

# Chapter 8

## Adaptive Online Learning Technology: Trends in Big Data Era

**Miftachul Huda**

*Universiti Teknologi Malaysia, Malaysia*

**Ulfatmi**

*Universitas Islam Negeri Imam Bonjol Padang, Indonesia*

**Muhammad Ja'far Luthfi**

*Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia*

**Kamarul Azmi Jasmi**

*Universiti Teknologi Malaysia, Malaysia*

**Bushrah Basiron**

*Universiti Teknologi Malaysia, Malaysia*

**Mohd Ismail Mustari**

*Universiti Teknologi Malaysia, Malaysia*

**Ajmain Safar**

*Universiti Teknologi Malaysia, Malaysia*

**Wan Hassan Wan Embong**

*Universiti Teknologi Malaysia, Malaysia*

**Ahmad Marzuki Mohamad**

*Universiti Teknologi Malaysia, Malaysia*

**Ahmad Kilani Mohamed**

*Universiti Teknologi Malaysia, Malaysia*

DOI: 10.4018/978-1-5225-5519-3.ch008

Copyright © 2019, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

## **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

31 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the product's webpage:

[www.igi-global.com/chapter/adaptive-online-learning-technology/211093?camid=4v1](http://www.igi-global.com/chapter/adaptive-online-learning-technology/211093?camid=4v1)

This title is available in Advances in Educational Technologies and Instructional Design, InfoSci-Books, InfoSci-Computer Science and Information Technology, InfoSci-Education, Library Science, Information Studies, and Education, Science, Engineering, and Information Technology, InfoSci-Select, InfoSci-Select, InfoSci-Select, InfoSci-Select. Recommend this product to your librarian:

[www.igi-global.com/e-resources/library-recommendation/?id=84](http://www.igi-global.com/e-resources/library-recommendation/?id=84)

## Related Content

---

### How Revisions to Mathematical Visuals Affect Cognition: Evidence from Eye Tracking

Virginia Clinton, Jennifer L. Cooper, Joseph E. Michaelis, Martha W. Alibali and Mitchell J. Nathan (2017). *Eye-Tracking Technology Applications in Educational Research* (pp. 195-218).

[www.igi-global.com/chapter/how-revisions-to-mathematical-visuals-affect-cognition/167540?camid=4v1a](http://www.igi-global.com/chapter/how-revisions-to-mathematical-visuals-affect-cognition/167540?camid=4v1a)

### Online English Reading Instruction in the ESL Classroom Based on Constructivism

Yan Liu, Hongbing Liu, Yan Xu and Hongying Lu (2019). *International Journal of Technology-Enabled Student Support Services* (pp. 39-49).

[www.igi-global.com/article/online-english-reading-instruction-in-the-esl-classroom-based-on-constructivism/244210?camid=4v1a](http://www.igi-global.com/article/online-english-reading-instruction-in-the-esl-classroom-based-on-constructivism/244210?camid=4v1a)

## **Professional Skill Enrichment in Higher Education Institutions: A Challenge for Educational Leadership**

Siran Mukerji, Purnendu Tripathi and Anjana Anjana (2019). *International Journal of Technology-Enabled Student Support Services* (pp. 14-27).

[www.igi-global.com/article/professional-skill-enrichment-in-higher-education-institutions/244208?camid=4v1a](http://www.igi-global.com/article/professional-skill-enrichment-in-higher-education-institutions/244208?camid=4v1a)

## **Retention of Online Learners: The Importance of Support Services**

Pamela A. Lemoine, Gina Sheeks, Robert E. Waller and Michael D. Richardson (2019). *International Journal of Technology-Enabled Student Support Services* (pp. 28-38).

[www.igi-global.com/article/retention-of-online-learners/244209?camid=4v1a](http://www.igi-global.com/article/retention-of-online-learners/244209?camid=4v1a)