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E-LEARNING MANAGEMENT SYSTEM

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ABSTRACT—
E-learning is a key strategy in the course of higher education to improve the results of the educational process and stimulate student motivation. The COVID-19 pandemic imposed on Algerian universities to adopt e-Learning systems to search for effectiveness and efficiency of academic approaches. This paper seeks to remedy these problems by analyzing the impact of e-Learning systems on student motivation and outcomes. A mixed-method approach was used in the data analysis. The results of the study showed that student motivation (Attention, Relevance, Confidence, and Satisfaction) and student outcomes (knowledge, skills, and attitudes) are significantly affected by e-Learning systems (Technical and electronic requirements, personal requirements, perceived value, and credibility of e-Learning). The key findings are discussed, and they provide recommendations for future research.

Keywords*:*
Learning Management System, E-learning, Open Source, Commercial, Moodle, Evaluation.

INTRODUCTION

"E-learning Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by this existing system. Moreover, this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus, by this all it proves it is user-friendly. E- Learning Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources.

1.1 OVERVIEW

eLearning refers to online learning experiences that can be accessed through computers or laptops, offering a wide range of multimedia resources and interactive activities. On the other hand, mobile learning specifically focuses on delivering learning content through mobile devices like smartphones and tablets.

1.2 PROBLEM STATEMENT

- The main objective of the E-Learning is to help the students get over the traditional methods of learning and make them accustomed to the internet where the notes for their respective subjects are easily available. It provides an automation procedure of studying the notes online. The implementation of this project helps both the students and the teachers. The teachers can upload their notes on to the website by using their unique ID and the students can gain access to these notes by searching for the name of the file under their respective department.
- This project not only helps to facilitate easier access to notes for the students but also helps cutting down on expenditure for the universities as well. Students and Universities alike spend a considerable amount of money on printing costs which can be prevented.

1.3 OBJECTIVES

There are plenty of reasons why your company might want to use an LMS to train and engage employees. Consider the following objectives of a learning management system.

1.To eliminate the traditional barriers

The traditional methods of teaching have certain barriers or rather limitations that this LMS successfully tries to overcome. The chances of missing out on important classes, not understanding the concept in the very first attempt and not having the privilege of accessing course materials in one's own style are some of the drawbacks that a traditional learning method is coated with. With an aim to ward off these limitations, a **Learning Management System** has all the right reasons to steal the limelight from the traditional method of learning. The convenience of accessing the sessions at any time and anywhere, revisiting the sessions, innovative and effective sessions are some of the advantages that have successfully brushed away the limitations of traditional method.

2. To make learning effective

With technology in education, one gets the privilege to add all sorts of creative and effective elements that make education fun and fruitful in nature. From variety in content to social learning element, LMS aims to make education effective for the students. In addition to this, it also allows the learner to access content as many times as possible, accentuating the convenience of the learner. The various assessment tools and reports keep a track on the student's performance, encouraging to make amendments as per the need and requirements. This ensures that the sessions are effective for the students.

4. To effortlessly blend in technology

Blending in technology with education considerably helps in accentuating the learning and development process among the students. With technology playing an important role in today's generation, imparting education through this medium will definitely be worth the efforts. This type of learning is all decked up with technology to make education fun.

5. To give the privilege of accessing content anytime

LMS makes it convenient to give the privilege of accessing the content 24*7. There might arise a situation where the student will have to go through the entire session more than once to understand a particular concept. Also, the accessibility of content at any time evades the disadvantage caused by missing classes or lectures.

2.LITERATURE SURVEY

- Ramesh Jain and Thomas S. Huang, who in the 1980s developed a hand gesture recognition system based on the analysis of hand contours. Later, in the 1990s, researchers such as Takeo Kaneda and Thomas Simonson proposed hand tracking and gesture recognition systems based on the analysis of hand motion and 3D data.
- A survey" by Li et al. (2017): It provides a comprehensive survey of hand gesture recognition techniques, including data acquisition, feature extraction, classification, and applications. The authors review the state-of-the-art methods and provide a comparison of their performance.
- A comprehensive review" by Ahmad et al. (2021): It provides a comprehensive review of recent advances in hand gesture recognition, including deep learning-based approaches, vision-based approaches, and sensor-based approaches.
- Many researchers from different backgrounds such as computer vision, machine learning, robotics, and psychology, among others, have contributed to the development of hand gesture recognition and detection systems. Today, this field continues to be an active area of research, with new techniques and applications being proposed and developed all the time

2.1 Method

eLearning is any learning material delivered via the internet. eLearning has found its way into the world of corporate training as a form of valuable communication and real engagement. It has many benefits for both the employer and the employees – not only is it highly efficient, but it is also cheaper to execute. Custom eLearning Development provides convenience, flexibility, reliability, and scalability to any corporate training program. However, it is difficult to choose between the plethora of options available. Here are some of the eLearning methods that a company can include in its corporate training program:

2.2 Web eLearning

Web eLearning is based on website content. Employees can access this website from their personal devices or through the company's internet. Websites provide employees with the flexibility to learn as

and when they can or want to. It does not limit learning to a particular space and allows users to access the information whenever they wish to do so. A website also gives the flexibility to add multimedia, such as text, videos, images, and more. This adds a new dimension to eLearning and makes it more interactive and engaging for the employees. It also familiarizes employees with web-based tools so they can get acquainted with modes of internal communication at your company.
Most of our favorite eLearning platforms have a web version available.

2.3 Virtual Classrooms

Virtual classrooms are basically the modern version of an instructor-led corporate training session. This allows both instructors and attendees to be involved in the process. Instructors are present in the classroom with the help of video software while attendees are present physically. This can also be done remotely via conferencing software. This eLearning model encourages collaboration, ideation, and engagement, helping to create an environment for personal connections. The 'presence' of an expert allows back-and-forth questioning, a live learning experience, and a human element that other modes lack.
The most common tools for virtual classrooms are Zoom and Microsoft Teams, although there are also numerous others. You can set up the interactions in multiple ways. For example, maybe you just have the teacher on camera and students can submit questions over chat. Or perhaps you have students on camera as well. Virtual classrooms also allow for multiple teachers or subject matter experts.

2.4 Video Modules

Video modules are produced by learning videos that have been made in advance for the reference of the employees. These modules can be animated or with a human instructor. The opportunities are endless when it comes to creating videos for a corporate training program. This is also a highly flexible mode of eLearning, as the videos can be accessed by users anytime they want. They also have the ability to play the videos as many times as they wish. When it comes to grasping a concept, videos often perform much better than text because humans love graphic-based delivery. The colors, seamless explanation and video format make eLearning easier for the employees.
Video modules can be as simple or complex as you need. To keep things simple, use a program like Loom to screen-capture a video and then send the link to your learners. Or you can choose to record a video module with your phone. For larger budgets, you may want to use a specialized training video production company.

2.5 Specialized eLearning

Every organization has different corporate training needs and every employee or group of employees has different needs when it comes to their corporate training. In such scenarios, mass-produced and general corporate training modules just don't cut it. With custom eLearning development, there is the flexibility of having the ability to choose and customize corporate training programs. With eLearning, employers can establish a personal connection with their employees as they are able to accurately fulfill their needs and not have them learn something that they might either already know or have no need to learn.

2.6 Social Media Training

The world has gone social and employers are just catching up, especially when it comes to corporate training. This eLearning model creates a collaborative environment for the employees and taps into the power of social media. Through a platform like Facebook, Instagram, and Twitter, this program delivers the required knowledge and does so in a cohesive way that encourages teamwork and collaboration. If social media is a key part of your company, this will improve employees' familiarity with important methods of internal and external communication.
Don't forget that YouTube qualifies as social media, and that is an incredibly popular option for hosting video modules. You can even use YouTube Shorts or TikTok for microlearning videos.

2.7 Microlearning

Microlearning refers to the delivery of eLearning content in the form of information nuggets. Most microlearning modules will be 1, 3, or 5 minutes long. You can have the occasional module that is 10 to 15 minutes long but these are only ideal if dividing the module into two would interrupt the learning. Microlearning can take nearly any form. It can be a short video, a short piece of written content, or anything else.

With microlearning, each module focuses on just one topic; this allows users and readers to retain information in a more efficient manner. With microlearning, corporate training reaches a new level of efficiency as it allows better retention rates and finds a way to battle the forgetfulness curve. After adopting this eLearning method, the corporate training strategy dives into establishing a strong personal connection with its employees. The average attention span of humans is not more than 8 minutes and microlearning battles this by creating short, relevant, and concise pieces of eLearning modules that make corporate training more of a success.
Related Read: eLearning vs. Microlearning: What are the Differences?

2.8 Mobile Learning

When it comes to eLearning, accessibility plays a crucial role. What better way to stay accessible than to go the mobile route? Through mobile eLearning, employees have access to the needed information in the comfort of their homes or even during the train ride to work. Mobile learning puts corporate training right into the palms of the employees, thus allowing them the freedom to refer to it as and when they wish.
You will notice that many of the eLearning platform providers we mention below have mobile apps, including Kajabi and Talent Cards. Talent Cards are especially useful for mobile learning as you can have learners scan QR codes that take them to a specific module. Users can also download modules to use later without an internet connection.

3.METHODOLOGY

This section presents the methodological tradition in regards to worldviews, research philosophy, research methodology, methods for data collection and data analysis, the validity and reliability of the research. The section ends with a discussion on the ethical considerations for this study. 3.1 Methodological Tradition The underlying, maybe not known to the researcher, assumptions and/or beliefs of the world researched upon, will have an impact on how the researcher conduct the specific research. This is in research terminology described as a worldview. Worldviews; "..are shaped by the discipline area of the student, the beliefs of advisers and faculty in a student's area, and past experiences" (Creswell, 2009, p. 6) The discipline of Informatics, the beliefs of the advisers and faculty of the Linnaeus University and the experiences of the researcher, affect the worldview in this study. The researcher´s background in this study originates from previous studies in Business Administration and Informatics as well as work experience in areas within management, accounting, teaching, and information systems. Beliefs about Concerning Explanation Physical and Social Reality Ontology Whether social and physical worlds are objective and exist independently of humans, or subjective and exist only through human action. (Orlikowski & Baroudi, 1991, p. 8) Human Rationality The intentionality ascribed to human action (Orlikowski & Baroudi, 1991, p. 8) Social Relations Whether social relations are intrinsically stable and orderly, or essentially dynamic and conflictiv. (Orlikowski & Baroudi, 1991, p. 8) Knowledge Epistemology Criteria for constructing and evaluating knowledge. (Orlikowski & Baroudi, 1991, p. 8) Methodology Which research methods are appropriate for generating valid evidence. (Orlikowski & Baroudi, 1991, p. 8) Knowledge and the Empirical world The role of theory The purpose of knowledge in practice. (Orlikowski & Baroudi, 1991, p. 8) Figure 10 Beliefs Underlying the Conduct of Research. Adapted from Orlikowski & Baroudi (1991, p. 8) Research philosophy describes the underlying philosophical assumptions a researcher makes when doing research. Three distinct epistemologies (or philosophical assumptions): positivist, interpretive and critical form the base for qualitative research (Myers & Avison, 2002). The epistemologies consist of three different kinds of beliefs. Beliefs about the Physical and Social Reality, beliefs about Knowledge and beliefs about the Relationship between Knowledge and the Empirical world (Orlikowski & Baroudi, 1991). See figure 10. The Positivist philosophy assumes that the researcher is expecting some form of fixed structure of relationships in the studied phenomena and form a hypothesis to test this relationship on, or, the researcher wants to describe a phenomenon in an objective and non-interpretative way. The researcher tries to discover the reality of the studied object by models and measurements that will explain it to the researcher. The researcher is passive, neutral and does not intervene. The researcher assumes that the actions taken in the studied environment is

rational and intentional. The use of theories and the result from testing those theories establish the knowledge acquired during at study. The theories are verified or falsified**.**

4. RESULT & DISCUSSION

The "Result and Discussion" section of a study on an employee management system would typically present the findings and analysis of the implemented system. Here's how it might be structured:

Results:

there is no optimal system that o□ers all-in-one package to the online educational process, but the best system is the system that adapt its features and capabilities to meet users' emergent needs; (ii) we also noticed that, contrary to commercial systems, the high volume of customers who use open source systems came from educational institutions, such systems like Moodle, Chamilo, Totara Learn, Open edX, and Sakai; (iii) All tools support small to large enterprises, except Canvas which is mainly designed to support small enterprises. Regarding the HW/SW supported platform, we observed the followings: (i) all common operating systems (Windows, Linux, Mac, iOS, and Andriod), and Web browsers (Internet Explorer, Firefox, Google Chrome, and Safari) are supported by all tools, except Edmodo, Schoology and Sakai that do not support Linux, and ATutor does not support mobile platform; (ii) it is also noticed that most commercial tools provide 24/7 customer care services, except Talent, Edmodo, and the following open source tools Canvas, Chamilo, Totara Learn, Opigno, and Ilias provide 24/7 customer care services; (iii) some tools' developers provide free trial versions, except Edmodo, Schoology, Totara Learn, Forma, Open edX, Opigno and Ilias, and support mobility

Discussion:

This chapter discusses the findings from the data collection, based on the identified themes. As the two research questions are somewhat intertwined, the discussion will follow the themes, rather than the specific research questions. The previously presented literature and additional literature found during the study serve as support for the discussion. 5.1 The Ambassadors role and influence Starting with the definition of the role Ambassador, the findings suggest that the ambition of the project management of Ambassadors acting as an agent or intermediary between the project management and the teachers was fulfilled. Most of the Ambassadors did acknowledge this particular role and acted upon it accordingly by participating in department meetings, setting up examples of course areas and inviting colleagues to join them in that course area, answering questions, making suggestions on functionality to use to the trainers, and giving feedback on how to plan and distribute training material to all teachers. There is a question on whether the Ambassadors is a user coalition group or a group of change agents according to the model of Alhogail & Mirza (2011). According to the definition, a user coalitions group contains members of all stakeholders, i.e. IT, management, teachers, and students. This would suggest that the Ambassadors do not belong to the user coalition group. The user coalition group is more of an internal project management group. Alhogail & Mirza (2011) define change agents, as members from the user coalition group with the responsibility to facilitate and manage the change in the university. This definition does only in part fit with the role of the Ambassadors, i.e. the part of facilitating. The Ambassadors had no management role and authority assigned to them. Assuming that the Ambassadors had a strong social influence on the other teachers, they contributed to the adoption of a technology as described by Keller (2005). Other researchers have discussed the adoption of technology. Moore (2001) introduces a revised technology adoption life cycle, identifying the deep and dividing chasm between early adopters and early majority of users. This chasm, usually not recognised, constitute an important transition aspect in relation to convincing the late majority of adopters to use an innovation. The early adopters are visionaries, change agents, while the early majority are pragmatists who want to have a productivity improvement, and the late majority are conservatives not approving of discontinuous innovations and believing in tradition over progress (Moore, 2001). While Moore (2001) focuses on the chasm between early adopters and early majority from a marketing perspective, Hill (2016) applies a teaching perspective to the model and argues: "Ed tech should not be a market to be conquered but rather a continuous process of improving student learning and meeting institutional goals. Faculty members are not just end users to be converted and

trained." According to Hill (2016), there will always be teachers enthusiastic about new technology and therefore seeking innovations, with opportunities to use in teaching. However, there will also be a larger group of teachers that is or is not interested in using technology when teaching, not having the time or motivation to invest in a search for technologies. The solution is not "crossing the chasm", but "straddling the chasm" instead. To the support of straddling a chasm, the early adopter can sit down with other early adopters and in peer-to-peer discussions find useful tools in a new system. The early majority, mainstream faculty with experience from more than one LMS, can be used to evaluate whether or not a functionality of the LMS is important. Nevertheless, it is important to understand what the faculty members' need, before starting a process of looking for features and solutions (Hill, 2016

5.CONCLUSION & FUTURE WORK

This paper presented an updated feature-based comparative analysis of highly recommended LMSs, both commercial and open source. More than twenty evaluation criteria were used to conduct this comparative study. The results have shown that there is no optimal LMS that o□ers all-in-one package to the online educational process, but the best system is the system that adapt its features and capabilities to meet users' evolving needs. For most of the tested features, Moodle remains on the top, and it is considered as the best free open source tools and provides its services to more than hundreds of millions of customers worldwide. Besides to Moodle, Chamilo, TotaraLearn, Open edX and Sakai have more built-in features that provide services to educational institutions more than others. Also, this study showed that Docebo, SkyPrep, ProProfs, SAP Litmos, Moodle, Totara Learn, Open edX and Opigno systems have more built-in security mechanisms such as antispam, antivirus, IP Blocker, data protection and complex password enforcement. Most considered systems have gami□cation features except Schoology, ATutor, Sakai, and Ilias, and they can o□er 24/7 customer care services, except Edmodo and Telnet, whereas open source tools o□er this service on speci□c time slots, except Opigno, Ilias, TotaraLearn, Chamilo, and Canvas, where the service is o□ered 24/7.

As a future work, we will analyze the performance of LMSs using customers' feedback. For this purpose, we will apply the common machine learning methods being implemented for sentiment analysis domain to analyze customers' opinions about these tools, and to build classi□cation models for the optimal set of learning features

6.REFERENCE

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7.APPENDIX OR APPENDICES

This section will give some visual details about the content and the structure of the database that has been designed and constructed for the purposes of the program. • MS-Access (2000):