


Chapter 12

Navigating the Personalization Pathway: Implementing Adaptive Learning Technologies in Higher Education

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ABSTRACT

This chapter delves into the revolutionary potential of adaptive learning technologies (ALTs) within the realm of higher education, with a particular focus on their ability to tailor growth opportunities to diverse student needs. Against the backdrop of evolving higher education landscapes characterised by technological advancements and shifting student demographics, ALTs emerge as crucial enablers of flexible, student-centered learning environments. The discussion explores the fundamental principles of adaptive learning, encompassing key concepts, theories, and the theoretical foundations that underpin these technologies, such as constructivism and cognitive load theory. Readers will gain insights into the current adaptive learning landscape, including a survey of existing platforms and the significant roles played by artificial intelligence and machine learning. The section also addresses the challenges associated with ALT adoption, ranging from technical and academic barriers to ethical considerations such as data privacy and equity issues.

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INTRODUCTION

The chapter on flexible learning in higher instruction marks the beginning of a comprehensive examination of the shocking potential of flexible learning progress (ALTs). As Clark and Mayer (2016) characterised, flexible learning insinuates a present-day, technology-driven approach that tailors educator experiences to individual under-studies, updating engagement, and coming about. The introduction sets the association by underlining the curious nature of higher instruction scenes and the basic portion that ALTs play in tending toward the progressing needs of students.

Post and Vaughan (2018) affirmed that coordination development into instruction may be a response to the changing demands of a knowledge-driven society, cultivating customised and versatile learning circumstances. This chapter underscores the need to meet distinctive under-study needs within the scope of flexible learning in higher instruction. Infers et al. (2013) found that flexible learning trade decidedly influences understudy, highlighting the potential of ALTs to customise educator encounters. This fragment plunges into the multifaceted angles of ALTs, indicating that instructors, chairpersons, and policymakers are involved in the measures, challenges, and future designs, including their execution (Tariq, 2024).

Definition and Scope of Flexible Learning Propels

The definition and scope of flexible learning progress (ALTs) represent a point-by-point understanding of their reasons and potential impacts on higher instruction. ALTs, as characterised by VanLehn (2018), encompass computer-based or online educator systems that capably change heading substances based on a person's under-study needs. This definition reflects the flexible nature of these processes, which depend on data examination and calculations to tailor openings for perfect engagement and ampleness (Alam. 2022). The scope of ALTs increases distinctive educational settings, tending to the contrasting needs of understudies. In an expansion study, Alt et al. (2015), ALTs are not confined to conventional classrooms, but find applications in online courses, half-breed learning circumstances, and other teacher approaches. This inclusivity is crucial in tending to a progressed understudied body's moved learning styles and slants (Alamri, 2021).

A review of the current composition underscores the surprising potential of ALTs in customising openings for advancement. As discussed, this personalisation alters constructivist measures, wherein understudies successfully bolt in with substance and create data through significant instinct. Through flexible highlights, ALTs cater to individual under-study needs, progressing student-driven, and comprehensive educator associations.

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