Chapter 4

Promoting Instructional Technology for Effective and Efficient Academic Performance in Nigerian Schools

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ABSTRACT

The concept of Instructional Technology (IT) has become recognized as a crucial element in the educational field. Instructional technologies are now supporting curricula that promote effectiveness and efficiency in academic performance of all levels of education in Nigerian schools. The objectives of bringing all the instructional tools together are to engage students and have the best potential that enhances learning outcomes. The concern of this chapter, therefore, is to address the agreeable definition of instructional technology, IT as educational problem solver focused on emerging technologies for teaching and learning. Areas of consideration are instructional technologies and its challenges, effective organization of instructional materials in schools, usefulness of local instructional packages, and obstacles in using instructional technology in Nigerian schools. The chapter concludes and recommends that schools should create enabling environments for the use of Instructional Technology (IT), which would enhance efficiency in teaching and learning.

INTRODUCTION

Instructional technology has the potential for enhancing students learning effectiveness in education so as to motivate and energize teachers for better teaching and learning. According to Armstrong and McDaniel (1993), in developed economies, education at all levels has instructional technologies as a force that drives curriculum enhancement. Consequently, the developing countries including Nigeria have become aware of the invaluable role of instructional technologies for effective and efficient teaching and learning. Nigeria has been able to make significant progress

in improving education through this medium. Also, concerted efforts have been made by successive governments in Nigeria to initiate Internet connectivity and technology training programmes but the efforts have not been yielding expected results. Such programmes are expected to link schools and libraries around the world to improve education, enhance cultural understanding, and develop vital skills of creativity; problem-solving and independent thinking which learners need for academic performance in global world. As used in this write-up, the term instructional technology includes hardware such as personal computers, smaller peripherals such as Global Positioning Systems (GPSs) and Personal Digital Assistants (PDAs) that interface with computers, and other equipment such as video cameras, VCRs and other educational resources. Also included is the software that runs on these devices and networks that allow them to send and share information concerning teaching and learning.

Research on how instructional technology can promote effective academic performance was conducted by Duffy, Brown, and Cunningham, (1996) and concluded that technology can enhance teaching and learning by facilitating the incorporation of real-world problems into the curriculum. Instructional technology can help make a learning environment more learner-centered by providing a greater variety of resources that allows students to follow their own interests and build upon their strengths. It can also help teachers motivate students to work toward deep understanding or transfer by illustrating how what is under study in the classroom relates to the world beyond it by accessing real-time data on current events.

Technology therefore can help teachers meet students' differentiated needs, by serving as a tool for enrichment or review, or for presenting information in additional formats Berson (1996); Ehman and Glenn, (1991). However, conventional teaching has emphasized content in almost all the subjects without much reference to instructional technology to be used. For many years courses or subject have been written around textbooks, teachers have taught through lectures and presentation interspersed with tutorials and learning activities designed to consolidate and rehearse the content (Abanikanda 2011).

In summary, Instructional technologies are now favouring curricular that promote effectiveness and efficiency in academic performance, at all levels of education in Nigerian schools (Ogunseye 2001). There is an urgent need for the teacher to be creative through application of instructional strategies appropriate to the students of 21st century.

There is no consensus definition for the term, "Instructional Technology" but according to Richey (2008), instructional technology is the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning. The words Instructional Technology in the definition mean a discipline devoted to techniques or ways to make learning more efficient based on theory; but theory in its broadest sense, not just scientific theory. In this sense, theory consists of concepts, constructs, principles, and propositions that serve as the body of knowledge. Practice on the other hand is the application of that knowledge to solve problems. Practice can also contribute to the knowledge base through information gained from experience. "Design, development, utilization, management, and evaluation" refer to both areas of the knowledge base and to functions performed by professionals in the field. "Processes" are a series of operations or activities directed towards particular results. "Resources" are sources of support for learning, including support systems and instructional materials and environments. The purpose of instructional technology therefore, is to affect and

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