

Optimization of Learning Management Systems through Systems Integration: The case of Moodle and Zalongwa Software

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Abstract

Learning Management Systems (LMS) are enabler of virtual learning mode. Training materials, communications, exams, assignments and students grades in virtual learning mode are managed through LMS. Popular LMS software includes Blackboard, webCT and Moodle. In most higher learning institutions especially in Africa, virtual learning are delivered in a blended mode, which is a mix of face to face and online learning using LMS. While LMS serves as academic based information system, higher learning institutions make use of administrative information as stand-alone systems to support management of the institutions. Common administrative software categories includes: Accounting packages, Student Academic Registration Information Systems (SARIS) and Human Resources Information Systems. SARIS in particular, records study programmes, courses, student list, examinations results, accommodation services, etc. In most cases, administrative software is implemented first before LMS come to its existence. When it comes to installation of LMS, and data entry process which is also implemented in the administrative systems is seen as redundant. Thus, the success of LMS implementation to some extent depends on how well the LMS is integrated to existing management support software.

This paper shares a study from a long term project where the use of LMS was optimized due to a successful integration of Moodle LMS and Zalongwa SARIS. The project shed light that repetitive registration of students, study programmes and courses in two systems (SARIS and LMS) is tedious, confusing and slows down uptake of LMS use in higher learning institutions. Specifically, through the integration process of the Zalongwa SARIS and Moodle LMS, courses and students accounts were managed from the SARIS system and LMS was just referring to SARIS to manage respective contents of the courses. The paper also shares challenges and opportunities for integrating two software which are web-based and are managed in two different servers. Specifically, the integration was done through a web service approach, where the LMS systems query the SARIS system for the student's year of study, courses, username and password. Then the LMS display appropriate courses for each candidate based on the query result. The end result was that the need for registering all courses and creating students accounts in two systems (LMS and SARIS) was eliminated. Since students are using the same username and password as in SARIS, the barrier to access learning materials in LMS became a history.

Keywords: Zalongwa SARIS, Moodle LMS, E-Learning, Student Information Systems, Integration, Interoperability