

Understanding the Utilization of Instructional Media in Training Health Professionals

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Abstract: *Instructional Media are the means for transmitting or delivering messages and in teaching-learning perspective delivering content to the learners, to achieve effective instruction. Media can be used effectively in formal situation where students are working independently or teacher is working with other group of students. Understanding the importance of effectively utilizing the Instructional Media in any teaching/learning process cannot be over emphasized. Instructional media enhance facilitation and make teaching/learning easy, lively and concrete. This paper is desktop research a review on: (1) types and classification of instructional media used in training health professionals. Eight types of instructional media generally used by the teachers, comprising: (a) students; (b) realia; (c) pictures; (d) course books; (e) boards; (f) Overhead projectors(OHP); (g) Flipcharts; (h) computer based. Each of them is used in various ways. (2) Uses of instructional media (material) (3) benefits of instructional media utilization. (4) Selection criteria for instructional media. (5) Steps in producing/selecting the visual media. (6) Advantages of using locally produced instructional materials. (7) Advantages of using instructional Media. (8) Challenges of using instructional media. (9) Challenges teachers face in both process of selecting and using instructional media. (10) Strategy used to solve the problems during selection process in utilizing available media.*

Keywords: *Instructional media, media utilization, media selection, problem solving of media utilization challenges*

I. Introduction

Understanding the effective utilization of instructional media has a direct relationship with acquisition of the relevant competencies. According to Man (2011), Reiser & Dick, 1996 indicated that effective instruction is —an instruction that enables students to acquire specified skills, knowledge, and attitudes (). In order to ensure an effective teaching learning process, it is important for the teacher to be thoroughly acquainted with the teaching resources and services available to him. The components of instructional materials/media available to teachers and students are in large numbers and also vary according to the functions of each of them (Olawale, 2013). Using appropriate instructional media is one of the key principles in creating effective instruction (Reiser & Dick, 1996). Instructional media itself is defined by Scanlan (n.d) as all materials that can be used by the teachers to conduct teaching learning activities and support students in reaching instructional objectives.

Educational technologists often employ the term *instructional media* to represent all of the devices that teachers and learners use to support learning. However, for many educators the terms *educational technology*, *instructional media*, and *instructional technology* are used interchangeably. This is for the fact that such materials enhance, facilitate and make teaching/learning easy, lively and concrete. Hence, it is not just the use of tools of technology alone but a systematic, integrated organization of machines hard wares and soft wares and man, teacher set to the solution of problems in education

Instructional media includes all the materials and substantial resources that an educator might use to implement instruction and facilitate students' achievement of instructional objectives. This may include traditional materials such as chalkboards, Printed material (hand-outs, books, and worksheets), display boards, charts, slides, overheads, real objects, and videotape or film, as well newer materials and methods such as computers, real objects or models, DVDs, CD-ROMs, interactive whiteboard, the Internet, and interactive video conferencing etc. It facilitates learning or increase understanding of material and enhances comprehension of the learners. There are advantages of using either commercially or locally produced media.

Amri et al (1993) and Ngatia, P, et al (2009) teaching aids/media are like a teacher; it is meant to facilitate learning. A teaching aid/media is not a miracle device; neither does it induce learning on its own. It has to be used properly and with discrimination.

II. Study Methodology

This paper is desktop research review on secondary data based on several articles on instructional media

3: Types of instructional media

There are several types of instructional media that can be used by teachers:

a. The students themselves



**Students training on each other*

The students are most useful resources in the classroom. By using the students themselves, teacher can do many things in the classroom.

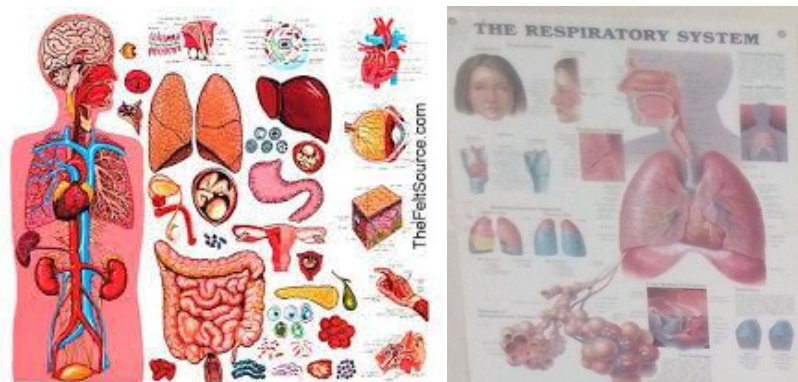
b. Realia



**Student Interviewing respondent in data collection and students in a learning session at skills lab*

Realia are objects and teaching preparations from the world outside the classroom that are used for teaching and learning. So, it can be inferred that realia is unmodified real things inside or outside the classroom which is used by the teacher for teaching learning process. Realia can be used as starting point to introduce the lesson and/or understanding concept of the material.

c. Pictures



Pictures or graphic materials refer to non-photographic and two dimensional materials which is utilized by the teachers to convey messages to the students. This kind of material includes drawings, charts, graphs, posters,

cartoon, etc. Pictures are utilized for several purposes. Pictures can be used for multiple ways comprising: (1) drilling, (2) communication, (3) understanding, (4) predicting (5), discussion

d. Course book



Course book is a form of print media. It contains material or verbal information through print. It can also be used as basic instructional guide by the teacher.

e. Boards



Boards can either be chalkboard/ blackboard, whiteboard and interactive whiteboard (IWB). Like pictures, boards also are used for several purposes. Harmer (2007) describes that teachers can use boards as (1) notepad, (2) explanation aid, (3) picture frame, (4) public workbook, (5) notice board

f. Overhead Projector (OHP)



Overhead projector is electronic device that enables the students to see in front of the class the material which is written or drawn in a transparent. The transparent will be projected to the screen by using projectors.

g. Flipcharts



Flipchart is an instructional media which contains big sheets of paper. It is mostly used to write down some important points in group discussion. Flipchart are portable, accessible, and easy to use.

h. Computer-based presentation technology



Computer-based instructional media has two vital components. They are hardware and software. The hardware needed for this instructional media are computer and LCD projector. This instructional media combine both audio and visual material. By using computer-based presentation technology it enable the teacher to convey much larger information to the students.

Farther classification of instructional media can be in different ways;

1. Print media, non-print media, electronic media
 - Print media include: books, journals, magazines, newspapers, workbook, textbooks
 - Non-print media include: projected and non-projected media
 - Electronic media include: Audio media, Visual media and Audio-Visual
2. Projected media & non-projected media by Amri et al (1993)
 - Projected media: they require light source for projection. E.g. film projector slides
 - Non-projected media: they do not require light source. They include 3dimensional objects, 2dimensional objects, prints, charts, models etc.
3. Audio, Visual, Audio-visual, Tactile, and olfactory media based on human senses
 - Audio media: this form of media carry sounds alone. E.g. audio tapes, record player,
 - Visual media: These are the ones that can be seen. E.g. TV, computer, white board
 - Audio-Visual: this term refers to those instructional materials which provide students with audio and visual experiences by appearing to the hearing and seeing senses at the same time. E.g. TV, video tapes, closed circuit television (CCTV).
4. Hardware and software
 - Hardware: this the classification of machines or equipment used in the instructional process. It is upon these gadgets that the software is transmitted. E.g. Television set, tape recorder etc.
 - Software: this classification consists of all materials used with the machine. They are the real carrier of knowledge or information. They include, films, tapes transparencies.

4: Uses of instructional media (material) in training health professionals

Properly designed instructional media can;

- i. Enhance and promote learning and support teacher-based instruction. Media is used to enhance the live instruction. The media is supplemental support of the instructor in the class room to enhance learning.

- ii. Allow for real-time interactive session between the instructor and the students. The distinguishing characteristic of distance education is the separation of teacher and student during the learning process. In such situation it includes delivery of content via Internet, intranet/extranet, audio and videotape, satellite, and CD-ROM.
- iii. Help students in acquisition of knowledge and ensures longer retention of the gained knowledge. Because it provides interactive learning environment due to which learning experiences becomes more meaningful and satisfying.
- iv. Easily motivates the learners because it enhances a multisensory interest and thereby learning becomes more immediate and productive.
- v. Give classroom instructions a more scientific base and enables teachers to transfer the knowledge in an organized way and more systematically.
- vi. Give appropriate teaching tools which help teachers to draw and fix the attention of students towards teaching. Attention and concentration betters students learning and improves classroom discipline.
- vii. Enhances comprehension skills and the clarity of communication can be greatly enhanced by using them.
- viii. Helps in stirring the imaginal, thinking process and the reasoning power of the students. Thus engage students and facilitate active learning strategies which promote deeper learning. For example, teaching with cases, cooperative learning, problem solving, and for giving more interactive lecture demonstrations.
- ix. Helps the teachers to save their time and energy. Since media can clarify the concepts easily, lots of time and energy can be saved by it. And opens students' greater scope for interactive learning and offers opportunities of individual learning.
- x. Stimulate interest in knowledge and allows the instructor to facilitate the transfer of expert knowledge to novice learners. Instructors can also create their own media to effectively and efficiently convey knowledge.
- xi. Involve a high degree of engagement; promotes individual learning, social interaction and immersion; and is highly customizable and collaborative once are student-created media (Yowell and Rhoten, 2009).
- xii. Instructional materials bring about improvement in the teaching/learning process as well as permit teachers and students to interact as human beings in a climate where people control their environment for their own best purposes

5: Benefits of utilizing the appropriate instructional media

Utilization of instructional materials/media has several benefits as;

- i. It enhances students' motivation e.g. showing pictures and having the students heard sound, the students give more attention to the teachers, and moreover, their curiosity is increasing towards the subject (Reiser & Dick, 1996).
- ii. Solve lack of experiences problem for the students; by enabling them with hands on experience e.g. palpating adult model (mannequin), bed side teaching, and skills lab demonstrations.
- iii. Enabling students to reach everything out of the class.
- iv. Creating direct interaction between the students and environment.

6: Selection Criteria for Instructional media

Any Instructional Media selected for training learners should;

- i. Support the stated faculty's educational goals and policies, and advancement of student literacy.
- ii. Support, enrich and extend the faculty's curriculum and to encourage informational, recreational reading, viewing and/or listening.
- iii. Consider to diverse user interests, abilities, backgrounds, cultures, languages, and maturity levels.
- iv. Be appropriate for the subject area, age, social development, ability levels, special needs, and learning styles of students.
- v. Represent to student various viewpoints on controversial issues in order to explore, analyze and make intelligent judgments.
- vi. consider practicality that is its availability, cost efficient and time efficient

7: Factors Guiding the Selection of Instructional Media

The medical teacher who is to use instructional materials should consider the following variables to guide in the selection of the types to be used in the training.

The instructional materials to be used should be:

1. **AVAILABILITY:** Easily available for use before the date of use. Be in store, and tested before the day of the lesson.
2. **ACCESSIBILITY:** Available and accessible. Be within reach of the teacher on the date and time of use. Not locked up in the store unreached.
3. **AFFORDABILITY:** Not expensive in cost. Be affordable within a budget for instructional materials.
4. **SUITABILITY:** Appropriate for the intended learning session. Suitable for their age, experience and intelligence. The materials' legal, safety and ethical aspects should equally be considered. E.g. the materials should not portray any anti-social attitude.
5. **SIMPLICITY:** Simple to operate or manipulate. Tested to ensure their workability before the actual date of use. There should not be any technical problem and where electricity is to be used provision should be made for an alternative power. The teacher should have hands on insight into the operation of the instructional materials.
6. **QUALITATIVE:** Of good quality. Teachers should avoid the idea of "managing" with poor quality materials because he might not achieve the desired aim.
7. **RECENCY:** The best or nearest to the best it should not be out of date. The instructional materials should reflect current and original thought.

8: Steps in locally producing/selecting visual media

- i. Select specific instructional objective. This must be based on the content of the syllabus/curriculum and lesson plan
- ii. Identify the learner' character; their need, interest, cultural/religious background and the weaknesses of the learners in the area of their psychological state of mind.
- iii. Determine the message to be carried by the visual. In conformity with above results in terms of content and context
- iv. Identify the medium to be used by the producer e.g., clay, paper, board, print, cut-outs, live objects among others, which are presumed to be available and accessible from the immediate environment
- v. Consider the cost of production, which must ordinarily be cheaper than the factory-produced items
- vi. Strictly adhered to 'golden rules' of production; clarity, legibility, simplicity, accuracy, durability, portability and manageability while producing.

9: Advantages of using locally produced instructional media in instruction

This is according to Abolade (2009) and Abolade and Olumori (2004) include:

- They are cheaper to produce or buy because the raw materials are locally sourced
- They can present objects and model in either 2 or 3-dimensional views through painting and crafts among others
- They can be used to teach large classes
- They encourage class participation since majority of the raw materials can be sourced by the students themselves
- They motivate learners through the participatory activities during production
- They also arouse the interests of the learners because they are made from raw materials they see daily in their immediate environment.
- They enhance the reputation of the institution by demonstrating its commitment to providing materials specifically for its students.
- They can be revised or adapted as needed since are produced within the institution, giving them greater flexibility than a commercial course book.

However there are also potential disadvantages:

- *Cost:* Quality materials take time to produce and need adequate staff time and resources to be allocated.
- *Quality:* Teacher-made materials will not normally have the same standard of design and production as commercial materials and hence may not present the same image as commercial materials.
- *Training:* Need adequate training to prepare teachers for materials writing projects, is a specialized skill and to have teachers capable of writing good materials.

10: The Advantages of using instructional Media in training Health professionals

- Instructional Media offers students both cognitive and affective experiences. They can provoke students' discussion
- Instructional media sources (films, videos, news stories) help students to develop quantitative reasoning. They can showcase on complex ideas in a short period of time.

- Instructional media sources help connect students with events that are culturally relevant. As a result, instructors must keep their materials and examples up-to-date.
- Instructional media (News stories) can be used to connect theories taught in the classroom with real world events and policies.

The Advantages of instructional Media for Students

When instructional media are effectively used students are enabled to:

- See the theories and concepts in action. Such as films, music helps students gain attention and maintain interest in the theories and concepts under discussion.
- Hone their analytical skills by analyzing media using the theories and concepts they are studying.
- See concepts and new examples when they are watching motions, listening to sound once used in the classroom.
- Experience worlds beyond their own, especially if the media are sharply different from their local environment.

11: The challenges of using instructional media in trainings

- Some instructional media's technological implementation process takes time to integrate with current faculty training systems.
- IM implementation process involves a lot of money, strength, and time. Need most of the schools to have enough resources to adapt new technology.
- Being a dynamic process that requires constant preparedness by teachers and educators. It needs many teachers, administrators and technicians to be well-prepared for new technologies.
- The instructional media development requires collaboration between Medical Education field, Research, industry and general public.
- The introduction of untested media resources for instruction
- Emergence of a large and often contrasting huge variety of media resources for instruction in Medical education. This development creates confusion in the development and use media resources.

12: Overcoming the challenges of using Instructional Media encountered by Teachers

- *Localizing*: For more effectiveness an activity in the book can be modified to reflect local issues and content discussed in the course book. This also involves adapting or supplementing or adding an activity to address the specific needs of a specific group of learners.
- *Modifying content*: Change content that does not suit the target learners, perhaps because of the learners' age, gender, social, occupation, religion or cultural background.
- *Reorganizing content*: A teacher may reorganize the syllabus of the book, and arrange the units in what she or he considers a more suitable order.
- *Budgetary allocation*. The training institutions should set budgetary allocations to fund procurement and construct the storage space for instructional media. Emphasising locally production.

III. Conclusion

This paper revealed that effective use of instructional media during teaching/learning can be enhanced to enable acquisition of taught and learnt knowledge, attitude and skills in an understandable way. Medical teachers should carefully select and integrate instructional media to ensure that student develop the right attitude toward content. This will enhance classroom interaction between the medical teacher and students by making teaching/learning easy, lively and concrete. Understanding the instructional media would also promote medical teachers' efficiency in the design, production and handling of media. Effective used media by medical teachers, can make students' attitude more positive, encourage their self-motivation, demonstrate associated factors and ideas, highlight specific topics and concepts, encourage relevance and credibility, and enhance understanding. Usage of media is supported by theories of learning and innovative approaches into teaching and learning.

IV. Recommendation

1. Health training institutions should organize Workshops and seminars from time to time for medical teachers where they are trained on how to produce and use instructional material effectively for training.
2. Health training institutions should establish Resources centres that are well equipped and accessible with instructional materials within the Schools.
3. Health training institutions should establish Resources centres with various instructional materials that are very vital to achieve high academic performance, while medical teachers should make efforts to improvise some of these materials.

4. Government and other partners should provide assistance to motivate and encourage production of locally made instructional media that are cheaper and better quality media by medical teacher at relevant faculties.
5. Health training institutions should provide storage space for instructional media that are manned by media technologists.

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