

# Chapter 6

## Using AI Technology to Create an Inclusive Environment for Diverse Online Learners

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### **ABSTRACT**

*As online learning continues to gain prominence, it becomes crucial to ensure that online educational platforms are designed to be inclusive and accessible for diverse learners. It is very important for instructors to understand the characteristics of learners and design a learning environment that provides equitable opportunities for learners with diverse backgrounds, abilities, and learning styles. Technology is indispensable for online education. This chapter will explore various strategies and considerations for implementing inclusive design principles using AI technology to create online learning environments in three areas: 1) learner-centered course design, 2) building sense of community and sense of self-belonging in online course, and 3) strategically integrating AI technology to enhance the quality of online education.*

### **INTRODUCTION**

Online technology has transformed the landscape of traditional education paradigms. Online learning refers to delivering educational content and instruction through digital platforms, allowing learners to access educational materials and participate in virtual classrooms from anywhere and anytime in the world. Over the past decade, online learning has experienced exponential growth, driven by technological advancements, increased internet connectivity, and the demand for flexible and accessible educational

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opportunities. This fast development has become an overwhelming trend, changing faster and faster. According to recent studies, the global online education market is projected to reach unprecedented heights. The worldwide e-learning market is projected to be worth \$325 billion in 2025, and the forecast for the US e-learning market expects a \$12.81 billion growth between 2020 and 2024 (Chernev, 2023).

Several factors have contributed to the surging popularity of online learning. First and foremost is the flexibility it offers. The convenience provided by online education gives students the flexibility to arrange their learning and daily life with minimum interruption to each other. “The desire for convenience when managing existing commitments continues to be the leading motivator for enrolling in an online program, as indicated by more than one-third (42%) of the online students surveyed this year” (Venable, 2023, p. 4). “Balancing education with work, family, and household obligations continues to be the top concern for online (27%), hybrid (27%), and prospective (39%) students” (Venable, 2023, p.4). Learners now have the freedom to choose when and where they engage in learning activities, enabling them to balance their education with personal and professional commitments. This flexibility is particularly beneficial for those working full-time, parents, or those with geographical constraints, such as military personnel serving all over the world.

Additionally, online learning has expanded access to education, making it more inclusive and removing barriers that previously limited opportunities for diverse learners. The rise of free online platforms of MOOCs since 2006 has provided free education to learners worldwide, and other establishments, such as MIT OCW, Coursera, edX, Udemy, etc., follow suit and form an enormous global educational network. The used-to-be educational privilege “owned” by a group of special people is now available to the common people who are thirsty for knowledge and skills to empower themselves to improve their quality of life. This inclusive learning network embraces learners from different backgrounds, age groups, and geographic locations and provides them with access to quality education that may have been otherwise impossible due to factors such as socioeconomic limitations, financial capability, geographic distance, limited local educational institutions, etc. This inclusivity has empowered individuals to pursue their educational goals, irrespective of their circumstances.

Online education can also help combat natural and human disasters to guarantee the continuation of education with limited interruption. For example, when the COVID-19 pandemic brutally hit humanity, many educational entities converted classroom teaching to an online format, which further accelerated the popularity of online learning as educational institutions worldwide were compelled to transition to remote learning modalities. “COVID-19’s pandemic has hastened the expansion of online learning across all levels of education. Countries have pushed to expand their use of distance education and make it mandatory given the danger of being unable

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