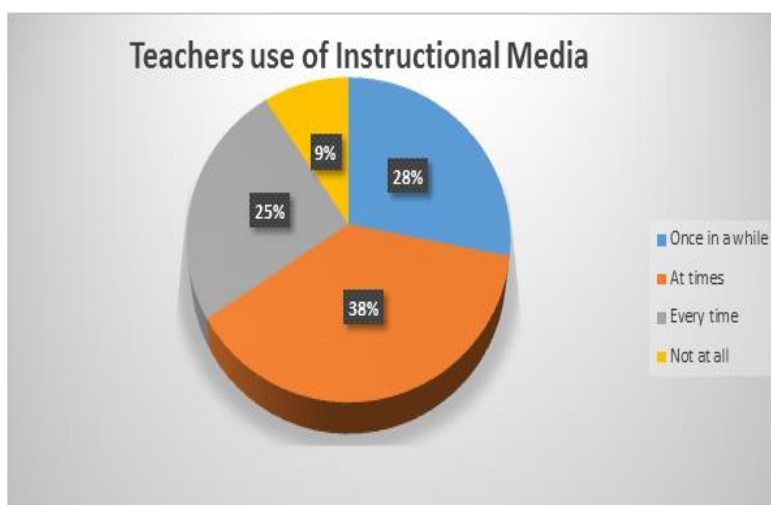


Fig 1:- How often teachers use instructional media in teaching and learning

Figure 1 shows that, out of 32 respondents; 8 (25%) of the teachers reported that they used instructional media every time they taught whereas, 3(9%) of the teachers reported they never used instructional technologies and 9 (28%) of the teachers reported that they used instructional media once in a while but 12 (38%) of the teachers reported that, they used instructional media at times.

The information above shows that, the greatest percentage of teachers among the respondents 12 (38%) at times used instructional media. In one of the interviews held one of the respondents said

" *We have no time to use instructional media because our work loads are too heavy for us, so we use it at times when we have time or when the head wants to assess us besides, nothing motivates us to prepare and use media*".

This statement shows that, most of the teachers did not often use instructional media and were not even motivated to use the media. They used media when the school head was going for lesson assessment so that he may think that they always used media when teaching.

These were followed by those who used media once in a while 9 (28%). Most of these respondents were just lazy to use instructional media. In one of the interviews the interviewee said that,

"*Using media is just time consuming and i am too lazy to prepare media for use in class, especially now that there is no incentive. I just use the board and books which are readily available*".

This statement shows that, some teachers used media only when they felt that they wanted to. 8/32 (25%) of the respondents however said that, they used media every time when they delivered their lessons. These are the ones who knew and appreciated the importance of media in teaching and learning such that they made sure that, they did not teach abstract lessons but used media to make students understand their lessons better.

The last group of respondents were the ones who did not use media at all in teaching and learning. They just taught abstract lessons. Most of these respondents were those untrained teachers who were not taught how, to use the media so they did not know how to prepare or use the media. Some of these again were relief teachers who were untrained and did not know how to use instructional media.

*C. Challenges Faced by Teachers on Use of Instructional Media*

The researcher asked teachers to state the challenges which they faced in using instructional technologies. Each respondent could choose more than one challenge.

| Challenges faced by teachers | Frequency | percentage |
|---|---|---|
| Lack of training on how to use instructional media in teaching and learning | 4/32 | 13 |
| Inadequate instructional media | 5/32 | 16 |
| Lack of knowledge on how to prepare and improvise instructional media | 4/32 | 13 |
| No funds to purchase instructional technologies | 8/32 | 25 |
| Not enough time to prepare and use various instructional technologies | 12/32 | 38 |
| Lack of support from the administration | 5/32 | 22 |
| Too many children in one class | 8/32 | 25 |
| Lack of storage facilities | 6/32 | 19 |
| Electricity | 4/32 | 13 |

Table 3:- Challenges facing teachers on use of instructional technologies

N/B: Percentages are based on the number of responses given

A proportion of 4/32 of the educators (13%) indicated that, they lacked instruction on how to use teaching and learning media. Most probably these were teachers holding bachelor's degrees without an academic qualification (graduate teachers) who have never been trained on how to use educational media. Some 5/32 (16 percent) participants indicated that insufficient educational media existed. The ones accessible were not enough for all educators and students to use. They also revealed that 4/32 (13 percent) had no understanding of how to improvise and prepare educational media. Only easily accessible educational media like textbooks and display panels could be used. Other 8/32 (25 percent) of the participants said there was no funding for educational media procurement. Probably the school had no budget for instructional media so no money was available for that.

The largest percentage of respondents 12/32 (38%) indicated that there was no time to prepare and use educational media because they had too much workload for them. For instance, one individual had up to 32 periods a week, so scheming, planning, marking and recording was just too much for all courses so there was no time to prepare educational media. They also had restricted time to use the media and besides that, they had limited time to use the various instructional technologies as the syllabus was so wide to cover. Some also thought that 30 minutes per class was too little for one to use in teaching and learning educational media. Approximately 5/32 (22 percent) of participants said absence of administration assistance was the biggest challenge in the use of educational media. They asserted that the administration preferred other stuff that were not educational media, so it became difficult to use teaching aids. At times some of the instructional media is

locked in personal store rooms and made very strict rules for anybody who wished to use them.

Other educators 8/32 (25%) indicated that there were many pupils in courses that made it difficult to use certain teaching techniques. Some courses had up to 60 students and it was hard to discover media that catered for all those students. Other teachers also reported that, they were not consulted in the procurement process, so wrong or inadequate media was bought for their departments. Some said that the work load was too much for them so they had no time to make or improvise instructional technologies to use, some teachers reported that some teachers were lazy and did not bother to use the instructional technologies. Some 4/32 (13%) of teachers reported unreliable power supply, making it difficult to use media that requires power like computers, projectors and television. The generator available is too small to accommodate all school facilities.

Other 6/32 (19%) of participants indicated that there was a lack of infrastructure (storage facilities) and room to install equipment so that students in schools destroy the accessible media. Poor budgeting / administration reluctant to purchase sufficient educational technology, absence of technology possibilities, low-equipped laboratories, loss of student and school equipment, lack of motivation as teachers are overtaken by events as some heads of departments and members of the administration do things without consultation. Low reaction to material requirements in schools is also another challenge, while some educators still thought that if a teacher described the data well to the learners, the learners would comprehend the data even if the teacher did not use the teaching media.

*D. Summary of Suggestions on How to Improve the Use of Media In Teaching and Learning*

| Suggested ways of overcoming challenges | Frequency | Percentage |
|---|---|---|
| Hold staff development courses to train teachers on how to prepare and improvise instructional media | 15/32 | 47 |
| School to buy more instructional technologies | 8/32 | 25 |
| School to organize donors to assist buying materials | 7/32 | **22** |
| Expose students to technology early | 3/32 | 9 |
| Buy a bigger generator for electricity | 9/32 | 28 |
| Reduce work load for the teachers so that they have time to prepare and use media | 17/32 | 53 |
| Levy parents to raise funds to buy instructional media | 10/32 | 29 |
| Do some fund raising activities for the procurement of instructional media. | 8/32 | 25 |
| Give teachers incentives so that they can be motivated to work and use instructional media | 18/32 | 56 |

Table 4:- Suggestions on how to improve the use of media in teaching and learning

Of the 32 participants from table 4. above; 15/32 (47%) of the educators proposed that the administration should hold personnel development classes to train educators on how to prepare and improvise teaching media so that they can use teaching and learning media. This would assist untrained and temporary educators in particular and act as a refresher course for the qualified teachers. Some 8/32 (25%) of the educators proposed that more educational media should be provided by the college. They proposed that the college should have a distinct budget from the levies to be used in teaching and learning and also to cater for swollen courses. Other 7/32 educators (22%) proposed that the college should seek help from donors to buy instructional media. These can be from the local society or from the alumni association of the school. Study respondents 3/32 (9%) proposed that learners should be exposed to technology soon in order to comprehend it and be able to use it as well. Some 9/32 (20%) of educators proposed that the school should guarantee a reliable supply of energy at the college by purchasing a larger energy generator so that when teachers want to use electronic media, they can do so any time.

Some 17/32 (53 percent) of the teachers suggested that the workload for the teachers should be reduced so that they have time to prepare and use media, so the head of the school should ask the district office for more teachers. Others 10/32 (29 percent) said that, if the college levies parents to increase money to purchase educational media, likely the shortage of educational media could be lowered. 8/32 (25 percent) proposed that the college could finance some educational media procurement operations so that parents who are already struggling with college charges would not be overburdened. The biggest percentage of 18/32 educators (56 percent) said that incentives should be provided to educators to motivate them to work and use educational media.

Other educators proposed that the college should set up computer installation infrastructure in classrooms, purchase contemporary computers or renovate and repair ancient computers, obtain sufficient educational equipment, have other energy options, provide safety and storage equipment, manage to cooperate with educators on material requirements, admit a manageable amount of learners, employ more teachers especially those with technical skills to reduce teachers work load, equip the laboratories as a

long term project, motivate teachers for improvisations and the government to help schools to purchase more materials by providing more funds.

## V. CONCLUSIONS AND RECOMMENDATIONS

> *Conclusions*
Based on the findings of the study, the following conclusions were made:

> Most participants stated that different kinds of educational media are accessible at Mkoba 1 High School for teaching and learning. These included, charts, maps images, TV screens, internet, overhead projectors among other media, but educators use media accessible in their departments.

> So many participants agreed that when teaching, they do not frequently use educational media.

> The participants also noted that the significant challenges connected with the use of educational media including storage, electricity, lack of understanding on how to use certain media, bureaucracy involving the availability of certain media, such as projectors and computers, among other problems

> Respondents also noted that many of the available teaching techniques were insufficient in terms of both quality and quantity; and some of them were very hard to reach educators and students

> Teachers valued the part played by the use of teaching and learning techniques. However, most of these educational media are hardly used in the school. They mainly used textbooks, chalkboards, white boards and laboratory equipment for Chemistry, Biology and physics.

> Display boards, graphs, globe boards, maps, handbooks, class readers (books), diagrams and computers were preferable to educators in the teaching learning phase, but were primarily used for topic computer research.

> Although many Mkoba 1 High School educators had academic and professional qualifications, post-training on the use of educational media and techniques was very restricted.

> The main challenge faced by educators as impeding their effective use of teaching techniques was the fact that some teaching techniques made them waste a lot of time teaching subjects, as well as the scarcity of some teaching techniques and particularly the absence of contemporary, efficient teaching techniques in schools, the lack of qualified staff such as technology assistants and the absence of training and lack of sufficient knowledge on use of these technologies made the teaching and learning process very difficult.

> *Recommendations of the Study*
The following recommendations were made based on the findings of the study:

> Seminars, workshops and other in-service classes should often be organized by the college using extremely skilled professionals to familiarize and sensitize educators with a broad spectrum of educational media and their potential. This could spark the creativity and innovation of educators in the teaching and learning process using educational media.

> The head of the school should regularly supervise teachers in order to evaluate the availability, state and use of teaching technologies. This would warn educators and encourage them to commonly prepare and use the teaching techniques.

> School administration should work hand in hand with parents, sponsors and other educational stakeholders to prioritize the provision of appropriate educational technology to alleviate the inadequacy of educational technology in schools.

> The school head should regularly seek information from teachers and students on the challenges they face in teaching learning process using instructional technologies and seek alternatives of solving or easing the teachers" problems thus enabling them to teach more effectively.

> The school administration should be sensitized on the importance of instructional technologies in order for them to provide them in their school budget and provide storage facilities.

> Teachers should be involved in teaching technology acquisition and encouraged to use teaching techniques. They should also encourage educators by offering them with the needed raw materials to prepare training systems locally. This will encourage educators to use the teaching technology as they will share their ownership with them. They are also supposed to. They should also allow teachers to attend workshops and seminars whenever they are organized and called for.

## REFERENCES

[1]. Aggarwal, J. C. (2005). **Principles, methods and Techniques of teaching.** New Delhi. Vikes Publishing Hse Pvt Ltd.

[2]. Anglin,G.J. & Gary,J.(1995)**.Instructional Technology: Past, Present and Future.** Second Edition.New York, Englewood co Libraries Unlimited.

[3]. Atchison, J. (1998*).* **Access to books and Journal articles by postgraduate students**. South Africa. University of Natal.

[4]. Ayot, H.O. (1986). **Instructional Materials for Educational Communication and Technology.** First Edition.Kenya, Kenyatta University.

[5]. Bolick,C. (2003). **Technology Application in Social Studies.** http.//.www.citejournal.org/ vol 13 accessed 20/02 /15.

[6]. Biagi,S. (2004). **Media Impact**. Wadworth Publishing Company 7th ed. London.

[7]. Borg, R.W. & Gall M.D. (1989). **Educational research: an introduction**. New York, Longman Inc.

[8]. Brown, J. W. Lewis, R. B. & Harcleroad, F. F.(1973*).* **Instructional technology media and Methods,** 4th ed. New York, McGraw Hill, Inc.

[9]. Dahiya, S.S. (2004). **Education Technology towards Better Teacher Performance**, New Delhi Shipra.

[10]. Dale, E. (1969). **Audio-Visual Methods in Teaching**. 3rd ed. New York, The Dryden press.

[11]. Fisher, C and Binns, T.(2000). **Issues in Geography Teaching**. New York. Routledge

[12]. Gacegoh, J.N. (1990). "**A study of the Utilization of learning Resources inTeaching of Christian Religious Education in Secondary Schools in Embu,Kenya**". Unpublished Thesis.Kenya, Kenyatta University.

[13]. Gall, M. D., Borg, R. W.& Gall, O.J. (1996).**Educational Research. An Introduction**.6th ed. USA, Longman publishers.

[14]. Gerlach,V.S and Ely D.P. (1971). **Teaching Media; a systematic Approach**, Englewood cliffs (N.J), Prentice – Hall, inc.

[15]. Grabe, M. & Grabe, C.(1998).**Integrating Technology for meaningful learning** .2nd ed. New Jersey. Houghton Mifflin Company, Boston Hall.

[16]. Hareshwar,P. S. (2009).**Low cost teaching aids for rural schools in India.** Knoilgoogle.com.k//low-cost-teaching-acc.

[17]. Heinich, R.; Molenda, M. &. Russel, J.D. (1985).**Instructional Media and the New Technologies of instruction.**3rd ed. New York, Macmillan Publishing Company.

[18]. Heinich, R.; Molenda, M. &. Russell, J.D. (1989).**Instructional Media and the New Technologies of Instruction.** 3rd ed. New York, Macmillan Publishing Company.

[19]. Hoban, C. (1962). **Research in New Media in Education**, "Three Conference Working Papers" (Washington D.C American Association of College for Teacher Education p.p 22 – 23)

[20]. Hooper,S. R. (2002).**Educational Multimedia**. In R.A. Reiser & J. V. Demps (ed).*Trends and Issues in Instructional Design and Technology.* London, McMillan Publishers.

[21]. Johassen, D. H. (2000*).***Computers as Mind tools for Schools: Engaging Critical Thinking**. Upper Saddle River, N.J: New York. Prentice Hall, Inc.

[22]. Kemp J.E and Dayton D.K,(1985). **Planning and Producing Instructional Media**. New York, Harper and Row Publishers.

[23]. Kerlinger, N.F.( 1973).**Foundations of behavioural research.** New York, Holt Rinehart, New York.

[24]. Lumumba, P.O.(2008). '**A survey of challenges facing e-learning Public secondary Schools. A case study of Nepad schools in Kenya.**' Unpublished Research Project.

[25]. Maleche, A.J.& Krystall,A.(1974). „**"The Library as an educational tool"**. Kenya, Maktabar official Journal of Kenya Library Association.

[26]. Mehra, P. & Mital, M. (2007). **Using ICT to Transform Education**. India, The University of the Western Indies.

[27]. Mhashu, l. S. (2011). **Challenges Faced by Teachers in U sing Instructional Media in the Teaching and LEearning of Geography in Teaching and learning of Geography in Rural secondary schools in Mazoe District**. Unpublished dissertation, Midlands State University.

[28]. Misoy, C.C. (1987). "**Availability of instructional materials in teaching geography in Secondary Schools in Kenya with special Kenyatta to Kericho County,***"* Unpublished P.G.D.E Project." Kenyatta University.

[29]. Muchiri K. D.(1997). **Investigating the availability and use of teaching and learning resources in Mbugithi Secondary School.** Unpublished PGDE Thesis. Kenya, Kenyatta University.

[30]. Newby, T. J., Stepich, D. A., Lehman, J. D. & Russell, J.D.(2006).**Educational Technology and Learning for Teaching and Learning.** Pearson Merrill Prentice Hall.

[31]. Newhouse, T. (2005).**The impact of ICT on Learning and Teaching. A Literature Review, Western Australia Department of Education.** Archived Information.

[32]. Ogechi, C.O. (1992). **Availability, utilization and management of Geography teaching- learning resources in Kenya secondary schools: A case of Nyamira county.** Unpublished M.Ed. Thesis. Kenyatta University

[33]. Omwenga, I.E. (2008).**Pedagogic Issues and E-Learning Cases: Integrating ICTS into Teaching-Learning process. School of computing and Informatics**. University of Nairobi, eomwenga@uonbi.ac.k

[34]. Omwenga, N.M (2001). **Use of Media resources during teaching practice (A study of Kamagambo and St. Paul)**. Kenyatta University, Unpublished, Med Thesis.

[35]. Onasanya, S. A (2002). **Silkscreen Printing Technology, Implications for locally Produced Media.** Ilorin Department of Curriculum Studies and educational Technology.

[36]. Orina, W.M. (2001). **Availability, utilization and management of geography teaching- learning resources in Kenya secondary schools. A case of Nyamira County**" Unpublished M.Ed. thesis Kenyatta University.

[37]. Petty, G.(2001).**Teaching Today: A Practical guide**. 2nd ed .UK. Stanely Thomas Publishers.

[38]. Ramey, K. (2013). **What is Technology of Technology: The meaning of Technology and its use**. New York. Pearson Merrill Prentice Hall.

[39]. Romiszonski, A. J. (1974). **The Selection and use of Instructional Media**. Kogan Ltd. London

[40]. Romiszowsky, A.J (1984).**Producing Instructional Systems**. New York. Nicholas Publishing Company.

[41]. Vygotsky, L.S. (1978). **Mind in Society**. Cambridge. Harvard University press.

[42]. Wagner, R. (1961). **Design in Education**. The newsletter volume xxvii, November

[43]. Walton, J. & Ruck, J.(1975*).***Resources and Resource Centre**. London. London Ward Lock Educational.