

## Chapter 26

# Assistive Technology and Distance Learning: Making Content Accessible

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### ABSTRACT

*For those with disabilities, distance-learning courses can provide access to a world that was once inaccessible. Online learning becomes a possibility and for many a gateway to contributing to the world around them. However, there are many points to consider when ensuring accessibility in distance-learning courses. By exploring the current research and trends, this chapter reviews learning management systems, learner interaction styles and tools, and methods to design accessible course materials. It provides the educator with not only a working vocabulary but also with strategies and implementation methods for ensuring accessible content in online learning.*

### INTRODUCTION

Distance learning has been in existence for almost 150 years (Phillips, 1998), but it has never changed as quickly as it has over the last 20 years. The advent of the Internet, the availability of learning management systems (LMS), the variety and ease in use of all types of media (e.g., audio, video, social media), and the changing face of today's

learners are all reasons for these developments. This chapter explores these changes as well as the latest trends in distance learning, the differences between online learning modalities among the K-12 and the higher education environments, and how the needs of all students, including students with disabilities, can be met online today and in the future.

DOI: 10.4018/978-1-4666-8246-7.ch026

## Objectives

The objectives of this chapter are:

- Investigate the types of interactions in distance learning
- Identify the distance learner and their technological needs
- Distinguish between two classifications of LMS (i.e., open vs. closed or proprietary)
- Recognize features of learning management systems that incorporate accessible design
- Identify the laws related to accessibility of distance learning materials in K-12 and higher education
- Apply accessibility best practices to the creation of distance learning course materials

## DISTANCE LEARNING

### Historical Overview

As mentioned, distance learning has changed. Correspondence courses, which have been around since the late 1800s (Phillips, 1998), were perhaps the first noted distance learning courses available. Communication between instructors and students was slow and materials were transmitted using the United States Postal Service. With the advent of the Internet, communication between online learners and instructors occurs at lightning speed. Instructors are no longer restricted to the physical classroom; they can pursue academic ventures while delivering a class literally a world away. Likewise, students who lead busy lives can attend classes and advance their careers at times that are convenient for them. The very nature of this modality has transformed how instructors teach and how students learn.

In addition, educational institutions began to invest in distance learning in order to reach a larger demographic that could no longer be accommodated at a physical site (e.g., lack of physical classroom space). Other students soon found reasons to sign on as well. Non-traditional students who were unable to pursue a degree in the face-to-face setting (e.g., individuals working full-time, single-parents) were afforded the opportunity to do so online. Student choices towards instruction expanded because of the availability of these types of courses, and eventually non-traditional students began taking online education as a matter of convenience (Moskal, Dziuban, Upchurch, Hartman, & Truman, 2006). Due to student demand, many institutions began to offer more online courses. As new technologies became embedded into American culture, students began to expect instructors to incorporate technologies into the classroom and deliver more courses online. As the number of these courses increased, the number of students taking these courses also began to rise. According to the 2010 Sloan Survey of Online Learning conducted by the Sloan Consortium, “in fall 2009, colleges—including public, nonprofit private, and for-profit private institutions—reported that one million more students were enrolled in at least one Web-based course, bringing the total number of online students to 5.6 million” (as cited in Kaya, 2010, p. 1) from the previous year. Demographics have also changed to reflect that most traditional students now take some form of distance education study (Zatynski, 2013).

### Distance Learning and Disabilities

This leads to a discussion about students with disabilities and education. Prior to 1970, it was difficult if not impossible for many students with disabilities to attend public school, never mind institutions of higher education. In response to this situation, Congress first passed the Education for All Handicapped Children Act (later known

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