

## Chapter 9

# Understanding Adult Learners’ Needs and Integrating Technology for Effective Online Education: Adult-Centered Approaches for Teaching and Learning

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### **ABSTRACT**

*This chapter explores theories relevant to various online environments and seeks new ways to teach and learn in a digital age for adult learners. Adopting existing pedagogy and creating learning spaces that are relatable and comfortable for adult online learners are essential. Andragogy principles highlight the need to effectively use learning management systems, artificial intelligence (AI), and other technologies to develop a personalized and accessible experience that works optimally for adult students and faculty. Educators are encouraged to expand their mindsets regarding new technologies and learning methods such as ChatGPT application (the latest AI), and the benefits of creating personalized curriculums based on real-time data collected from students’ performances through learning management systems. As on-line education continues to grow across all disciplines and fields, the need for personalized education is evident, and best practices must be reviewed along with ethics.*

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## **INTRODUCTION**

Technology can be a powerful tool to improve the quality of education. Numerous new digital methods in online learning have been developed, but not all are equally effective for adult learners. Nevertheless, online education can help learners access high-quality programs and remove barriers such as geography and time. However, various challenges are associated with this medium, including technological, psychological, and social problems; these challenges highlight several crucial factors that influence students' learning including their physical environment, access to technology, motivation, instructor behavior and the student's support system (Li et al., 2020).

The pandemic has forced many educators and learners into the online learning environment. Prior to the pandemic, approximately 75% (11.5 million) of the students reported taking at least one online course with about 44% (7.0 million) of the undergraduate students taking only online classes (National Center for Education Statistics [NCES], 2022). There was a nearly 200 percent increase of undergraduates enrolled in online classes 2019 to 2020 (NCES, 2022). Another study showed that approximately 50% of the students sought fully online degree programs (Allen et al., 2016).

Online education has facilitated a significant pedagogical transformation in teaching and learning methods (Johnson et al., 2015). This educational mode is characterized by a shift from traditional teacher-centered instruction to a more student-centered approach, in which teachers assume the role of facilitators or guides, and students are actively engaged as collaborators in the learning process (Johnson et al., 2015). Rather than being passive recipients of knowledge, students are encouraged to take an active role in their education, which can result in enhanced learning outcomes (Means et al., 2009). In the digital age, online learning is becoming increasingly popular to expand formal and informal education. However, issues such as lack of human connection and disengagement in online settings are barriers to effective learning. Therefore, applying theories and models must be from an adult learner-centered approach to overcome these challenges and enable more effective learning in an online environment. An adult learner-centered approach offers a shift in traditional teaching methods by creating personalized spaces for learners based on their profiles and preferences. Furthermore, this book chapter highlights how artificial intelligence (AI) would play a key role in understanding students' ability to learn in real-time by allowing educators to make informed decisions about the needs of their learners throughout a lesson or course.

To excel in online education, educators should analyze their epistemological and pedagogical beliefs while ensuring alignment with their teaching practices. The theoretical perspectives that guide effective online teaching will aid in addressing adult learners' needs while at the same time, recognizing the need for teachers to understand the underlying assumptions of these perspectives to design and teach online courses effectively. For teachers, the primary goal is to create a trusting, learning environment that guides students toward becoming autonomous learners who take responsibility for their learning. This chapter presents practical strategies to engage adult learners in online learning using innovative technology, theories, and pedagogy. In addition, discussing modern online teaching and learning trends will help educators understand adult learners' needs to engage them more effectively in education. Finally, the ethics and implications of using technology and sharing of information are discussed to encourage instructors to utilize best practices in a virtual environment. Highly effective online teachers can reach and engage their students in an online setting by using andragogy principles in the classroom. Andragogy is a framework of teaching that applies specifically to adult learners with unique needs and motivations different from that of children (Merriam & Bierema, 2014).

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