Chapter 12
Using Technology to Support Inclusive Classroom-Based Instruction

Awoyemi Robert Akinade
Adeyemi Federal College of Education, Nigeria

Olaniyi Esther Temitope
Emmanuel Alayande College of Education, Oyo, Nigeria

ABSTRACT

There has been a widespread integration of technology in daily life, where access to vast amounts of information is now available with ease. Today's generation of students has grown up with technology all around them in an ever-increasing manner. For an effective classroom that meets the diverse needs of students, teachers should promote student motivation to learn and realize the effects technology has on inclusive education. This chapter reviews student perceptions of the use of technology in classroom-based instruction and describes current use of general and assistive technology in classroom. The chapter recommends the creation of a ground-up curriculum design for educational administrators based on observations of instruction using technology.

INTRODUCTION

In the present age, technology is all around us, with the wealth of knowledge and information about the humanities present at the click of a button (Awoyemi, 2021). It is important to understand that the method in which present day educators were taught has changed substantially, and a new generation of students who are digital natives require a vastly different approach. Therefore, one cannot teach or learn nowadays the same way as a century ago. Accordingly, in terms of technology adoption, the 21st century has a lot to offer. The use of technology in the classroom has the benefit of increasing academic achievement from the perspective of both the students and the educators. Studies have shown that real-world applications of technology along with other academic subjects helps motivate students (Courville, 2011

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and Usher & Center on Education (2012). They found out that when technology-based inquiry-learning correlates to real-world situations, students begin to see the intrinsic value of what is being learned, which increases interest and motivation by the student. In addition, by applying abstract ideas into real-world situations, students can understand complex concepts, which will then increase competence. By adding technology into the classroom, teachers can utilize this technology to differentiate instruction, motivate students, and include all skill levels.

Technologies adoption in the educational system has the capability of accelerating the speed at which knowledge is acquired, in which knowledge acquisition will no longer be restricted to the traditional approach. Thus, students will be enabled to learn outside the classroom, the school will no longer be the only place to access knowledge. Knowledge will become easier to acquire, thus, increasing the rate at which students explore their area of specialty and equipping them with the capacity of developing themselves according to their strong suit. . Technology of all kinds has seen widespread integration to daily life, from cell phones with fingerprint scanners, to cars with integrated GPS navigation. It is only natural that the effects of technology on student life be studied from a teaching perspective. In order to understand how best to implement technology in the classroom, it is important to provide a baseline from which to study the influence, importance, and integration of technology to engage learners. Once the baseline is established, it can be compared to what is actually occurring in the classroom.

In this chapter, the current state of technology in education will be reviewed, along with its influence on daily life. The paper will also address the use of technology and its effects on motivation and inclusionary education. Finally, the conceptual framework that provides the basis of this chapter will be presented.

Use of Technology in Education

Students (from elementary through high school) need greater exposure to a plethora of technologies in the classroom, but many schools may not be meeting this need (Bolkan, 2012). Many students are found to have the capability to use technology, as well as the access to do so at home, and many of them utilize it for educational purposes (Erlich, Sporte, Sebring, & the Consortium on Chicago Schools, 2013). It was found that those in positions of authority in schools are responsible for setting expectations for technology use. However, there was an inconsistency regarding how much technology is actually used for instruction. The variation in student and teacher use in the different schools is directly related to the culture for technology integration. In schools with a more positive culture towards technology integration, more students and teachers tended to utilize technology.

It is important for the future generation of teachers to learn how to teach in a manner that will best reach their students. Teacher training begins at the collegiate level. The number of colleges and universities using electronic learning (or e-learning) has been increasing, though there is a gap in the research pertaining to student adaptability (Sung Youl Park, 2009). Infrequent technology users were found to have difficulty in implementing technology for teaching, while frequent technology users felt accomplished in creating a technology supported environment (Meyer, Abrami, Wade, and Scherzer, 2011). As was seen in a study conducted by Erlich, Sporte, Sebring, & the Consortium on Chicago Schools (2013), the study concluded that the culture of technology integration if well in place for pre-service teachers will have positive effect in the classroom.