Educational Technology as a Key to Effective Lesson Delivery

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Abstract: *This paper is on the relevance of educational technology in ensuring effective lesson delivery. This was necessitated by the belief that high degree of teacher's expertise is quite inevitable in the process of presenting his subject matter. It is in view of this that this paper discusses some of the ingredients that make for effective delivery of a lesson. It examines the need for adequate planning for the lesson, selection of appropriate instructional materials and strategies, effective classroom management and the need for arousing and sustaining the learners' interest through the lesson. From the planning to the evaluation stage of a lesson, the paper attempts to highlight the relevance of educational technology in making a success of any meaningful lesson delivery.*

Key words: *Educational Technology, Planning, Class management, Evaluation.*

Introduction

The nature of learning and the wide range of learners' abilities in the average classroom together with an increasing demand on the teacher by the learners in particular and the society in general necessitate a high degree of teacher's expertise in the process of presenting his subject matter. To live up to expectation, the teacher needs to be competent in his area with adequate professional training and make effective use of these to promote effectiveness and efficiency in his lesson delivery.

Effective instruction or teaching is that which stimulates and inspires the learners into attaining the desired instructional/lesson objectives, maintaining positive attitude and using the knowledge and skills gained in solving problems in new situations (Owuamanam, 2016.p.88). Therefore, teaching effectively demands that the teacher himself must possess some basic qualities like adequate knowledge of subject matter, abilities to set and pursue desirable instructional objectives, competency in lesson preparation, presentation and evaluation. In addition, he must be able to motivate his students and possess the ability to organize, coordinate and utilize personnel materials and facilities in and around the class to promote and enhance efficiency and effectiveness in instruction. For a meaningful and successful delivery of his lesson, he needs adequate knowledge and application of educational technology.

Educational technology is the application of the small step-by-step programmed learning approach of breaking tasks into simpler parts to the process of improving education as a whole and particularly in the process of teaching and learning (Owuamanam, 2016, p.89). The Association for Educational Communication and Technology in Owuamanam (2016, p.89)

defines educational technology as "a complex integrated process involving people, procedures, ideas, devices and organization for analyzing problems and devising, implementing, evaluation and managing solutions to those problems involved in all aspects of human learning".

These definitions point to the fact that educational technology is more than just teaching materials or strategies for effective leaning but concerns all it takes for effective lesson delivery. At this point, some relevant questions may be asked:

1) What is Educational Technology?
2) How can educational technology contribute to effective lesson delivery?
   The rest of this paper will attempt to provide answers to these questions.

Educational Technology

Educational technology is an area of study in education that adopted the small step-by-step programmed learning approach during the mid 1960s for the effective handling of educational problems especially instructional and learning problems. The step-by-step programmed learning approach is also known by other names such as step-by-step plan, systems analysis, systematic approach and systems technology. Educational technology therefore is the application of the small step-by-step programmed learning approach of breaking complex tasks into simpler parts to the process of improving education as a whole and particularly in the process of teaching and learning.

According to the Association for Educational Communications and Technology (AECT) in Iwu, Ike and Chimezie (2006, p.43), Educational technology is "a complex integrated process involving people, procedure, ideas, devices and organization for analyzing problems and devising, implementing, evaluating and managing solutions to those problems involved in all aspects of human learning".

Educational technology could be defined as the efficient organization of any learning system, adapting or adopting methods, processes and products to serve identified educational goals (Publish your articles, 2016). This would involve:

- Systematic identification of goals of education, taking into account nationwide needs (higher scalability, for instance), the system capabilities and the learners' needs and potentials.
- Recognition of the diversity of learners' needs, the contexts in which learning will take place, and the range of provisions needed for them.
- Recognition of not only the immediate needs of children but also their future needs in relation to this society for which we are preparing them.
- Designing, providing for and enabling appropriate teaching-learning systems that could realize the identified goals.
- Developing a range of support systems and training, creating the enabling systemic conditions/materials, reaching these to the school system and training teachers and students to use them.
- Research into existing and new techniques, strategies and technologies for solving problems of education, enabling judicious and appropriate application of technology.

- Appreciation of the role of educational technology as an agent of change in the classroom, influencing the teacher and the teaching-learning process and its role in systemic issues like equity and quality.

Finally, educational technology is not the same thing as instruction, education or learning but a sum total of all such aspects which go a long way in shaping the personality of the learner in a meaningful context.

Relevance of Educational technology in ensuring effective lesson delivery

All above definitions of educational technology point to the fact that it is not the same thing as instruction, education or learning but a sum total of all such aspects which go a long way in shaping the personality of the learner in a meaningful context. The word "effective" means having effect or producing the intended result. Effective lesson delivery is therefore that which stimulates and inspires the learners into attaining the desired instructional lesson objectives, maintaining positive attitude and using the knowledge and skills gained in solving problems in new situations. Effective lesson delivery contributes to the individual's understanding, helps to improve his abilities and develops in him more desirable attitudes.

This paper examines the aspects of educational technology that ensure effective lesson delivery. These include:

a) Adequate planning of the lesson,
b) Presentation of the lesson,
c) Class management, and
d) Evaluation.

From the planning to the evaluation stage of a lesson, the place of educational technology in lesson delivery is highlighted.

Planning

Lesson planning is the key to successful teaching and learning and teacher who overlooks it is likely to kill the time of his students, their interests and motivation and consequently aid and abet malpractices in examination and falling standard of education (Ndubisi, 1981, p.71). There are three stages in the planning process. First is the syllabus which considers the board outline of the course to be covered and breaks it into terms of the year. The second is the scheme of work which contains a break-down of the topics to be taught into different parts that can be managed in one or more lessons. The third is the final and most detailed stage of lesson preparation called lesson plan.

Lesson plan allows for orderly presentation of the lesson. It also involves pre-thinking that enhances the confidence of the teacher during actual presentation and makes it easy to check the level of attainment of students (Abimade, 1999, p.78). The lesson plan, among other things contains well stated behavioural objectives, instructional materials and strategies/procedures for attaining and assessing the objectives. At planning stage, after formulating the desired instructional objectives, the teacher needs to select appropriate and

relevant resources and strategies.

Statement of Behavioural objectives: The first major job in lesson planning is specifying the objectives of the lesson. Onyejemezi (1990, p. 85) defines objectives in the context of educational technology as "a specified or set out intent". That is what we intend to achieve by solving problem or what our students will be able to do after studying a unit. In teaching and learning activities, the observable changes in the behaviour of learners resulting from teaching or exposure to a course is known as behavioural objectives. Precise objectives or behavioural objectives are the educational technology type of objectives (Onyejemezi, 1990, 85). The objectives should be decided in the light of the method of teaching to be adopted and the resources or facilities available (Onwuka and Onyike, 1996, p.435). Specified objectives serve the following purposes:

- A specified objective helps the teacher to have a clearer understanding of the lesson he is preparing to teach.
- This understanding guides the teacher in selection and arrangement of the content, materials, methods and activities.
- Specifying objectives is the first step in evaluation. It helps the teacher to select appropriate ways of checking or testing to find out whether the students have acquired the specified knowledge or can perform the actions indicated in the objectives.
- Specifying objectives concentrates attention on the learners' needs rather than on the teachers' to ensure that the learners gain from the activities (Onyejemezi, 1990, p.88).

Media selection: The teacher as a facilitator and coordinator of the teaching/learning process has an array of instructional materials to select from in preparing for his lesson. Onyejemezi (1990, p.124) classified media according to their application to the two main senses as knowledge is mainly gained through them. These are sense of sight and hearing. Educational media are thus classified as visual, audio and audiovisual materials. These materials include apparatus, chemicals, textbooks, charts audio-visual materials and models.

Decision about media selection at the planning stage is very necessary for it will increase the possibility of selecting and subsequent use of appropriate media to assist in the achievement of the objectives of the lesson. It will also provide opportunity for the teacher to consider and decide on how media can best be integrated with the strategies that will be used for effective lesson delivery.

Selection of instructional strategies: For effective presentation of a lesson, a teacher with adequate knowledge of his subject matter needs to equip himself with a variety of teaching strategies and methods and select the relevant and appropriate ones at the planning stage. By strategy, it is meant the teachers approach to using information, selecting resources and defining the role of the learners in a systematic manner (Agun and Imogie, 1988, p.68). Instructional strategies can be classified into two categories namely expository and inquiry approaches.

In expositor approach, the teacher becomes the immediate source of information while the remote sources of information are textbooks and other reference materials. The most

frequent used strategy in expository approach is the lecture method. The inquiry approach provides the basis of building the required interaction into teaching thus making for instruction through the scientific discovery process. In this approach, the teacher assumes the role of a facilitator of learning experiences. The teacher also serves as a resource-linker to the students (Agun & Imogie 1988, p.70).

In general, the teacher-instructional designer should try to remember that in planning for teaching; both the expository and inquiry approaches are complementary. Some of the major strategies available for the teacher's use in presenting his lesson include: lecture, Discussion, Field trip, Problem-solving/Critical thinking, Question and Answer, Project method, Simulation, Group demonstration and so on.

Strategies are tools in the teacher's hand and not masters. No one technique is better than another, but one technique may be superior to others for a specific goal. The selection of a particular technique depends on the teaching objectives, the subject, topic and other learning variables. Sometimes, a variety or a combination of techniques may be employed to reach an objective. Therefore, as soon as an instructional objectives is set the next rational thing the teacher does is to select those teaching strategies and tactics he considers most effective in helping the students attain the stated objectives. In essence, strategies selected must be in line with media selected for they are to complement one another to make a meaningful lesson presentation.

To be able to select appropriate instructional media and integrate these with appropriate strategies selected requires some knowledge of educational technology to put the knowledge into practice.

Lesson presentation

This is the way and manner in which the teacher presents new materials (including the vital decisions he takes in the course of the presentation) which he thinks will result in the expected changes in pupil behaviour called learning. The teacher presents the materials he has for the class in an orderly manner, step-by-step and from simple to the complex. Starting from the introduction of the lesson, the teacher should introduce varieties of activities to arouse students' interest. Bearing in mind that students learn more when they are actively involved and that teaching is not a one-way affair in which the teacher alone talks while the students passively sit and listen. Learners' interest in the lesson may be aroused by telling or reading an exciting story, looking up facts, comparing and contrasting ideas, recounting his (teacher's) own experiences and presenting an attractive bulletin board display and showing films.

The knowledge and application of educational technology would help the teacher to communicate effectively in the lesson presentation bearing in mind the process, principles and strategies for effective communication. On the part of the teacher, he is suppose, to have a good command of language for effective presentation of the lesson with simple and clear language adequately adjusted to the students level and population. The teacher must make use of questions as a teaching technique. He must ask questions that will stimulate pupils and make them think. The teacher's ability to raise thought-provoking questions is the key to successful lesson delivery (Onwuka, 1996, p.418).

For every lesson that is well planned, the teacher includes a number of relevant and suitable instructional materials to ensure effective delivery of the lesson. When it comes to presentation, the materials must be used at the most appropriate time. In using the materials, care should be taken that students attention are not diverted away from the concepts being developed instead emphasis should be laid on relevant features of the materials. In the same vein, adequate use of relevant instructional materials could save a lot of time and efforts in the class. Good classroom management affords the teacher the opportunity to be in good control of the class and thereby reduces time wastage in the class.

Class management
Management is the function that coordinates the efforts of people to accomplish goals and objectives by using available resources efficiently and effectively (Nwankwor, 2018, p.27). Therefore, classroom management is the integration and effective use of the teacher's knowledge of the learner, various methodologies and the subject matter. When the teacher combines all these basic qualities in him, he will be able to achieve the objectives and also maintain classroom discipline (Ezeocha, 1990, p.14). Teaching generally demands more skills in classroom management than instruction on guiding of learning.

In presenting a lesson the teacher usually spends a large amount of his time and efforts with the management of his class. He does this to create conducive conditions for learning. The teacher therefore is a classroom manager, he manages personnel and materials. The teacher needs to manage the instructional materials as well as facilities provided in the school to bring about conducive classroom environment which makes learning easier and more beneficial. He manages materials like instructional materials, the curriculum, time table, desks, chair, shelves and so on. Efficient management of these materials and facilities with lighting and ventilation of the classroom goes a long way in providing for the comfort, health and psychological state of the learners which in turn determine to a great extent their level of readiness, interest and motivation to learn.

Among the personnel he manages are the resource persons and the learners. To greater extent personnel especially the learners are more difficult to manage-to get to work together for some purpose-than the materials needed or provided. The teacher's success in this task of human management depends much on his conception and assumption about the nature of the learners. For effective classroom management, the teachers need to consider the desires, interests, knowledge and individual differences of the learners; in addition he does not place himself too high above them.

Successful management requires active involvement of the people concerned in decision making. In addition, the teacher should exhibit the characteristics of a good and a successful teacher such as friendliness, sympathy, empathy, neatness, punctuality and cheerfulness. These qualities of the teacher may help to inspire the students to do a good job of studying harder (Ezeocha, 1996, p.16).

From the foregoing analysis, the role of educational technology in classroom management cannot be over emphasized. Most of the things the teacher needs to manage in his classroom for effective learning (beside the learners) are instructional materials. These

could only be properly managed to promote learning by someone who knows the importance, use and care for the materials.

Evaluation

Evaluation as an integral and essential part of teaching-learning process is a continuous process which starts with a lesson, continues as the lesson progresses and also takes place at the end of the lesson. According to Onyejemezi (1990, p.89), evaluation "is the process of finding out the extent to which the educational objectives are being achieved through various programmes of studies, curriculum content and teaching". Evaluation tries to identify effects (through assessment or measurement of results) of the different things or contributing factors that are considered for the achievement of the objectives. It also involves some elements of value judgments above the established facts.

Evaluation is of two types namely: formative evaluation and summative evaluation when evaluation is carried out during the process of lesson delivery, it is formative evaluation. The main purpose is to improve the activity continuously and at the different stages or steps in order to produce an effective teaching. When it is carried out at the end of teaching activities, it is called summative evaluation. This allows the educational activity to complete its cycle or to be operated for a specified period or to the end before it is evaluated. The main objective is to find out the effectiveness of the whole educational activity in order to improve upon it (Onyejemezi, 1990, p.90).

It is a good thing to have a beautiful, step-by-step plan, present same effectively with appropriate strategies and materials for a lesson and with adequate classroom management. However, before a lesson is concluded, the teacher needs to ascertain the extent to which the stated instructional objectives of the lesson had been achieved. This is done by evaluating the learner's performance. Evaluation should not be carried out in isolation of the stated instructional objectives of the lesson; instead it should be based on objectives of the lesson. Agu and Imogie (1988, p.81) suggested five points for the teacher to consider for effective evaluation of the learners' performance. These are:

- Evaluation should be a continuous part of instruction,
- Test for what is taught,
- Make evaluation a regular part of the instructional process,
- Use appropriate testing technique (observation, teacher-made test, interview and standardized tests), and
- Keep evaluation records.

To carry out these assignments requires adequate knowledge and appropriate application of educational technology.

Conclusion

Educational technology is a complex integrated process involving people, procedure, ideas, devices and organization for analyzing problems and devising, implementing, evaluating and managing solutions to those problems involved in all aspects of human learning. Effective

lesson delivery therefore, is that which stimulates and inspires the learners into attaining the desired instructional/lesson objectives, maintaining positive attitude and using the knowledge and skills gained in solving problems in new situations. This paper has examined the relevance of educational technology in ensuring effective lesson delivery. It examined the need for adequate planning for the lesson, selection of appropriate instructional materials and strategies, effective classroom management and evaluation of the learning outcomes. From the planning to the evaluation stage of a lesson, the paper examined the relevance of educational technology in making a success of any meaningful lesson delivery.

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