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Effect of Audio-visual Aids on Students Understanding: A Comparative Analysis of JHS students in the Ho Municipality

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ABSTRACT

The purpose of the study was to compare the level of understanding of students taught using audio-visual and those taught without using audio visual. The study employed quasi-experimental design. The study also revealed that the treatment group's students comprehended the material being taught to them. Students in the treatment group were able to give the right answers, give examples to back their responses, and only share their experiences if they were relevant to the answer, they gave during the evaluation of what they had been taught. The control group could not have been compared to this. The study also revealed that, in contrast to those in the control group, students in the treatment group were engaged and eager to take part in group projects and demonstrations throughout class. Students in the treatment group showed greater interest in class, but those in the control group were uninterested and passive. Finally, the test scores of the treatment group children were much better than those of the control group.

Keywords- Students, Comprehension, Participation, Audio-Visual Aids, Students, Ho Municipality.

I. INTRODUCTION

The use of audio-visual aids in the classroom has been shown to increase student engagement and retention of course material. John Comenius was an early proponent of using video and audio in the classroom, and recent studies have shown that these tools can significantly enhance mental performance. Audio-visual aids in the classroom have been shown to increase student engagement and retention of course material, and media resources are essential to the educational process. De Sousa and Van Eeden (2009) and Zheng et al. (2016) advocate for the use of visual aids in the classroom to facilitate student learning. Studies show that few educators make use of audio-visual aids, and the most common manifestation of this problem is students' disdain for the study of Social Studies due to teachers' methods of instruction.

The Ministry of Education has long advocated for schools to adopt a child-centered approach to education, but many educators continue to employ conventional methods, giving students a negative impression of Social Studies. Lawson (2003) and Governale (1997) both found that students' lack of motivation in Social Studies classes leads to poor grades. Lefrancois and Tamakloe (2005) report that two fundamental abilities and talents are necessary for effective teaching: the process of teaching and parental

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and administrative communication skills. McBer (2000) states that the success of any classroom exchange is contingent on several variables, including students' attitudes, instructors' expertise, pedagogical approaches, and resources. Audio-visual aids in Social Studies classes can help students visualize concepts and provide credence to what they've learned. This study aims to determine if the use of audio-visual aids improves students' performance on standardized tests at Ho Municipality's junior high schools.

II. LITERATURE REVIEW

Concept and meaning of audio-visual aids

To improve learning since the 1920s, audio-visual education has evolved rapidly by drawing modern technology, the most recent computer, to use supplementary teaching aids including graphics, transcribers and recordings, movies, and images (Britannica, 2018). History has shown that images, specimens, shows and other audio-visual devices are valuable instructional instruments. One of the first bohemian educators to suggest a systemic form of audio-visual education was John Amos Comenius (1592–1670). His Orbis Sensualium Pictus, published in 1658, is illustrated in abundance by sketches, each of which plays a significant role in teaching the lesson to which it belonged. Other great educators such as Jean-Jacques Rousseau, and John Locke followed Comenius. Pestalozzi, who recommended the use of sensory materials to complement education (Aggarwal, 2001). During and after the Second World War, audio-visual aids was commonly used by armed forces. This and several research findings over the intermediate period show that audio-visual aids may considerably improve memory, thought, interest and creativity if used in an acceptable way (Akram, 2012).

Several scholars have defined audio-visuals aids over the years and have hinted at their significant contributions to the teaching and learning process. Dike (2013) defined audio-aids as resources that you do not have to read-only to convey meaning. He elaborated that they portray information through audio and visual resources or a combination of both. Similarly, Anzaku (2011) defined audio-visuals aids as those teaching and learning aids that do not rely solely on verbal symbols and language to convey meaning.

From the above definition, it can be inferred that, a textbook does not fall within the category of audio-visuals, but an illustration in the book may qualify as such. Some categories of audio-visuals are also like process and experience. For example, whether an event is played or a diorama is made. Anzaku as cited in Igyuve and Ashaver (2013) further clarified that, audio-visual materials consist of equipment and materials, that the equipment and the manuals, also called hardware components, shall be deemed a possible value system or body of contents when it is used (Igyuve & Ashaver 2013, p44).

Furthermore, Ofoegbu (2009) also posited that audio-visual aids are teaching aids that consist of two separate kinds that are materials and verbal. When it comes to the materials, he again categorised them into hardware and software which he claimed comprise objects, diagrams, films, and drawings. In the view of Talabi (2004) audio-visual aids is when audio and visuals materials are combined to enhance the teaching and learning process.

Abolade (2004) also asserted that audio-visual aids are supplementary devices that engage more than one student's sensory organ. When used by teachers, they ensure clarity, establish and correlate concepts, interpretations, and appreciation. In his definitions, Nwanna-Nzewunwa (2003) views audio-visual aids as equipment that makes learning more realistic and dynamic. From the definition and illustrations, it is very clear that, audio-visual aids are resources or materials that can bring reality to the classrooms. That is, they are materials that can present abstract things in textbooks in concrete terms.

In this sense, a teacher can present information in a textbook in a way that it will be very easy for students to grasp the concepts. Since audio-visual aids engages more than one sensory organ of students, it motivates and stimulates their interest in whatever is being taught. This improves their concentration level and improves their comprehension of a particular subject.

General instructional materials

One of the striking benefits that came along in the 21st century is the discovery of methods and strategies to ameliorate the teaching and learning process (Kuzu, Akbulut & Şahin, 2007). To this end, it is worth reiterating what instructional materials are and the significant role they play in the teaching and learning of Social Studies. To start with, Ema and Ajayi (2004) believe that all the tools that the teacher uses to encourage and help students learning process are termed instructional materials. Jocob (1999) shared a similar view when he defined instructional materials as anything or any resource that both teachers and students use before, during and after an instructional session to aid in the achievement of goals. From the foregoing definitions, it can be inferred that instructional materials are those resources that aid in the students' comprehension of a particular subject.

They can be material things and humans in the form of resource persons as well. Inferring from the dual coding theory, the researcher believes that since a combination of audio-visual aids in lessons engages the various senses of the learner, they tend to be active in class and it enhances their understanding. It also makes retrieving of information from their mind very easy as what they are taught are stored in more than one path in their mind. This will ultimately increase their academic achievement. Before the researcher discusses the

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multiple advantages of education media, he carefully mentions the types of educational materials commonly used by teachers and students. Tok (2010) consolidates training materials into two main print groups, for example course books, workbooks, teacher guides and other unprinted materials, such as computer materials, videos, etc. The audio-visual aids are our key concern.

Types of audio-visual aids

In various categories, the audio-visual aids were divided; Fayemi (1991) as quoted in Igyuve and Ashaver (2013) into the equipment needed to put them into classrooms. In Fayemi's opinion, the following are audio-visual supports:

1. if students should visit places, look, respond and work to a phenomenon in their physical surroundings, then a field trip, demonstration and experimentation may be required. Then students will come to the newsletter board session.
2. dolls and puppets are used as dramatic models when it comes to dramatic performances (pictures of people, events and procedure).
3. models, Globes Mock-ups, Relief Maps, etc. The teachers and students can jointly buy or produce them. Models may be borrowed, bought or produced for exhibits and dioramas.
4. TV programmes: TV receivers and antenna systems are required for that reason. They can be made together as learning experiences by students and teachers.
5. motion photos: Projection equipment is needed for adaptation of the optical and or magnetic sound paths or displays. Images still contain transparencies and components for micro-projectors (microscopic slides and microscopic objects).
6. prints of the analysis and diagrams of images.
7. radio and audio, as found in tapes, discs and radio transmissions. Materials like maps, graphs, diagrams and charts (Fayemi, 1991 as cited in Igyuve & Ashaver, 2013).

The visual tools that the instructor may use can be categorised as: According to Aina and Olutade (2006):

1. Graphic and pictorial support:

i. Halloon
ii. Illustrations of textbooks
iii. Tables
iv. Photo: (a) Drawings (b) Photographic reproductions
v. Different forms of maps
vi. Charts, pictures and Language of image (Isotype, etc)

A. Optical support:

i. Episcope
ii. Diacopes, standard lantern, sub-standard slide projector, strip projector, and micro-slide projector.
iii. 16mm Cinematograph silent sound.

(a) Facsimiles or reproductions, (b) actual objects specimens. (c) Expanded (d) working Section (e) contained actual things e.g. visiting colleges, the direct experience and ultimately, the devised or "mock-up" experience. The audio-visual content also classified by Dike (1993): Tapes and cassettes as well as radio broadcasting and recording materials.

Models, visual materials, actual objects, displays in three dimensions, graphs, charts, maps and photos, and projected forms such as transparency, slides, video strips and videos. Combinations of audio-visual content, e.g. films and video strips, slideshows, TV programmes, film and theatre.

Other programs/games, instructions for programming, presentation and field trips. Audio-visual supports were also listed in three major categories by Aggarwal (2009). In other words: Projected aids Non projected aids Activity aids.

(a) Projected aids: These include movies, films, slides, projectors, opaque displays, overhead displays, movie pictures, and video. (Herzegovina, 2014)

(b) Non-Projected aids: The labels include Chalkboard, bulletin board, board, image, flannel boards, magnetic boards, magnetic pig boards, pig boards, marker boards, images, flannel graphs, flipchart, flashcards, flipchart and flashcard (Aggarwal, 2009).

(c) Activity Aids: Experimentation, tour, excursion, presentation are activity aids. Science kits, Nature calends, Dramatic exhibits, Museums, Planetarium. PowerPoint slideshow, presentation, directions programmed, computer-assisted guidance. teaching devices, computer cd. (Edmonton, 2008).

Principles for using Audio-visual aids

In view of the many advantages of audio-visual support for education, it is wise to use it properly. Several principles make teaching and learning more efficient by using audio-visual aids. The following are the principles:

(a) Principles for the selection of appropriate audio-visual aids

If audio-visual aids are selected, the teaching needs, purposes and objectives must be fulfilled. It should be chosen in accordance with the students' interests and ages and be able to reflect fact (Neelu, 2010). They have to follow the following to pick the audio-visual aids effectively (1) Suitability (2) Clearness (3) Level of comprehension (4) Services to present (5) Clearness (Expert Writers Panel, 2013)

(b) Principle of proper submission

An audio-visual aid's next concept is that it should be chosen and used according to the circumstances. The instructor should use the aids to fulfil his needs and purposes (Katozai, 2016).

(c) Principle of Assessment

This last idea is relevant for learners to know what teaching aids do. In the last one, the instructor can continuously assess the pupil. Selvi (2007)

(d) Audio-visual aid psychology

Most research on audio-visuals have shown that it is very important in education and more accurately in teaching and learning. This is due to the fact that the students' sensory organs are completely engaged and

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their depth of comprehension of a subject matter is thus improved. The capacity of listening, speaking, thought and different senses of the student is expected to increase with audio-visual supports. Co Bun did research and proves it in 1968 as stated in Selvi (2007) research shows this:

1. The learners learn from taste 1%.
2. The pupil discovers 1.5% of the sense of touch.
3. The pupil discovers the sense of smell at 3.5%.
4. The pupil learn 11% from what he is taught.
5. The learner learns from the sense of vision.

Co Burn learned how people recall through observation and study.

(1) 10% remember by read.
(2) 20% remember by hear.
(3) 30% remember by see.
(4) 50% remember by see and hear.
(5) 70% remember by say.
(6) Remember by seeing and doing 90%. (Selvi, 2007).

This study was to compare the level of understanding of students taught using audio-visual aids and those taught without using audio visual aids. Furthermore, during field data collection, the researcher used the projected aid (overhead projector, computer), unproject aid (Marker Board) and an activity aid (PowerPoint presentation).

Characteristics of a good visual aids

Although, visual aids are likely to vary in content, they can share in common the characteristics of good aids. Good visual aids should:

1. clear an abstract idea, demonstrate a series, describe a relationship, or magnify most of the telescope.
2. reflect objects that are hard to locate, odd pieces and items that are difficult to note in general.
3. be visible from every part of the room, large enough and clear without eye strain.
4. emphasise highlights and add interest, be colour for contrast.
5. only provide the required written explanatory material; exclude anything that might be counterproductive to the main aid's intent.
6. it is made of good material to resist wear and use.
7. be well complete in a way that demonstrates good manner of work and competence. It should look attractive and competent.
8. examplify good design and proportion and be designed to scale. These ties are necessary for the desired effect to be achieved.
9. display your cleverness. Labels can be rendered in various colours; pieces may be numbered and matched on the bottom of the aid with the correct label; ribbons or lines can be used, from labels to parts, for certain aids with no use of traditional labelling.
10. be portable and convenient for use in classroom presentations or outside-school discussions.
11. make quick cleaning easy, have surfaces covered with varnish, shellac, rubber or plastic covers.
12. if not in service, be correctly stored. A tag or other rapid identification method should be established.
13. be installed correctly and comfortably. In suspending aids, wire is superior to cord. Where appropriate, bolt aids to walls may be fine.
14. name indexation and inclusion in courses

An audio-visual material that will be very compact, robust, illustrate an abstract concept, present a sequence or describe a relationship, as the researcher uses for data collection. The laptop, the projector, the DVD, the tape recorder and the television used by the investigator had several of the characteristics mentioned above.

Importance of audio-visuals in teaching and learning

Audio-visual aids is an integral aspect of teaching and learning, and cannot be overemphasised as such. The audiovisual supports Ngozi, Samuel and Isaac (2012) have been very useful in education. They have further mentioned that because audio-visuals are involving more than one of pupil's sensory organs—their eyes, ears, touch and others. It ensures that every preceptor's mode is balanced and stimulated by external events. Eze (2013) also states that the quickest, easiest and effective means that an individual can learn is through the use of audio visuals and not by words alone. Furthermore,

Oketunji (2000) stressed that audio-visual aids lessen the weaknesses that are associated with words, humanize and vitalize subject matter. He further added that they provide a stimulating approach to new concepts and give a first positive impression. To him Audio-visual aids help save instructional time and also concretise the abstract concepts in lessons and finally stimulating the initiative of students. From the submissions by Oketunji, when audio-visual aids are used it stimulates the interest of students when introducing a new concept. This makes them very attentive and increases their class participation level. It also saves instructional time as the time that is spent in explaining an abstract concept to students can be done within a few minutes through visual presentation.

Swank (2011) claimed, for his part that, approximately 40% of our ideas are focused on visual experiment, 25% on auditory, 17% on tactile, 15% on organic sensations and 3% on taste and smell. He underlined the efficiency of education in the area of audiovisuals. In the evaluation, if audio visual aids are used in the teaching and learning process, the inputs of multiple senses are combined to make the subjects 100% understandable.

Gopal (2010) also believed that audio-visuals extend experience. He emphasized that audio-visuals helps teachers to overcome the physical difficulties in presenting lessons. That is to say that when audio-visuals are employed in the instructional process, it brings reality closer to students. He further stressed that with audio-visuals there is no barrier in communication and distance. For instance, the culture, food and other interesting phenomena of other nations can be made available in the classroom through slides, televisions,

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filmstrips and projectors. This makes learning very easy for students. Dike (1993, p87) stated that, the picture and information becomes very simple and permanent once an idea is visualised. It increases their memory potential when students are provided with a picture of what they're taught.

Natoli (2011) also asserted that when audio-visual aids are used it encourages participation. For instance, students like it when they join teachers in dramatizing an event or a process. It makes it easy for them to recall it whenever it becomes necessary. He also stressed that when audio-visuals are used it creates that chance for students to gain good and effective communication skills through active engagement in solving problems. To put in a different sense, students learning become more effective when they are actively involved in an important and appealing subject matter. For example, students' choice of colour is enhanced and they tend to grasp concepts much easier when they are actively engaged in a particular subject using bulletin boards or projectors.

According to Katherine (2009), when students get a natural interaction with their learning materials, it leads to effective learning. That is when teachers are presenting lessons, they have to choose or select learning situations that will naturally elicit the interest of the learners through the use of teaching learning resources. Through this way, the attention and interest of the learner is highly stimulated, which makes him more open and receptive to anything he/she is taught leading to effective learning. Fawcett Hills (1994, p58) stressed that "A friendly, accepting group climate is important in any learning situations, especially those materials that require students to reveal their ignorance and confront their fellow students". That is when students feel accepted and calm in a learning situation, learning effectively takes place.

Lestage (1959) also believed that audio-visual aids help in individualizing instruction. That is, series of lessons are put on a tape bit by bit and presented to students. This enables the pupil to learn at their own pace and on their own encouraging creativity and ingenuity. This becomes very useful in distance education and in pressing times when teachers and students have no choice than to resort to online teaching or distance education. In support of this, Dike (1993) also asserted that audio-visuals frees the teacher since he/she is not obliged to carry a series of drills over and over again. In this situation the teacher now gets time to attend to each individual student. When you want a student to think first, you have to provide them with information that will serve as a foundation for them to start from. Audio-visual aids therefore can provide such prior information for students to dwell on.

Mcnaught (2007) also recognised the importance of audio-visual aids and he believed that when audio-visual aids are consistently used in the teaching and learning process, it becomes more effective and useful. He went on to further elaborate that audio-visual aids provide experience that under normal circumstances cannot be obtained in a classroom setting. This he believes contributes to the depth of understanding a concept and the variety of learning. Variety in learning therefore helps cater for the individual differences among students.

Audio-visual aids is capable of permanently rendering learning, Gopal (2010) argued. He underlined that the acquisition, retention and reminder of classes are simple if audio-visual aids are combined with the education and learning process. Audio-visual aids help to activate or involve the whole organism in the atmosphere in which learning takes place. Also he believed that, audio-visual aids through its comprehensive engagement of the students' faculties tend to cater for the unique background of each student. That is, when audio-visual aids are used, it stimulates all the senses of students therefore students who are visual learners are catered for, as well as those who learn better through auditory senses.

Natoli (2011) on the importance of audio-visuals stated that, when people see things they remember it as they saw it the moment that thing is made mention of. This gives them the confidence to talk about it freely. It can therefore be inferred that, when audio-visual aids are used, it enhances the retention rate of students hence improvement in their performance.

Students generally forget the lessons because they have little interest in the information they have learned and because of the opportunities to use it. As audio-visual content is used in the situation of education and learning, the interests of the students are stimulated; their level of involvement is also encouraged. This leads to greater comprehension of a definition and thus to a better academic performance of students. This section is very significant since it addresses the advantages of audio-visual aids in the teaching process.

Administering the program of audio-visual aids

It should be remembered that, attempts to expand the use of audio-visual education tools would not be accomplished by temporarily involving teachers regarding multisensory teaching methods. If the curriculum is not well handled, teachers are likely to lose interest. The 4 R of the audio-visual education programme of a school is to ensure that one beneficial source says:

Right equipment and materials are available
Right on the spot
Right time to see how you need it
Right way

Until now several schools administer content such as textbooks, book numbers, encyclopaedias, reference materials, charts, and a variety of graphs, crab and paper. However, nowadays, the use of videos, movie pages, maps, globes, models, museums, exhibitions, graphic arts, pictorial magazines and journals are not at the core of education, however, it has become the case.

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The researcher made sure that, during the data collection the 4R were used to ensure that there was no misunderstanding and ineffectuality when using the audiovisual materials he chose. Thus, it was ensured that the correct materials were assembled and used at the right place, at the right moment and eventually in the right way.

How to use visual aids (Canei, 1995)

The following recommendations (Canei, 1995) should be observed when using aids: Strong visual aids become more effective when used properly:

1. for easy reference and analysis by students, they should be shown.
2. aids designed to fulfil a particular requirement should where necessary, be shown. Improper displays of the subject can be a distraction.
3. in the process of a presentation of the lesson, keep the aids out of view until it is ready to be used.
4. refer to the aids. Do not only show them. The aids provided with wire loops may be hanged on the chalkboard crocheting over the place where the drawing will usually appear.
5. if necessary the aid should take the place of the chalkboard sketch.
6. create supporting paper instructions to correlate where possible with visual assistance.
7. lessons that require the analysis of visual aid contents can be assigned.
8. withdraw the aids after it has been done. Do not allow the aids during a class to become distracting pupils.
9. enable students to propose and develop assistance in compliance with appropriate requirements.
10. there are periods when good aids can be enhanced by including measures: for example, when teaching about these things, use a real cash register or a price-marking system.
11. a photograph of the object can be created with a 35 mm camera, which can be used as a projection slide for especially good aids (Canei, 1995). The researcher ensured that the audio-visual aids chosen for a specific lesson covers all domains of learning. The researcher understood well how to work, use and include any audio-visual aid in the teaching process, and hence the audio-visual support selected for collecting data.

Reasons for using audio-visuals

It has been determined from the preceding segment that the best form of learning is by stimulating the greatest number of senses. The use of devices or the use of audio-visual material activates the largest number of senses. That is why good teachers often use devices or audio-visual materials (Mondal, 2015). The experienced instructor, however, knows that word use alone cannot and will not deliver a vibrant learning environment. Good teachers are constantly on the alert to approaches and technologies that will make learning meaningful, using and selecting a wide variety of instructional materials (Mondal, 2015).

The current pupil is literally rounded by an infinite pro-fusion of learning aids like workbooks, books, graphs, images, maps, slides, film strips, film photos, radio and exhibitions of all sorts, and is now in the country, with a number of different types of pupils (Mondal, 2015). The situation comes from the demands of an improved and diversified curricular and the need to vitalize education by offering a more detailed history of experience for pupils and ways to respond to the variations in the interest and aptitudes of children. Television also provides a wide variety of uses (Mondal, 2015).

In short, the use of visual and audio-visual instruments can be defined as follows as outlined by Mondal (2015):

1. to challenge the attention of the pupils: The teacher who uses the equipment is able to retain the full attention of the class. It is usually the case in the lower classrooms that the instruments can only be used by the teacher as basic attractions.
2. promote the imagination and improve the students' mental imagery: Mental imagery may be used as a way of thinking and of clarifying thoughts. Gadgets stimulate the imagery of pupils.
3. to make it easier for pupils to understand: The most common use of devices, visual or audio-visual, is their use to aid comprehension. The use of templates, movies, film streaks and graphic content can be speeded up by the use of additional textbooks. Material devices provide sense and colour to the concept provided by teachers.
4. to inspire action: The teachers must choose the right method to encourage students into useful intellectual engagement and to ask them to collect images reflecting water, air and land transport would stimulate them to take action. They must also use the right instruments for their students, such as photographs and objects.
5. to strengthen listening skills: It is also the school that is responsible to offer education to our pupils, so that they are effective listeners. Training to hearing is one of the goals of audio-visual education. It is also the school which is responsible for the creation of the capacity to listen. The researcher observed through observation techniques how audio-visual aids challenge the attention of students, enable their comprehension, improve their listening skills and enhance their motivation for action.

Guidelines for using some specific audio-visual aids

Television

The quality of television is to place people in direct touch with activities everywhere, and it has a lot of positive potential. Heeks, (2008), points out that, the use of television in systemic education has three main goals. as an assistance in teaching in Social Studies.

(1) the scarce educational services are extended and improved, a few teachers do the work of many and thereby equalise learning opportunities between students.

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(2) where to the full, education is offered without major cost increases to more people.
(3) The issue of overcrowded classrooms has been overcome by TV education which can effectively expand it into an infinite amount of students by the qualified teacher.

How do we teach with TV

The guidance must be followed by: To teach best in television:

a) Pre-viewng activities
b) Activities during viewing
c) Post viewing activities

Prior to watching the television course, Kinder (2009) says a range of questions should be asked about each television lesson. The tasks, the outline of each TV lesson and a list of sources of material should be provided to students prior to the TV lesson. The arrangements of the students for viewing television are of the utmost importance.

Brown (2007) insists that, certain specific introductory commentaries should be made to the instructor prior to the television lecture centre. This evaluation question should be performed immediately after viewing of this television lecture. Dale (1991) believes that during viewing students should take notes, but it is not crucial as a successful learning can be carried out during viewing, without actually taking notes. He also argues that students will find important feedback or questions during the session. The instructor will, therefore find points which the students did not wholly understand during the course.

In a nutshell, students are encouraged to engage in activities which improve learning and enhance their interest and sense of inquiry. You may compose a critique or television lessons in several ways. Any ambiguous and complicated aspects of the lesson will be revealsed by the question-and-answer period of the notes taken during a television lesson.

Computer image projection

This is the most sophisticated and modern way of getting students in touch with expertise. The enormous, efficient information processing means that it is essentially individualised training materials and the most appropriate and flexible platform for individualised learning. Azi (2009), verified the computer's unique value as a last teaching equipment that can only be used to adjust, pick and display learning materials and educational materials to speed, style and individual differences of a certain student as well as to gather and evaluate data on the efficiency of the teaching process in Social Studies. Azi also added that the computer can be used as a fully autonomous unit or in conjunction with many other media, and can in many ways be used for successful delivery of Social Studies, such as mass teachings, community education, individualised instruction and group study. It can range from basic administration to complex instructions for Social Studies.

How to use the projector (Mondal, 2015)

1. Check that both your computer and your laptop are off.
2. Connect to the projection system via your external laptop video port to the video cable (usually VGA).
3. Plug in the electrical outlet of your projector and press the button "control" to turn it ON.
4. Turn your laptop on. Just turn it on.
5. Connect the laptop "Audio Out" port to the projection or other sound device when audio is needed for your presentation.
6. Synchronize the projection device and laptop with the Feature key holding down and pressing a toggle key to: F4, F5, F7, F8. (Note: You might need to be using an F key other than the ones mentioned above, depending on your computer.)

Video-tape recorder

This device records and produces a sound so an instructor or lesson may record itself or any appropriate material they need to enhance and facilitate Social Studies teaching and learning in junior high school. By capturing the professional programme lesson so you can read in your classroom, the availability of a video tape cassette has made scanning lessons possible. Importance of video tape recorder in Social Studies in teaching and learning in high schools. In teaching Social Studies, the educational importance of the video tape recorder is the following:

Videotape recorders are used to put circumstances close to students and can be displayed with pictures of items or artefacts not incorporated into the class for the purposes of teaching:

a) it makes students' learning more lasting.
b) in an incentive offer, it stirs the students' attention and curiosity.
c) so much eliminates the teacher's talk for clarification. It makes the level of understanding of the students very real what is taught.

DVD Tape Recorder

This is an interactive system that works with pictures and sound like videotapes. The DVD tape recorder is used with a flat disc and is projected on the TV screen instead of a cassette. DVD tape recorder can be used for Social Studies as it makes learning more effective. The teacher should consider the following guidelines when using a DVD tape recorder in teaching and studying Social Studies:

a) adequacy and suitability of the intent envisaged.
b) suitable for the world of learning
c) age of students
d) how to use the time without distracting the plans of other instructors.
e) the most important materials for teaching the lesson and subject.

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Presentations of PowerPoint

PowerPoint is a computer presentation software commonly used in schools and corporations. It consists of a series of "slides," each pages you make. It is also necessary to plan yourself, as with posters. The architecture of the slides also has a major influence on their effectiveness, as do posters. Keep your slides clear in general. Do not overwhelm too much or too many photographs of them with writing. Leave the margins around all edges and give the bottom of the slide an extra broad margin. This is the environment of which the viewer can see the least. Use the backdrop in a pale, cool tonne instead of white. Note that white and lighter colours appear on the eyes when they are projected. A clear context can help to put the presentation together. Often with various parts of your voice, you may want to alter backgrounds. Make sure you don't use a backdrop distracting you from the slide details. It is the most common mistake to place too much text on a slide. Just use main terms and sentences. Don't write down complete phrases and read them. The audience should listen to you and not just read your slides. If you have a quote slide, the only time you can write full text, using image or graph slides instead of text as far as possible (Oregon State University, 4-H Youth Development, 2009).

Letters on the slides must be sufficiently wide to be read from the back of the room. This is normally 28-34 in size, depending on the font. The lettering can also be rendered bold. Do not use a slide with so many fonts and make sure that the font is read easily. Use highlight colour, but use not too many colours on a slide, contrast is good. Using light in the darker background or light in the dim. For the moving blocks of information on and off slides, PowerPoint has all kinds of special effect functions. Do not use them too much in addition to distracting but also frustrating too many transitional results. Do not exchange slides too soon. For at least 30 seconds each slide shall be projected (Arnold, (2018).

If all of your slides have been prepared, be sure to read them in evidence. You want no orthodox or labelling defects in the finished product. PowerPoint can be used to make a presentation very powerful, but you must know its limits. Whenever you use a computer programme, it is safer to have your own tools. Too often you won't fit on another system in the style or computer you use to save your slides. You should still have a contingency plan if someone else's equipment is to be used if that does not work only if you have a sequence of transparencies or posters. Another downside is that you will sometimes solve the PowerPoint presentation as the speaker. Try to put the light on the space so you can see the students. Use the remote to stop the projection system. However, you can move and communicate with the students. A laser pointer can help indicating those objects on a diaphragm (Arnold, (2018).

The reason for discussing the selected audio visuals in detail is because all of them were used during the data collection process. The television, the projector, the DVD tape recorder and the PowerPoint presentation were specifically used in different lessons to ensure that all the domains of learning are covered during an instructional session. The television, the PowerPoint presentation and the DVD recorder were coordinated to ensure that students see concepts which are far away from them. The auditory devices also stimulated students' ability to stay attentive.

Advantages and disadvantages of using audio-visual aids

Below, the audiovisual aids use of Mishra and Yadav (2004) includes many advantages and disadvantages:

i. best motivators: They are known to be the best motivators. More curiosity and passion are being worked by students. They become more watchful and attentive.

ii. simple verbal instructions: they lead to reducing verbalism, which is a major deficiency in our institutions. They convey the same sense and meaning as words do. They have simple definitions and thus lead to learning accuracy.

iii. clear images: Clear pictures are rendered when our impressions are straightforward, concrete and more or less lasting, when we see, hear and touch, taste and smell. The most normal and therefore simple way of learning through the senses.

iv. vicarious experience: first-hand experience is the best kind of educational experience, but such an experience is not always open to pupils and such alternatives have to be given in such situations. There are many inaccessible subjects and phenomena for this reason. For instance, it is not possible to show all students in India the Taj Mahal, etc. Audio-visual aids are the best options for us in all these situations.

v. audio variety: The teachers are equipped with a variety of visual aids and various instruments.

vi. freedom: using audio-visual aids offers the pupil many opportunities for moving, walking, laughing and commenting. The students work in such an environment because they want to work and not because the teacher needs them to work.

vii. handling and manipulation opportunities: the use of audiovisual aids gives pupils huge chances of hearing, handling and manipulating objects.

Disadvantages of using audio-visual aids

Apart from the rising popularity in the educational system for audio-visual aids, some issues need to be tackled and resolved:

i. instructor apathy: The teacher cannot yet be persuaded of a boring, wasteful and inefficient teaching with words alone.

ii. student indifference: the diligent application of teaching aids attracts interest, but they lose their meaning and intent if used for no purpose.

iii. the aids were not useful due to lack of sufficient teacher planning and lethargy without proper

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preparation, accurate presentation, adequate implementation, and necessary follow-up work. A film like a good lesson has many steps to plan, present, submit and discuss.

iv. From the discussion above, audio-visuals have many benefits when used in teaching. Through the observation, test and interview techniques, the researcher identified most of the advantages of the use of audio-visuals in teaching. On the other hand, the researcher ensured that every audio-visual aid was coordinated correctly and used to ensure their electiveness as they were employed when deemed appropriate during the data collection.

III. THEORETICAL FRAMEWORK

Dale's cone of experience

Dale's Cone of experience is a model that was developed by Edgar Dale in the 1960s. His model combines several theories that has a significant link with instructional design and the learning process. Edgar Dale asserted that, students or learners are able to absorb more of what they do as compared to what they hear, read or observe. This was the basis for his development of the cone of experience.

Figure 2 gives a pictorial view of Dale's cone of Experience.

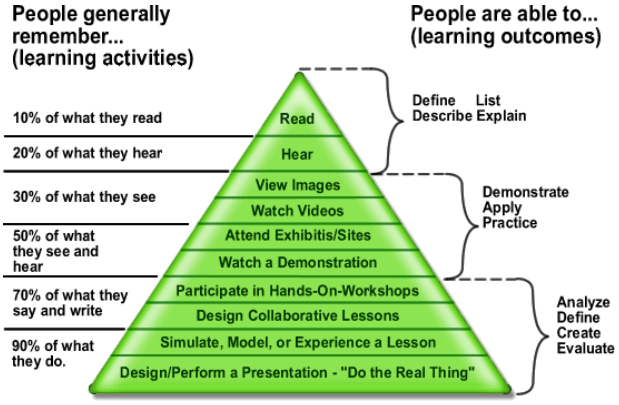

Figure 2- Dale's cone of experience
Source: Anderson (http://www.edutechie.ws/2007/10/09/cone-of-experience-media/)

According to the empirical research of Dale's learning from words that are spoken to you is the least efficient method of learning. However, he theorized that in order for learning to become most effective one needs to do a real thing. In order words, effective learning occurs when one is actively involved in the learning process. For instance, being engaged on a field trip, role paly and dramatization, and many of such action learning.

A cursory look at the cone reveals the rate of retention for the various teaching methods. The further an individual moves down the cone, the higher or greater the retention rate or learning is achieved. It can therefore be inferred that, when teachers are choosing their methods of teaching, they should keep it at the back of their minds to employ strategies that engages students in the learning process as that will strengthen the retention rate of students. According to Dale, teachers should develop learning experiences that draw on students' real lives.

This theory is significant for this study since it demonstrates that students must be completely engaged in the educational process to retain 90% of what they are taught. Now that audio-visual aids are being used in the learning and education process, they include most students' sensory organs and even realised students' learning. This philosophy therefore allows audio-visual aids to be used in the instructional process. It therefore enables the researcher or instructor to learn how audio-visuals affect the academic performance of students.

IV. METHODOLOGY

The study employed a quasi-experimental design Campbell and Stanley (1963) define a quasi-experimental design as a research design that entails manipulation of an independent variable but lacks random assignment of participants to experimental and control groups. Participants in quasi-experimental designs are assigned to groups based on pre-existing conditions, such as existing classrooms or institutions. This study employed a quasi-experimental design to compare the level of comprehension between pupils taught with audio visual aids and those taught without audio-visual aids. Students could be assigned to either the experimental group (taught with audio-visual aids) or the control group (taught without audio-visual aids) in various classrooms or schools. When the random assignment of participants to groups is impractical or unethical, this design is utilized in educational research. It is frequently used to assess the efficacy of educational interventions in real-world settings (Cook & Campbell, 1979). The quasi-experimental design permits researchers to compare the outcomes of two groups while controlling for confounding variables. Since participants are not randomly assigned to groups, it is essential to consider the possibility of selection bias and other threats to internal validity (Shadish, Cook, & Campbell, 2002).

Population

The survey was carried out in Ghana's Volta Region, with all junior high school pupils from the Ho Municipality participating. This study's set of participants (the target population) includes all junior high school students at Ho Technical University's junior high school and the Presbyterian junior high school of Ho Municipality in Ghana's Volta Region. The study specifically covered just Form 2 students. This was since they had read social studies for at least two years, and

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hence the researcher saw them as perfect responders to engage. The formative ones were left out of the study since the researcher believes they are uninformed about the social studies curriculum. Similarly, Form 3 pupils were barred. This is because they were preparing for their final examinations at the time of data collection, and the school administrators did not allow them to be engaged during that time. The target demographic consisted of 8,133 JHS students from the Ho Municipality in Ghana's Volta Region (GES, 2022). However, the accessible student population was 67 JHS students from the two chosen JHS.

Data Collection Instrument

The study adopted a teacher-made performance tests, as the instrument for data collection from the respondents. The simple reason for adopting a combination of this instrument is that, when carefully constructed and administered it gives an objective and reliable information. The teacher made test comprised objectives type items such as; fill in, true/false and short answers. This was to help the researcher know the level of understanding of both groups and to ensure that students' cognitive faculty is most fully engaged. It was made up of 20 questions.

Data Collection Procedure

A letter of introduction was sent to the heads in the selected Junior High Schools of the Ho Municipality, to obtain their permission to perform this research, from the Department of Business and Social Sciences Education at the universities of Cape Coast. After two months, the researcher then went to the selected schools to conduct the survey. This was on 9th March 2020. Achievement tests was conducted every two weeks in both treatment and control groups for six weeks.

Data Processing and Analysis

The information contained in the teacher-made performance tests was evaluated using both descriptive and inferential statistics. Z-test was used to analyses the research hypothesis. The answers were sorted to ensure that the questionnaire was completed in its entirety. Data was analyzed using IBM Statistical Package for Social Sciences (SPSS, version 22). The way to evaluate the scores on the achievement tests was by explaining the data (percentage). This was because the researcher needs to find out how many students passed the exam as well as how many did not, and make proper decisions based on their understanding of the content.

V. RESULTS AND DISCUSSION

How does the class performance of students taught using audio-visual aids differ from those taught without the use of audio-visual aids in the Junior High Schools in the Ho Municipality?

The purpose of the study was to examine differences in the classroom performance of students taught using audio-visual aids and those taught without audio-visual aids. The control and experimental groups were given similar achievement tests and their findings were compared to determine patterns. The data regarding students' achievement tests provided every week for six weeks were analysed by translating the test scores into percentages so the number of students who passed the tests could be found. The data is presented in Tables 1 and 2, respectively.

Table 1: Number of Students Passed/Failed the Tests in Treatment Group (Post-Test)

Grade	1st Test	2nd Test	3rd Test	Total
Pass	27	25	33	85
Fail	6	8	0	14
Total	33	33	33	99

Source- Field Survey, 2020.

The findings from Table 1 showed that eighty-five (85) students in the treatment group passed while only fourteen (14) failed. Now with a close look at the figures, twenty-seven (27) students were successful in the first test and six (6) of them failed. In the second test twenty-five (25) students passed the test while eight (8) students failed and in the final test, thirty-three (33) out of 33 students passed, and no students failed. The researcher also conducted the same questions for control group achievement tests every two weeks for six weeks and then the outcome was standardised like that of the treatment group. The findings appear in Table 2.

Table 2: Number of Students Passed/Failed the Tests in Control Group (Post-Test)

Grade	1st Test	2nd Test	3rd Test	Total
Pass	23	19	22	64
Fail	11	15	12	38
Total	34	34	34	102

Source- *Field Survey, 2020.*

As shown in Table 2, twenty three (23) students in the control group passed the preliminary examination whiles eleven (11) students failed. In total, nineteen (19) students passed the second test, and fifteen (15) students didn't. Twenty-two (22) students passed the third exam and only twelve (12) students failed.

Therefore, because the number of students who passed the exams in the treatment group was higher than that of the control group, it can be inferred that students in the treatment group performed better than students in the control group. This result is worth remembering because 100% in the treatment group passed the third test. No student failed the third test because using the audio-visual aids significantly stimulated their curiosity and comprehension of the lessons, which has in turn resulted in their 100% passing score. The researcher is of the view that, the more and longer students are taught with audio-visual aids, the higher and better their academic achievements. A careful look at the marks of

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the students in the treatment group indicate that they were higher and better than the marks of the students in the control group. It is important to say that the use of audio-visual aids has considerable effect on the students' academic achievement in Social Studies and there is a significant difference between the class performance of those taught with audio-visual aids and those taught without audio-visual aids. This research followed the results of Yusuf (2009) who found that visual aids aided student performance in the classroom.

Hypothesis One: There is no statistically significant difference between the mean scores of students taught with audio-visuals and those taught without the use of audio-visuals.

In testing hypothesis one a z-test: two samples for means were calculated using the scores of both the treatment and control groups to know where there was a difference between the mean scores of students taught with audio-visuals and those taught without the use of audio-visuals. The results generated are presented in Table 3. The assumptions underpining this Z-test were met. That is the assumptions of independent observations and sufficient sample size.

Table 3: Comparison of the post-test mean scores of the treatment and the control group

	Treatment Group	Control Group
Mean	63.7	16.7
Known Variance	226.7	15.6
Observations	33.0	34.0
Hypothesized Mean Difference	0.0	
Standard Deviation	15.06	3.95
Z	17.36	
P(Z<=z) one-tail	0.00	
z Critical one-tail	1.645	
P(Z<=z) two-tail	0.000	
z Critical two-tail	1.956	

Source- Field Survey, 2020.

From Tables 3, the mean scores for the treatment and control groups were 63.7 and 16.7, and the standard deviation was 15.06 and 3.95 respectively. Z-calculated value was 17.36, Z-critical value calculated was 1.956 at 0.05 level of significance. Since the Z-calculated value was greater than Z-critical value the null hypothesis can therefore be rejected. Better still, since the p value of 0.00 is less than the significant value 0.05, we refuse to consider the null hypothesis. Therefore, there is substantial difference between the mean grades of students taught with audio-visual aids and those taught without audio-visual aids.

VI. CONCLUSION

The results of the study indicate that the use of audio-visual aides in the classroom can significantly improve students' comprehension of academic concepts and knowledge, compared to classes taught without such aids. The use of audio-visual aides creates a more interactive and engaging learning environment that improves students' ability to retain information, resulting in higher academic achievement. However, the effectiveness of audio-visual aids in the classroom is contingent on a number of variables, including the quality of the aids, the teachers' proficiency in their use, and the students' motivation to learn. Teachers must be adequately trained to use and incorporate audio-visual aids into their teaching practices.

In conclusion, the study provides evidence to support the use of audio-visual aids in the classroom and emphasizes the need for instructors to adopt innovative instructional strategies to improve student academic performance.

RECOMMENDATION

The study recommended the following:

1. The training program ought to encompass the adequate selection and utilization of audio-visual aids, the suitable integration of these aids into instructional sessions, and tactics for effectively involving students with the aids.
2. In the realm of curriculum development, the incorporation of audio-visual aids is deemed imperative to enhance students' comprehension of academic concepts and knowledge. The integration process must be executed in a manner that guarantees the optimal and proficient utilization of the aids.
3. It is imperative for educational institutions to ensure the availability of requisite resources to facilitate the integration of audio-visual aids in pedagogy. This entails the provision of top-notch audio-visual equipment, such as projectors, screens, and other multimedia gadgets.
4. Collaboration among educators is crucial in sharing effective strategies for utilizing audio-visual aids in pedagogy and gaining insights from one another's experiences.

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