147-150

Chapter 11

THE METHODS OF INTEGRATING TECHNOLOGY IN TEACHING AND LEARNING

Christopher Obeta Igwe, PhD and Aliyu Mustapha*, MD

Department of Industrial and Technology Education,
Federal University of Technology Minna, Niger State, Nigeria

ABSTRACT

The method used for active teaching and learning is a point of grave interest to educators and teachers. Methods of instruction in any education circumstance deliver a lively role in exciting analytical and artistic thought, improving student cooperation and guaranteeing that students observe a problem from varied viewpoints. They are planned to give scholars the chance to watch, interlace in and develop or identify expert's procedures in circumstances. Therefore, this chapter highlighted drill and practice, dialogue, and tutorial as methods of integrating technology in teaching and learning.

Corresponding Author Email: aliyu21m@gmail.com.

INTRODUCTION

Technology is the assortment of methods, skills, techniques and processes used in the triumph of objectives, such as scientific investigation and learning achievements (George, 2016). Barney (2007) viewed technology as the application of physical and mental effort in order to attain some worth. Arthur (2009) defines technology in a similarly extensive way as "a means to fulfill a human purpose." In this usage, technology refers to tools and machines that may be used to solve real-world problems in teaching and learning.

TECHNIQUES IN TEACHING AND LEARNING

The technique used for effective teaching and learning is an issue of concern to teachers; this is because, in any learning situation, methods of teaching take part in thrilling and stimulating the students' creative and critical thinking, encouraging students' alliance and guaranteeing that students analyze the problem or an event from a much perspective. They are intended to grant intellectuals the prospect to examine, employ in and devise approaches in context. These goals can only be achieved by integrating technology into teaching and learning processes.

METHODS OF INTEGRATING TECHNOLOGY IN TEACHING AND LEARNING

The methods of integrating technology into teaching and learning cover all the instructional approach concerning the exploitation of electronic means for teaching. This takes account of Computer Assisted

Instruction (CAI) in the course of any electronic media, including among others, intranet, interactive CD-ROM, videotape, internet. and satellite broadcast.

COMPUTER ASSISTED INSTRUCTION (CAI)

The educational technology epoch has arrived accompanied by major changes in both education and technology. 21st century education needs appropriate tools such as the use of multimedia communication systems (Computer Assisted Instruction (CAI)) to triumph over the problems of space, achievement and time of academic learning. Such demands are highlighted by the stretch in the geographical distribution of educational centers and the regular update in technology (Abdulraheem, 2006). CAI package is an interactive medium that plays an important role in computer context and acts as a teacher. CAI package is present in various computer interfaces either in two or three dimensions and its package is also present in good visual looking with nice graphic and animation; also can include hundreds of notes in a small right package. The introduction of this digital image and a few common methods to process it has a very wide range of application in our modern world of technology.

In education, the scheme used for active teaching and learning is a matter of grave attention to teachers. Methods of instruction in all learning circumstances play a vital role in arousing creative and rational thoughts as well as fostering student collaboration (Mustapha, 2016), in support of this point, Mirko (2015) stated that they are planned to give scholars the chance to examine, involve in and produce or identify expert's plans in context. Therefore, the use of CAI in teaching has produced positive impacts by providing vital tutelage to colossal students (Mustapha, Idris, Abubakar & Musa, 2016). A cardinal number of methods to the use of CAI in school are indicated practically in education, such as learning from; about and thinking about computers. A useful classification of these approaches are

learning from computers, learning about the computer, and learning about thinking with computers with regards to the extent of interaction between the teacher, computer and students are:

Dialogue

In this method, the student becomes active in communicating with the workstation (computer) and the computer finally bring forth instructions, exercises and the performance of tasks which is used as a basis for student performance improvement. Thus, the growing presence of computers not only broadens our reach in the same physical sense that electrical communications do but also make the power of infinite intelligence available, many people have raised the question concerning its value to society. However, computers are not meant to ensure human roles, but to aid an individual's work (Mudasiru & Adedeji, 2010).

Drill and Practice

In this method, the computer gives the student exercises that reinforce and motivates lessons in the classroom, and provide prompt feedback on student achievement. Similarly, CAI functions as an add-on to usual classroom lessons, and helpful when a teacher does not have the time to work with individual students (Mudasiru & Adedeji, 2010).

Tutorial

This method provides instructions and elucidates guaranteed ideas in addition to equipping the students with exercises. Thus, the computer in this method takes over the real teaching functions, attuning to the student's degree of achievement (Okundaye, 2005).