Chapter 32
Adaptive Online Learning Technology:
Trends in Big Data Era

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ABSTRACT

The current trend of technology advancement with digital devices such as smart phones, tablets, and laptops has shifted the way of societal life including teaching and learning. This initiative might also contribute to the typical approach of information and communication technology (ICT) to increasingly enhance the achievement through utilizing it in the education setting in the higher education context. Adopting social media in network data massively within the big data trends, the extraction of the particular means in providing structured data from enterprise resources data and sources of unstructured data from audio and video can begin with providing the value from information space such as message, conversation, transaction, and other sources. This chapter attempts to explore the design of adaptive

learning technology in big data approach. Attempts to achieve particular advantage of big data with analytic process could provide the innovative environment of adaptive online technology to enhance pedagogy and technology skill to support the initiative way of teaching and learning process in the higher education (HE) context.

INTRODUCTION

In the past few years, attempts to utilize the technology development such as smart phones, tablets as well as laptop have a wide chance in promoting an appropriate way to improve effectiveness and efficiency of practices on teaching and learning in higher education (HE) (Ahad, Anshari & Razzaq, 2017; Borés, Saurina & Torres, 2003). In this regard, the advancement of technology devices initiated to supply the human interaction basis should bring along with bridging the attempts to promote the practices with appropriate way. In terms of pointing out the worldwide to improve the quality of learning process through emerging the online learning with the approach in considering the way to facilitate multiple sources for the information, attempts to fulfil this inquiry should be acquainted the needs referring to their demand to be given into the learning and teaching material resources. With regard to the initiative in utilizing digital devices to be cooperated into the wide range of teaching and learning in HE context (Almunawar et al., 2017), this facilitation has to be involved into online learning basis referring to give insights with committing to assess online resources along with enhancing the learning design recommended to support the entire initiative in the attempts with a better service to transform the material sources to entirely engage in providing a wide range of task configured into an attempt with the necessary response in the management of educational process. Referring to the online-based learning and teaching with innovative strength and awareness of careful competencies transmitted into HE context as an attempt to enhance the commitment to fulfil the inquiry based on the learning process, it is necessary to explore in getting the resources in the way which can facilitate their learning in terms of material sources. Among those platforms, which could easily give the support, one of them is the framework of big data adopted as a new technological approach. This can be supported easily in attempting to get information from the multiple sources in using big data platform through existing recommendation approaches to address learning sources. It can give insights into providing the feedback with the process considered especially in enhancing innovative learning performance to ensure the students' learning in searching for resources with borderless space (Ertmer, 2005). Moreover, this attainment would give insights into the learning material resources in the sense that the platform is entirely managing well.

In addition, the practical stage conducted from the advancement of Information and Communication Technology (ICT) in the attempts to maximise the advancement of big data analytics process refers to design the particular task with the process to adopt this initiative transmitted into the societal demands and needs. Those concerns are communication purposes in teaching and learning, business and also sustaining values engagement in the technology incorporation (Aminin et al., 2018). With regard to the practical stage to give insights into the standard in utilising it to enhance in increasing the growth of knowledge productivity to reach the advantage of running the process with the competitive achievement, adopting the big data analytics framework needs to proceed the procedural stage to assist the entire initiation referring to ICT adoption (Almunawar, Anshari & Susanto, 2018; Huda et al., 2016a). Attempts to adopt the technological device with big data framework could be enhanced to generate the massive data incorporated into the platform which can support the learning material resources. By adopting this

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