International Journal of E-Services and Mobile Applications
Volume 13 • Issue 1 • January-March 2021

Differences of E-Learning Systems With the Focus on Moodle and Blackboard Systems

Krešimir Buntak, University North, Croatia
Maja Mutavdžija, University North, Croatia
Matija Kovačić, University North, Croatia

ABSTRACT

With the development of new technologies and their implementation in all areas of life, especially education, it is important to understand and accept all the new educational/technological concepts and their benefits. Through the concept of virtual learning environment, educational institutions can improve the quality of the learning process, reduce costs, but also improve communication between students and lecturers. The main objective of this paper is to present characteristics of two most used e-learning systems (Moodle and Blackboard) and provide results of the literature review on the differences of these two systems. Based on the results of literature review, a comparison between Moodle and Blackboard based on ISO 25010 framework is made. Through this secondary research, it was concluded that Moodle is the best solution for introducing a learning management system, but there are numerous opportunities for improving the education system at all levels.

KEYWORDS

Blackboard, E-Learning, ISO 25010, LMS, Moodle

INTRODUCTION

New technology and new concepts of learning are transforming the existing learning system into the new virtual system that functions in a virtual learning environment. The integration of education and technology is present and almost every educational institution has adopted the e-learning concept into its educational services (Al-Fraihat, Joy, & Sinclair, 2019). New generations of students grow up with new technology, also referred to as digital natives (Suša, 2014), especially the Internet and social media, and digitization and virtualization of learning are not foreign to those new generations. Lecturers must adapt to new concepts and consider all the benefits that new ways of learning have to offer (Rodrigues et al, 2019). Using the Internet, mobile phones and other gadgets and devices for learning is the future and the Internet is a tool that can be used to replace traditional learning (Aloia & Vaporciyan, 2019). e-learning is a very popular subject among different scholars and there are many case studies made in this field. However, with many scientific papers already written, it is important to clarify the basic components of an e-learning system to differentiate parts of the virtual learning environment. Since the field of e-learning is relatively new and new concepts are emerging

DOI: 10.4018/IJESMA.2021010102

every day, some specific problems, that are primarily related to not understanding the systems used for e-learning, are also emerging.

To understand the influence of e-learning, it is necessary to understand fully all the components of e-learning systems, especially learning management systems that are key to today's education. This paper presents an overview of the e-learning system components but focuses on one – Learning Management Systems. The biggest advantage of using Learning Management Systems in education is to develop autonomy, which can improve critical thinking among the students and improve the quality of the educational process. To consider all the advantages, educational institutions and their members must face one of the largest challenges of e-learning, which is learning management systems (Judge and Murray, 2017) or facing the transition from formal learning to new platforms. Learning Management Systems became a tool for managing educational material and there are many types such as Moodle, Blackboard, Canvas, and others (Elfeky 2019). Moodle and Blackboard are mostly used LMS's in practice and are also used as a focus of many types of research (Soykan and Şimşek, 2017). Although the comparison of Moodle and Blackboard systems are made in numerous scientific papers, it is important to highlight different perspectives that are made through those researches. Most of the papers regarding this subject offer a technological view on Learning Management Systems or present results of surveys based on LMS user's satisfaction. This paper offers a different view on Moodle and Blackboard systems that is based on quality.

With the comparison of the two most used Learning Management Systems, which is based on the conducted research, this paper offers a holistic view on the topic of Learning Management Systems in the context of e-learning. To carry out any further research into the topic of e-learning, it is important to distinguish all terms related to this concept. Through this paper, a foundation for understanding the virtual learning environment and its components as well as the comparison between Moodle and Blackboard is given. The focus of this research is the difference in the quality of Moodle and Blackboard systems, as the two most used systems. Through secondary research, it is necessary to gather all the information available on both systems, as well as all the information needed to conduct a comparison based on ISO 25010 model. ISO 25010 is based on ISO 9126 model that focuses on the quality of software and it gives a good overview of the overall quality of a system. The main question of this research is the level of quality of both systems and the correlation between the quality level of a system and the user's preference. Strugar, Pejic-Bach, Zoroja and Jaković (2019) conducted an online survey with the goal of investigating the relationship between the future intention of using LMS's and student satisfaction. What it proved to be relevant for satisfaction, as well as for future use is the quality of a system. Precisely that quality can be measured with this method.

The main objective of this paper is to compare Moodle and Blackboard, as the two most used LMS's. To make a comparison it is necessary to gather all conducted researches on the Moodle and Blackboard systems that will be used as an input to a comparative analysis between two systems. This paper shows a different perspective on Moodle and Blackboard systems through a conducted research on the difference in the quality of the two systems, but also through the noticed correlation between conducted surveys on the users' satisfaction and the overall system quality, as well as it gives a recommendation for improvement. The aim of this research is also to point out the link with the requirements of the quality management system and to recommend the applicability of the model to institutions seeking certification or quality management of the institution from every aspect and at different levels. One of the requirements of ISO 9001:2015 is to ensure competence. Institutions of higher education that wish to be certified, or to align their management with ISO 9001, can use ISO 25010 as a tool to ensure competence. Through ISO 25010, institutions ensure the quality of software systems they use to improve the teaching process and disseminate content and knowledge. Also, ISO 25010 ensures the reduction of risks associated with software used at high education institutions. This model ensures that the software used at an institution aligns with requirements defined by users - teachers and students. Evaluating the software avoids the risk of non-compliance as well as other risks such as information security. This paper presents an assessment of two commonly used systems