Analysis of Learning Analytics in Higher Educational Institutions: A Review

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Abstract. Learning analytics is relatively new in the field of research models, assessment/evaluation, and business intelligence. The critical analysis of literature explains that, as a consequence of more and better data, learning analytics gained significant attention in education. This paper emphasized integration of three major components: educational data mining, learning analytics, and academic analytics. It gives the comprehensive background for increasing understanding of the positive aspects of implementing the framework of learning analytics (LA) in higher educational institutions in Malaysia. Besides emphasizing LA, the role of educational data mining (EDM) in adaptive learning is also discussed. It gives an empirical-based overview with the key objectives of adopting the proposed model of LA in generic educational strategic planning by Malaysian HEIs. It examined the literature on experimental case studies, conducted during the last six years (2012–2017) for extracting recently updated information on increasing HEIs performance in Malaysia. The results have highlighted some major directions of LA, EDM, and academic analytics in driving techniques for achieving student retention and enhancing employability.

Keywords: Academic analytics • Learning analytics • Higher education • Educational data mining • Student retention

1 Introduction

The empirical framework implies that learning analytics has become an emerging domain, which seeks to utilize data analysis for making informed strategic decisions at different levels of the education system [12]. Since business analytics assesses consumer data to discover a potential range of consumers, on the other hand, learning analytics is the field involving students for creating better pedagogies [28]. Papanastasiou and Economides (2014) and Phillips et al. (2012) also indicated learning analytics as a successful domain that helps by focusing on student problems and evaluating educational programs [22, 24]. Learning analytics are designed for improving retention issues and maintaining academic attainment effectiveness. The core purpose of this document is to propose and implement the most influential constituent, learning...