INSTRUCTIONAL MEDIA MATERIALS (IMM): PANACEA FOR EFFECTIVE INSTRUCTION IN PRIMARY SCHOOLS IN NIGERIA

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Abstract

Primary school is the foundation of formal education system anywhere in the world. This makes it imperative for all stakeholders in education to pay close attention to primary school. The pupils at this level are human beings in their own class due to observable characters found in them, these pupils behave in a very funny way and develop interest in things that they see and do. There is therefore a need for them to be taught using facilities equipment and materials that can sustain their attention which is short spanned, instructional media materials are considered panacea to this effect. In this paper, the concept, principle of content selection and utilization of instructional materials were discussed in connection to their effects in instructional process in the school system. Also discussed were the constraints and possible solutions to instructional materials in the teaching and learning in Nigeria.

Introduction

Teaching has been said to be complex, demanding and tasking, it places the teacher in a situation where the teacher is expected to bring about an improvement in the life of the learners before him, and this is a herculean task (Asiabaka & Emenalo 2011). The task of improvement in learners becomes more complex when one is dealing with little pupils at the primary school level who are by nature very tender and gullible. Durasaro (2000) stated that primary education which refers to the education which children receive within the age bracket of six and twelve is the foundation level of the educational system anywhere in the world. Durasaro (2000) made it clear that primary school level is the spring board from which other levels of education take-off. Primary education plays fundamental role in the molding of an individual, it is the first notable place for the child's intellectual advancement outside the home.

To achieve functional primary education in Nigeria, the Federal Republic of Nigeria in the National Policy on Education (2013) sets the aims of primary education among others to include, to inculcate permanent literacy and numeracy and ability to communicate effectively; lay a sound basis for scientific and reflective thinking; give the child opportunities for developing manipulative skills that will enable him function effectively in the society within the limit of his capacity and provide the child with basic tools for further educational advancement including preparation for trades and craft at the locality. Consequently, the overriding aim of primary level of education and indeed at the higher level is the production of the total persons that can live and also join in improving the society, hence the need to establish or build a very strong and enduring foundation at primary level of education.

Consequent upon the foregoing, Nsofor (2010) noted that excellent education policies are indeed useless unless there are equally excellent measures to see to their realization. In continuation, Nsofor added that it is not enough for the teacher to prepare and plan his lesson, what matters most is for him to be able to present it to the class in order to sustain the learners' interest and bring about effective teaching and learning. To achieve the above stated in instructional actives, Mangal and Mangal (2013) remarked that it is important that teachers should use varieties of instructional media materials. Instructional media materials are powerful weapon for effective teaching and learning if the right types are used and at the right time. They have the potentials to change the status of learners from passive listeners to active thinkers and participants in the process of teaching and learning. Meaningful and effective teaching and learning can hardly take place if the classroom is deprived of instructional materials (Kankaaranta 2005). This is why many scholars of educational technology now lay emphasis on the acquisition and utilization of instructional media materials in order to enhance smooth running of classroom lessons and promote school education system at all levels.

Instructional Media Materials: The Concept

Instructional media materials are projected and non-projected information carrying technologies that constitute an integral part of the instructional process used for the dissemination of educational information very quickly, widely and effectively (Nsofor, 2010). Some of the wide ranging instructional media materials that could be used for instruction in schools are non-projected two and three dimensional materials (charts, diagrams, models and other) and projected media materials (film strips, audio-tapes, video CD and DVD and others).

Adewoyin (1991) opined that instructional media material as information carriers are generally characterized by the following points:

- Some are audio in nature (radio, microphone), some are visual in nature (models, charts) yet, others are audio-visual in nature (films, video-tape, and television).
- Some are big (television, computer assisted instruction) and some are small (models, charts, films).
- Some are static (pictures, maps) while some are dynamic (motion films and television).
- Some are in the realm of mass media (radio, press and television).
- Some are locally designed and produced while others are commercially produced

When these media are used for instructional purposes, they are called instructional or education materials (Adewoyin, 1991). In the vein, Nsofor (2010) described instructional media as all those devices such as man, machines and materials which can be used by educators to present a complete body of information in teaching and learning process for effective instruction. Adewoyin (1991) finally summarized some of the values of instructional materials in these words:

➢ They increase rate of learning, retention and recall of whatever is seen and manipulated, and save teachers precious time which can be used for other gainful activities.
➢ With instructional materials, learning becomes real, concrete and immediate. They add audio and visual dimension to learning. They broaden knowledge, increase level of understanding and discourage rote-learning.
➢ They help to individualize instruction, thus enable students to learn at their own pace and time.
➢ They make education equal to all varying degrees of learners.
➢ They help in focusing attention and in motivating learners.
➢ They lend support, authority or authenticity to whatever the teachers says.
➢ They provide experience that may not otherwise be available to learners.
➢ They help in clarifying complex events or situations and in magnifying or reducing objects.
➢ Instructional media materials help to educate more people in less time.

Instructional media materials could be classified into various categories or systems, for ease of selection and application. Abimbade (1997) had attempted a taxonomy that put instructional media into these three classes; print media, non-print media and electronic media. The classification is summarized in fig I.
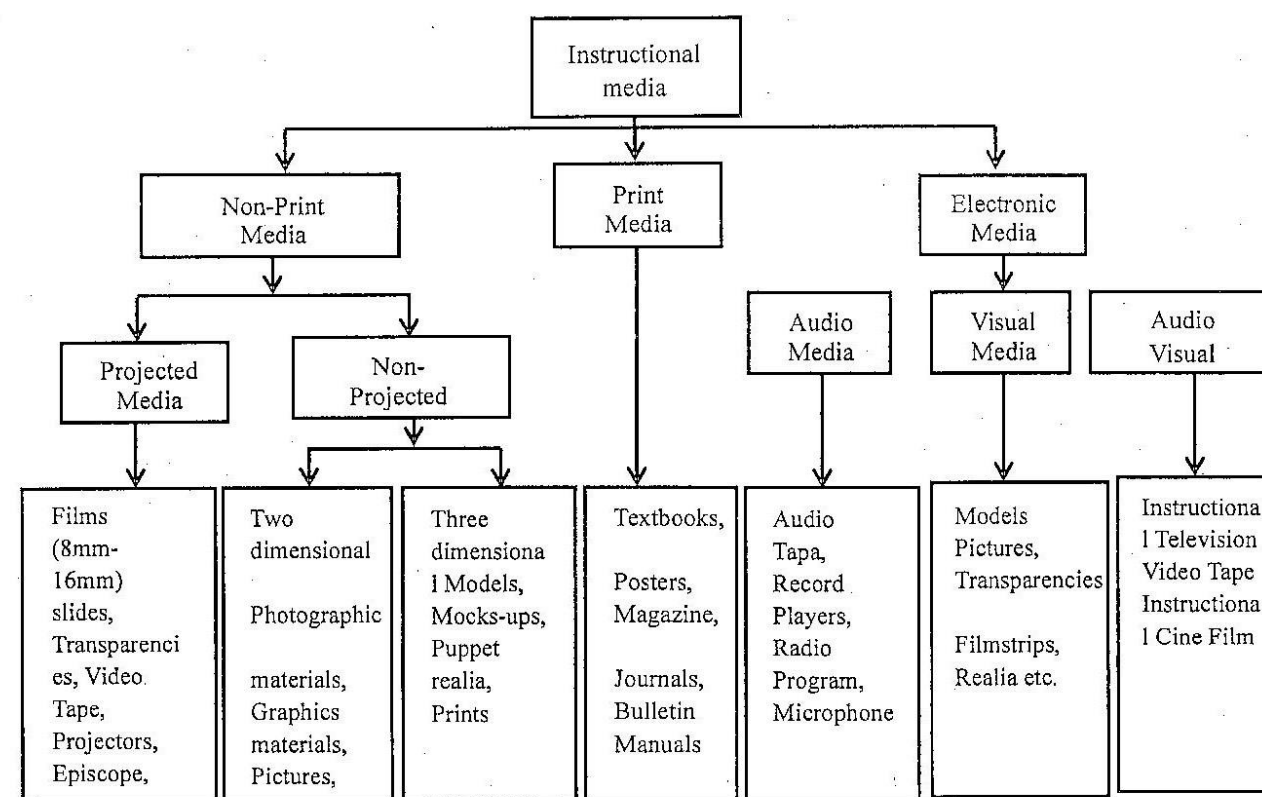

Fig 1. Classification of Instructional materials Source Abimbade 1997:46

From the above fig.1,

1 Print media refers to such items as books, posters, magazines just to mention but a few which avail the learners with avenues of acquiring facts, information, knowledge, skills, principles and encouragement.

2 Non-print media are the materials (consumables/softwares) and the machines, equipment, tools or gadgets (hardware) that carry and transmit the instructional contents. They are further classified into projected media and non-projected media.

2a Projected media are the materials containing information which can be projected on the screen via electricity e.g. films, slides, film-strips, transparencies, using their projectors.

2b Non-projected media are materials that need no projection, they do not require light source. This class includes two dimensional and three dimensional objects. Two dimensional media are easily described by reference to their length and breadth only. They are mostly representative, for example, photographic and graphic material; flat picture, diagrams, and inscriptions on chalkboard. There dimensional media are described by their natural forms, which include the measurement of length, breadth or height, for example model, mock-ups, puppet, realia and others.

3 Electronic media are information carrying devices which can be used for disseminating information. They may be small or big; this group is further classified into audio media, visual media and audio-visual media.

3a Audio media are teaching and learning devices that carry sound alone and mostly appeal to the sense of hearing. For example audiotapes, record players, recording from radio programs, microphone and human voice.

3b Visual media are teaching and learning devices that can be seen alone and mostly appeal to the sense of sight. Examples include pictorial ones and three dimensional objects. They can be projected and non-projected visuals.

3c Audio-visual media are teaching and learning devices that combine sound and vision. They

provide students with audio and visual experiences by appealing to the senses of sight and hearing at the same time, for example videotape instruction, instructional television and cine films. For effective instruction, all these instructional media materials should be carefully selected and utilized.

Principles of Instruction Media Material's Selection and Utilization

The selection and utilization of instructional material is a formidable task for the teacher. So the wise choice of appropriate instructional material by the teacher determines to a large extent the success of the students in fulfilling the instructional objectives. Therefore, the teacher being the principal actor must select the most appropriate media for instructional activities and also decide exactly what media materials to be used in a particular situation. To facilitate better judgment therefore, the teacher must develop professional attitudes towards selection and intelligent application to instructional situation. However, Essien (2001) noted that owing to the wide variety of instructional materials and composites capabilities, difficulties often arise as to which one to select or produced for use. Continuing, Essien remarked that more often than not, it is intuition and subjectivity that form the basis of decisions about instructional materials selection or production. To this effect, it should be made clear that media selection should be analytical rather than intuitive. Akudolu (2002) emphasized that a medium of instruction must be selected on the basis of its potentials for implementing stated objectives. This implies that for any instructional media to be properly selected, the objective is the reference point. The teacher should not be biased or subjective; he should not choose a particular medium because of his personal interest in it even though it cannot serve the objectives of the lesson.

Adewoyin (1991) suggested that availability of media scale of preference and experience of users along with the size and content of instruction should constitute intrinsic consideration in media selection decisions. In summary, Adewoyin (1991) outlined the following as factors to be considered when selecting instructional materials:

1. He maintained that teachers' instructional objectives which could be cognitive, affirmative and psychomotor in nature should be considered. He suggested the selection of audio media where the objective is cognitive and audio visual if it is affirmative or psychomotor.
2. Availability; Adewoyin clarified that before any form of media is selected, the teacher must ascertain whether such media exist or not. If not available, the teacher must be sure whether it could be borrowed or improvised. If not sure, it should not be selected.
3. Target audience characteristics; the age, level, interest and the background of learners should be taken into consideration when selection is being made of any media material.
4. Teachers' capability; the teacher must ensure that he/she is capable of utilizing effectively the form of media he wants to select.
5. Cost; financial implications of whatever media to be selected should be considered. Thus issues of availability of adequate fund for procurement and cost effectiveness for production should be settled before selection is made.
6. Dynamic factors; these factors include the concentration and size of target audience, the desire level of learners' participation and available. They should be taken into consideration when selecting instructional materials for use.

The selection, production and utilization of instructional materials are interrelated, but Akanbi (1993) noted that the availability of good, selected and produced media does not guarantee a successful utilization. Akanbi (1993) made it clear that effective utilization of media requires that the teacher must be physically, mentally and psychologically fit to carry out he/her job. He must know the procedure of operating the media material selected or produced.

As an aid to instructional media utilization, Adewoyin (1991) and Akanbi (1993) gave the following hints:

o The teacher has to prepare the environment ready; this would involve an advance visit to the classroom or hall where the media would be used. This enables the teacher to check for adequate ventilation, electrical plug outlet and any other needs.

o He has to prepare the class; students must be well arranged, well seated and free from all hindrances.

o The hardware has to be checked to ensure its proper functioning. The display height for non-project media must be such that students at the back row of the classroom can pick the details in the picture. The source of light must be directed to the media. A preview of the software for projected media is also very important. This is to ensure a proper sequencing of objectives, learners' activities, and assignment of time for the use of the software within the class period.

o The teacher must ensure effective and judicious use of media by establishing relationships between oral delivery, media delivery, and other activities so that the learners would have a meaningful holistic experience rather than disjoined array of activities. Media can also be used at any time (beginning, middle) during instruction to introduce the lesson, clarify misconceptions, pass and explain information, widen student's horizon and to summarize the topic.

o The teacher should ensure that there is evaluation at the end of the lesson on the effectiveness of the media in relation to the instructional objective. This will lead to necessary modification.

The Place of Instructional Materials in the Teaching and Learning in Primary School

The importance of instructional media cannot be overemphasized. Obinwu and Azubike (1994) discovered that people generally remember: 10% of what they read; 20% of what they hear; 30% of what they see; 50% of what they see & hear; 70% of what they say; and 90; of what they see, say and hear as they do a thing. Umeoduagu (2000) emphasized that for effective instructional processes, emphasis should be more on those media materials that appeal to more than one sense of perception. This remark is based on the fact that learning experiences, which evoke the involvement of as many sense organs as possible enable the teacher to convey meaningful information to the learners and stimulate students to receive and process all the necessary information for the development of cognitive, affective and psychomotor skills. This is hinged on the fact that learning through the use of instructional materials is the key to acquisition of knowledge.

When a student is instructed verbally there is the tendency to forget, but knowledge that is visualized, involving more than one sense of perception aids remembrance. Instructional Media materials have the potentials to evoke the involvement of as many sense organs as possible in the teaching and learning process. This stimulates the learners to receive and process all the necessary information thereby enhancing achievement. Also, the use of instructional media materials introduces variety into the learning process and enables the teacher to convey meaningful information to the learners. In this case, students' interest is stimulated, aroused and sustained for meaningful learning.

The enhancing effects of instructional materials on teaching and learning could be explained from psychological point of view. According to the Gestalt psychologist, perception is the foundation of learning irrespective of age. Thus learning comes as a result of insight and perceptual organization. In the teaching and learning of any concept, better and clearer perception and insight occur when the instructional process is enriched with instructional media materials. This implies that the clearer the perception of an object, topic or concept, the better it can be understood and remembered by learners. Also, Gestalt psychologist explained that

meaningfulness; completeness, relative simplicity and good pattern usually characterized any teaching and learning process. Thus the use of instructional materials provide favorable learning atmosphere for the learners, stimulates thinking, summarizes, demonstrates and concertizes knowledge that could otherwise only be talked about in abstract terms.

Instructional material is a vital key to assimilation of knowledge, when instructions are heard and visualized, they seek to arouse interest, clarify concepts, modify altitude and possess the capacity to enhance quality learning. Finally the knowledge is easily registered in the individual memory bank. The enhancing effects of instructional material could be explained from the fact that optimum effectiveness in the teaching and learning of any task would occur only when instructional media material would have motivated, stimulated, captured the interest of students irrespective of ability levels and spurred curiosity and eagerness among them to learn and remember what is learnt. This will consequently culminate in enhanced performance. Instructional media facilitate the teaching and learning process in classroom setting, without an intelligent use of instructional media by teachers, the quality of instruction rendered is likely to be poor. Thus, when quality is lacking, it is likely to affect the academic performance of students, this assumption holds true for all disciplines. Consequently, Adeniran (2002) and Nsofor (2010) echoed the need for teachers to bring the world into the classroom through the use of instructional materials.

Teaching involves teacher's competence in the use of instructional materials. Optimum performance in the learning task would occur only when appropriate instructional media are employed. The use of these media would spur curiosity and eagerness among students to master performance skills. Essien (2001) believed that instruction should be channeled towards a specific goal. Teachers should endeavor to deliver their lesson using the most appropriate teaching materials which will motivate, stimulate and capture the interest of their students to learn and remember- what is learnt and put into practice the learnt skills. Nneji (2000) clarified that instructional material possess the capacity to enhance quality learning, seeks to arouse interest, modifying attitude, clarify concepts, and serves as a spring-board for further learning. Instructional material also breaks the old traditional learning technique, to bring about better-motivated learning. Still on the efficacy of Instructional materials, Nneji (2000) stated that when they are used to compliment instruction, they can:
- (a) Reduce abstractions in class lesson;
- (b) Reduce boredom among students and teacher;
- (c) Conserve the teacher's energy;
- (d) Allow leaning autonomy among students,
- (e) Restructure the learning environment;
- (f) Make learning interesting and motivating to students;

There is therefore the need for instructional material to be available in schools and colleges in Nigeria so that pupils/students could play and interact with them. They should know how to handle any media and operate any equipment if any concept is to be fully internalized by them. Instructional materials provide the teacher with means of extending students' horizon of experiences hence Salawu and Taiwo (2001) stressed the need for teachers to produce and utilize various resources (Films, slides, transparencies, globes and maps, models, video package, realia and others) to enhance clarity of communication and to increase speed of comprehension.

Instructional Materials in the Teaching and Learning in Nigeria: Constraints and the Way Forward
As important as instructional media materials are, it has been widely reported by a growing body of research that the foreign version of instructional materials are not available in most Nigerian schools, also locally improvised types are not also readily available; (Thomas, 2004 & Nsofor,

2010). Consequently, one of the commons problems in our schools today is that students learn and forget due to too many theoretical expressions by the teachers to the pupils/students who are passive listeners. According to Martins and Oyebanji (2000), this situation in the school system has made the teaching and learning to be boring, uninteresting, and even meaningless to most students. These students in turn develop phobia while nursing the impression that education is meant for a gifted few with special mental ability. This situation has further enhanced the undesirable existence of a preponderant class majority of mere on-lookers learning about concepts and not learning any concepts as evidenced in poor performance of students in science subjects (Nsofor, 2010). Consequently the product of the educational system in Nigerian usually constitutes a generation of graduates who are not committed and who cannot reason critically or analytically and so cannot transfer what is learnt in the classroom to a new but similar situation (Nwosu 2000). Based on these facts, Abdullah (2003) pointed out that the need for change is inevitable and teachers in this technological age need to strive to meet up with new innovations. Teachers are supposed to be innovative, creative and resourceful in order to meet up with the challenges of effectiveness in educational processes.

Based on the foregoing, Nwosu (2000) warned that teachers should not use the absence/inadequacy of instructional media as an excuse to resort to poor teaching and learning, instead they should resort to improvisation as an alternative approach towards keeping teaching and learning afloat and meaningful during such a difficult time. Therefore, as a step towards addressing these abnormalities and the inadequacies, improvisation of instructional materials in schools becomes a 'sine-qua-non' in addition to knowing what to select and/or how to select instructional materials. Agun and Imogie (1998) emphasized that in Nigeria a teacher who is concerned with and about the quality of his/her classroom instruction may have to improvise much of the media materials needed.

Improvisation is the act of using local materials obtained from the local environment, designed by either the teacher or with the help of local personnel to enhance instruction (Nwosu, 2000). Improvisation could also be referred to as the act of using alternative materials or resources to facilitate instruction whenever there is lack or shortage of some commercially produced instructional teaching materials (Nsofor 2010). However in the act of improvisation, Araromi (1998) cautioned that improvised instructional materials must necessarily serve the purpose for which it is intended, it should not just be provision of a piece of media as a substitute for what is not available. Nwosu (2000) remarked that improvisation should be an important and integral part of teaching and learning process despite the technical and human constraints. Improvisation makes one to use self made equipment and materials made to one's specification.

Recommendations
- (a) It is herby recommended that the government, educational administrators and schools principals should afford the teacher opportunity for in-service training, conferences and others in order to acquire needed skills on improvisation, operation, simple repairs and maintenance of educational technology media materials.
- (b) As a developing country suffering lack of equipment and high tariff on importation, we cannot fold our hands and remain dependent, the state, local and federal government should fund adequately all schools, providing in schools adequate supply of necessary personnel and incentives that will provoke exhibition of creativity among teachers researchers and students.
- (c) Efforts should be made by school administration to allocate part of the resources available to providing necessary and affordable materials for their instrumental purposes.

Conclusion:
That instructional material is a 'sine qua non' in the teaching/learning process is no longer in

dispute. This paper re-emphasized the need for teachers to always enrich the teaching-learning process with instructional media material; this would encourage head, hand and heart co-ordination and promote harmonious interaction between learners and the materials to be learnt. This is turn would relieve passivity, monotony, excessive verbalism, thereby preventing instructional process to be carried out in manner that produces in the mind of learners a feeling of boredom and distaste for education.

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