Learning Management System usage: Unwrapping its potentials and drawbacks

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ABSTRACT

The pandemic has made the role that technology-based instruction, such as the use of Learning Management Systems (LMS), must play even more important. But now that face-to-face classes are resumed, it can assist instruction and the provision of distance learning. This study was founded on the idea that LMS improvement may be made by carefully examining the problems and struggles that students face. A validated and pilot-tested survey instrument and social media interviews were used to collect data for the quantitative and qualitative parts of the study, which involved 1,372 and 10 randomly chosen students, respectively. The Quirino State University's Excellent, Accessible, Resilient, Adaptive Learning Space (QSU e-ARAL) has considerable value in terms of system, information, interaction, instructional quality, and learning quality, according to the findings, as it offers tools, features, contents, and other components that assist students' efficient and productive learning. Holistic learning has numerous advantages, but its full guarantee cannot be provided by using solely the LMS because of the technical, technological, financial, and engagement problems that students encounter when using it. With this, it is expected that the LMS will be enhanced based on user feedback in order to realize its full potential as a tool for instruction and remote learning.

1. INTRODUCTION

The internet has significantly supplanted conventional learning methods because it makes it easy for individuals to connect via a variety of online platforms and because it can be used for a variety of educational purposes. By participating in one or more social media forums or platforms, almost 45% (3.5 billion) of the world's population can be called an internet user (Hameed & Irfan, 2021). Because of the incorporation of e-learning technology like learning management systems (LMS), the traditional classroom learning environment has undergone a substantial transformation (Turnbull et al., 2021).

An LMS is a web-based platform that, carefully organization and execution, enables academic learning to continue (Alias & Zainuddin, 2005). To aid in the teaching and learning process, it might have a wide variety of pedagogical and course administration tools (Yakubu, 2019). This platform benefits students since it encourages the culture of knowledge-sharing and increases access to education (Fathema et al., 2015).

The COVID-19 pandemic impact on the world's unrest made the role that technology-based instruction must play even more helpful (Shah et al., 2021; Teräs et al., 2020). The world has been profoundly impacted by it and changed. To save the educational system and process, teaching and learning approaches have been reviewed, revised,

rethought, and changed (Makumane, 2021). The pandemic has produced significant disruptions, necessitating rapid response from educational institutions. As a result, building a resilient learning system was essential and needed to be institutionalized (Dayagbil et al., 2021).

In numerous nations, including the Philippines, higher education institutions (HEIs) have adopted online learning as the standard during the COVID-19 pandemic. The Philippines' higher education institutions have adapted to the limitations imposed by this global pandemic and are forced to adopt a fully online educational system (Navarro et al., 2021).

Quirino State University (QSU), a higher education institution in the Philippines, migrated to flexible learning using various modalities. The QSU e-ARAL, a Learning Management System, which was developed and customized in 2017 by an IT faculty using the Modular Object-oriented Dynamic Learning Environment (Moodle), was used starting First Semester, 2021-2022. Through the use of Moodle, an open-source platform, the LMS is considered highly flexible, giving HEIs the power to extend and add features for a custom learning environment (Kraleva et al., 2019). Various types of learning can be implemented in this platform: flexible, blended, mobile, active and adaptive learning. It is accessible through windows, mac and Linux; and can be on online or offline mode (Yra, 2021).

The QSU e-ARAL offers features that simulate traditional classrooms, making it a better alternative to conducting face-to-face classes. However, it requires a careful evaluation of its quality based on user feedback and an investigation of problems encountered during use in order to identify elements or components needing more attention. Although it is now possible to hold face-to-face classes, it is still probable to use as an LMS, particularly for students who might prefer remote learning or for learners who might be apprehensive about attending face-to-face sessions.

Thus, this study worked along the following objectives:

1. Assess the QSU e-ARAL's potential in terms of system quality, information quality, interaction quality, instructional quality and learning quality based on the student-users' experiences; and

2. Explore the LMS' drawback by understanding the defying challenges of users along QSU E-ARAL utilization.

It is possible that the study's findings will develop recommendations for the enhancement of the QSU e-ARAL by carefully examining the comments and reactions of student users. In this approach, the system's full potential can be used, which could enhance how remote learning instruction is delivered and even support the use of in-person classes.

The idea of collaborative learning, in which teachers and students work together to design, plan, and suggest various activities appropriate for the teaching-learning process, can serve as the foundation for the use of LMS. This opens up more opportunities for students to engage in more interactive and collaborative learning (Janssen & Wubbels, 2018). Through contact with others and using others' abilities, students' experiences are expanded. Students' input on the LMS's use is therefore required in order to include learning principles and expectations.

This study is grounded in Connectivism, a learning philosophy for the Digital Age (Siemens, 2004). Learning, according to Connectivism, is a process that occurs because of a range of constantly altering components. Learning has shifted from personal, individualistic activities to group, community, and even crowd activities because of Internet technology. "The individual who feeds information into the network, which feeds information back to others who feed information back into the network as part of a cycle" is the "beginning point of learning." This suggests that learners' feedback to the teaching process is vital in changing how instruction can be delivered and how the whole system can be changed. Just as when using LMS, their feedback, as primary users of this system, is of great importance in improving its functions to further facilitate the teaching and learning process. Siemens observed that the dynamic of information flow drives connectivism as a theory. Students must comprehend and be exposed to navigation and recognition experiences. Oceans of knowledge that is always altering and developing.

The QSU e-ARAL is a Moodle-based Learning Management System customized for the university by an IT faculty; it can be accessed through a browser or mobile application, though online and offline modes. It can be used to design and create various courses, create various contents which can

be accessed by enrolled students, and has the ability to facilitate assessment and testing activities for students. Chats and discussions that promote social connectivity among the faculty and students are activated. The customized system was created by following several stages, following a specific framework and grounded on the User-Centred Design Theory (Kravela et al., 2020) to include all possible requirements needed to facilitate teaching and learning.

2. MATERIALS AND METHODS

This study used a mixed-methods research design that included both quantitative and qualitative techniques, specifically an explanatory sequential design. There were two stages: the first collected quantitative data using a verified survey research tool, and the second gathered qualitative data using interviews and social media chat messages.

This study used a quantitative-descriptive research design to evaluate the QSU e-ARAL in terms of system, information, interaction, instructional, and learning quality based on the experiences of the student-users. A qualitative research approach helped the researchers investigate and acquire a deeper understanding and interpretation of the difficulties students faced when using the LMS.

By delving deeper into the problems and difficulties that student-users faced while using the system, the quantitative results were further clarified through thorough qualitative conversation. There were 1,372 randomly chosen respondents for this study, of which 347 (25.29%) were male and 1,025 (74.71%) were female students enrolled in various courses and year levels across the university's three campuses.

Table 1. Frequency Distribution of Student-Users as to Sex in the Three Campuses

Sex	Campus			Total
	Cabarroguis	Diffun	Maddela	
Female	308	631	86	1,025
Male	87	224	36	347
Total	395	855	122	1,372

Ten students took part in the qualitative portion of the study and agreed to share their experiences, particularly the difficulties they faced when using the QSU e-ARAL. There were only ten students included in the qualitative part of the study to ensure that the interviews conducted were in depth and were given sufficient time. This selection of participants was also done to limit contact, because

of the occurrence of the pandemic, with these individuals especially during face-to-face interviews. They were selected based on these criteria of inclusion: a bona fide student of the University; has used the LMS for the last two years for submission of requirements, taking quizzes or tests and participation in forums or discussions; has experienced challenges along LMS utilization and will take part in the interview. With the help of some instructors handling courses through the e-ARAL, a list of students to be interviewed was identified.

Unstructured in-depth interviews through one-on-one and focus group discussions and social media chats, like Messenger, which is most convenient for the participants, were used to explore the issues students faced when using the QSU e-ARAL. The survey questionnaire was adapted (Koh & Kan, 2020) and revised based on reviewed literatures to suit the local context, and has undergone experts' validation and reliability test for its improvement. To guarantee that the instrument's components were error free and suitable for achieving the study's goals, it underwent expert validation.

After which, it was piloted to thirty students (non-respondents) to test whether they fully understood the items. Responses were analysed; results revealed a Cronbach's Alpha value of:

Table 2. Reliability Testing Results of the Survey Questionnaire

Scale	Cronbach's α	Internal Consistency
System Quality (SQ)	0.819	Good
Information Quality (INQ)	0.821	Good
Interaction Quality (ITQ)	0.886	Good
Instructional Quality (ISQ)	0.821	Good
Learning Quality (LQ)	0.896	Good

The instrument has strong internal consistency, which suggests that it is appropriate for this research, according to the reliability test results. The questionnaire was produced online and distributed to students with the help of the program chairs and advisers. Data analysis was aided by the extraction and input of quantitative data into statistical software. As statistical tools, frequency counts and the mean were employed.

Meanwhile, thematic analysis methods were used to examine the qualitative data in the meantime. It entailed a methodical data coding procedure in which particular statements are examined and grouped into themes that represent the phenomenon of interest (Creswell, 2014). Examining the viewpoints of various research participants could be a beneficial strategy for emphasizing similarities and contrasts and for producing unexpected findings (King, 2004). By learning about the challenges participants encountered when using the LMS and the experiences they shared, the researchers could gain an understanding of the situation's realities using this method.

The findings of the study could be a basis in improving the existing LMS for utilization as a supplemental platform to cater instruction, both face-to-face and online. This could also be a useful context for other universities using LMS; by investigating and exploring the experiences of users, they will have tangible feedbacks as the basis for enhancement of the system.

3. RESULTS AND DISCUSSION

3.1. Quality of the QSU e-ARAL based on Student-Users' Experiences

In this study, system quality includes assessment about the system's layout, contents, texts and graphics, fonts, navigation tools and access tools. How the system includes various information such as learning outcomes or goals, access to supplementary materials, update on learning contents and features were items assessed under information quality. In addition, the interaction quality of the system was gauged through its provision of a good environment for discussion and collaboration between and among users. Meanwhile, the instruction quality encompasses how the system becomes valuable to post and replying to discussions, in taking tests, in submitting requirements and assignments, in managing projects and in grading student outputs. Learning quality fosters instructor-student or student-student interaction, provision of opportunities for learning, making teaching-learning more engaging and motivating, providing several modalities to facilitate learning, and using the LMS more creatively beyond the traditional classroom setup.

System Quality (SQ) has been referred to in studies about LMS as technical elements such as reliability, response time, ease of access, navigations system design and network speed (Hwee & Koh, 2020).

Meanwhile, information quality could mean the currency, accuracy, and sufficiency of LMS content (Al- Samarraie, Teng, Alzahrani, & Alalwan, 2018). It could also be understood as an amount of the value that information offers to its users or clients (De Lima et al., 2021). How the LMS could support the different learning tasks and activities specify the instructional quality of student-users' LMS experiences (Chen et al., 2008).

Table 3. Mean Perception of Student-Users on the LMS Quality

Requirements	Mean	Qualitative Description
System Quality	2.81	Satisfactory
Information Quality	3.05	Satisfactory
Interaction Quality	2.86	Satisfactory
Instructional Quality	2.99	Satisfactory
Learning Quality	2.99	Satisfactory

Legend: 3.26 – 4.00 Excellent, 2.51 – 3.25 Satisfactory, 1.76 – 2.50 Good, 1.00 – 1.75 Not Good

As per evaluation of students, the LMS has a very satisfactory system, information, interaction, instructional and learning quality. Students found the QSU e-ARAL as simple to use and navigate--- not needing users' advanced technological skills or abilities in order to utilize the system. It provides enough tools and information, has up-to-date features and contents, and makes it simple to access various supplemental materials that enhance teaching and learning. Its interaction quality makes the teaching-learning process more effective and productive as teachers and students could interact, communicate, and work together through forums, discussions, and other such activities. It offers a learning ecosystem that fosters interaction between teachers and students, as well as among students, QSU e-ARAL was assessed to have good interaction quality by student-users. LMS may be useful in emulating experiences and activities that often occur in a traditional classroom. In order to address the different learning needs of students, it also offers a variety of learning modalities, including visual, auditory, text-based, and similar ones. Given that it makes use of innovative technology to assist in the teaching and learning process, this may also be a better alternative than in-person classes.

Using LMS and other similar technological applications in higher educational institutions changed the landscape from a traditional learning environment to a technological one which is rooted in the context of providing interaction and

simulating creativity among learners (Alhumsi & Alshaye, 2021). It has been adopted by institutions because of its ubiquity, easiness, and accessibility (Mohsen & Shafeeq, 2014). LMS also boosts the engagement and participation of students in class and to improve student outcomes (Alhumsi & Alshaye, 2021). Further, students' retention improves when engaged in innovative online activities and course design (Leeds et al., 2013). LMS, like Moodle, was perceived to be a useful and productive platform for learning, since it provides all relevant course information (Maslov et al., 2021). They are used to keeping information that is only accessible to students who are enrolled. It is possible to enjoy the convenience of posting grades, facilitating assignments, and distributing quizzes or tests. There are many strategies to develop communication in the classroom (Kroner, 2014). Assisting in the delivery of teaching, these tools also enable group conversations, discussions, document sharing, assignment submission, quizzes, grading, and course evaluations (Bove & Conklin, 2020).

Further, the LMS's ability to facilitate interaction is crucial because when users believe the LMS to be convenient, they will use it more frequently and may experience higher levels of satisfaction from its use (Nguyen, 2021). The usage of LMS improves education because it gives teachers and students a platform for interactive communication without regard to time or location (Dahlstrom et al., 2014). Therefore, the interaction quality may cause improved user-to-user and user-to-user communication. Improvement in academic performance, influence of learners' persistence in learning, and research abilities could result from this (Sawafta & Al-Garewai, 2016).

Students' LMS experiences need to support their learning goals. Some LMS studies have examined this aspect through practical measures of perceived usefulness, such as students' perceptions of how LMSs contribute to their learning efficiency and academic performance (Mtebe & Raphael, 2018)

Generally, LMS and other technologies, including computers, provide a variety of learning instruments to facilitate quick communication and accommodation, allowing efficacy in the instructional teaching and learning process (Fathema et al., 2015); thereby making the learning process more interesting and fruitful.

With all these advantages and benefits to delivering instruction, it causes LMS to maintain its quality to deliver the features and contents it was created for.

3.2. Defying Challenges in QSU e-ARAL's usage

This study explored the difficulties students faced when using the university's QSU e-ARAL. Following a thorough examination of the individuals' common experiences, the following themes emerged:

3.2.1. Theme 1. Technical Difficulties of Various Kinds.

Despite the benefits of using an LMS, there are also significant disadvantages for students that prevent convenient and efficient use. In this study, students' experiences with the LMS were characterized by frequent errors, a storage capacity that was limited, and sporadic downtime.

Recurring Errors. Whether LMS is used for teaching or learning, or both, it can be powerful and beneficial. For learners, they can have access to knowledge and learning materials in one place, tracking this, and recording evidence of their accomplishments. Because of the capacity to track learners' performance and use this data, the advantages may be even more significant to teachers, and the organization, in general.

However, based on the testimonies of the student participants, cannot be fully beneficial to the teaching-learning process since errors occurred frequently while using the LMS, such as when students had problems getting in or when the system automatically logged them out while they were still using it. This may be a serious problem with the QSU e-ARAL, especially if students are taking examinations or quizzes and need to log back in quickly. Errors in the online requirements submission stopped them from continuing the submission. In these situations, students prefer to use alternative platforms to turn in their assignments, which places an additional load on teachers to review student work across a variety of platforms.

These findings can be grasped from the following narratives:

P1 *I can say that the e-ARAL is okay. But the problem is, sometimes I experienced errors causing me to be logged out.*

P10 *What I experienced in using the e-ARAL was that, I sometimes cannot open the system.*

P4 *During quiz or exam, I encountered errors which automatically logged out my account; so, we*

have no choice but to log in again. The Moodle app loads so slow.

P3 *...anytime, but the only problem I encounter while using it, sometimes the system is unfunctional.*

P9 *However, for taking quiz or exam, the system lags and it is slow in loading the system.*

P2 *When using the e-ARAL, I experienced hassles like being disconnected to the internet, which is why I was late in submitting activities because I also encountered errors when doing so.*

These problems that students specifically mentioned are consistent with the teacher and student complaints about technical difficulties (News, 2021). Every technical issue that students encounter makes it more difficult for them to perform tasks, which makes learning more challenging. Because of the mistakes made by users, the LMS cannot achieve its goal of quickly delivering a high level of content knowledge while also ensuring total administration of the entire educational cycle, including data and information (Mishchenko, 2020).

Limited Storage Capacity. Along with its popularity and usefulness, LMS' digital information retention requirements rise as well. Storage problems are real, and if they are not fixed right away, colleges and universities risk running out of resources. Its storage capacity and storage management capabilities are essential to ensuring that the instructional process remains relevant.

In this study, participants revealed the LMS is a useful tool for accessing subject-specific learning materials, but it has a little amount of storage. Since they must limit the file size or compress the file into an acceptable format, students' output quality suffers. The server's capacity is limited by simultaneous submissions, downloads, and uploads from several users. When the server hits its capacity, it is unable to serve all activity. In this situation, the LMS's ability to provide a variety of activities for teachers and students is jeopardized.

Narratives of students indicating this experience are revealed:

P1 *And it has a storage limit; when passing video outputs, the file size should only be a maximum of 16MB.*

P3 *...and the maximum MB required for the files to submit does not fit to the file size of the documents that we have, that we have created. We need to compress the file. This is a waste of our time.*

P5 *I faced problem in submitting videos because e-ARAL has file size and number of files limitation.*

Despite the upgrade in storage capacity of the LMS by the system developer, student-users encountered problems in its capacity to hold data. These data include those that will be stored, including but not limited to, class, discipline, topics, timetables, teachers, students, evaluations, forums, etc. (Kraleva et al., 2020). With the limitation on the LMS storage capacity, it could not efficiently play its role in making learning easier for students, creating interactive and collaborative learning experiences amongst students and facilitating learning in its own pace (Alecu et al., 2011).

Occasional "down-times". Because the LMS is cloud-based, it may occasionally experience downtimes that prevents users from accessing the system. When students were taking quizzes or tests, they occasionally had downtime that prevented them from engaging in these activities. It may take them a while, or even a day or two, to return to the LMS after running into such an issue, delaying the completion of quizzes, tests, or even the submission of requirements for the topic.

Participants shared the following experiences:

P5 *At times, we encounter system down-times. This wastes our time and effort.*

P2 *I have good experiences in utilizing the e-ARAL however, I feel irritable at times especially when experiencing technical problems or poor internet connection.*

P7 *The system always bugs down that is why they always do system maintenance; I do am not sure if this problem does not exist anymore.*

The problems associated with down-times, technical and functional issues could lead to users' dissatisfaction and usage of the LMS. This is an important issue that needs immediate resolution because when the system fails and contingency plans do not prosper, the lost time could not be recovered anymore (Alturki et al., 2016); thus, leading to the failure of the system to effectively accomplish instruction (Babu et al., 2010).

3.2.2. Theme 2. Technological and Economic Difficulties.

Lack of sufficient instruction on how to use the system may have prevented students from successfully using the LMS since they were not engaged in using it. Their belief that they needed a

strong internet connection in order to access and download crucial materials, take tests and quizzes, submit requirements, and perform other tasks that were required of them has also put a financial strain on them.

Tech Heavy. The QSU e-ARAL offers various features and contents which are not familiar to users; thus, making the system tech heavy. With this, comprehensive training, not only simple orientation, may be done for users to become familiar of these things since technical support, which is done through providing support, could be one of key external factors leading to increased utilization rate of the LMS (Alshammari et al., 2016).

When compared to other online platforms for learning, users preferred Google Classroom and Facebook messenger as these offer more convenient tools that facilitate submission, downloads, uploads, among others. These problems are vividly expressed by participants:

P2 *For me, the use of the e-ARAL is difficult and challenging since it is just new to us and we do not have sufficient knowledge to operating it. I fear exploring it because when I use it wrong, I could not be able to go back using it anymore.*

P4 *At times, when I check the submitted outputs, there were missing so I have to resubmit. I am puzzled. Sometimes, it is easier to use the GC (group chat) for files. It is difficult to open files (in e-ARAL).*

P3 *It is better to use GC because one can send activities easier compared to e-ARAL that you need to be connected to a strong internet before you can send your outputs.*

Such complaints imply that fully online offerings in higher education were hit by a lack of preparedness and appropriate learning. This could be due to absence of adequate trainings on how to use the LMS (Alenezi, 2018). Despite the optimistic attitude of students towards the use of this learning facility, the lack of adequate support from university could imply shortage of educational networking among students, faculty and administration (Mishchenko, 2020).

Further, research reported that one of the main challenges of LMS in Saudi Arabia is the lack of training and support (Smith & Abouammoh, 2013). There also seems to be gap between reality and the various advanced tools provided in the LMS which are expected to support learning but are not utilized. To bridge this gap, the LMS needs to be more

adaptive and customizable (Adzharuddin & Ling, 2013). In this way, teaching and learning will not be disrupted.

Costs additional economic burden. When accessing and using the QSU e-ARAL, students felt that they needed a good internet connection because a poor connection made it difficult for them to download files, upload documents, complete examinations and quizzes, and carry out the other tasks that were asked of them. Strong signals must be established in order to open the application for people whose residences are in rural locations. Others lack the resources to purchase mobile data load or the technological equipment needed to use an LMS.

With this, a strong internet connection and a suitable technological device would cause additional economic burden to students; while other enjoy their feat in online learning, some juggled through their financial and technological incapabilities.

These problems are reflected in the narratives of student-users:

P6 *I should start by saying, internet connection is slow or should I say poor. I do not know if I just need a strong connection or should I need to possess quality phones or own high-end laptop to access the portal.*

P1 *For me, e-ARAL is okay to use in online classes but I think, it all depends on the internet connection of students. Just like me and my other classmates who live in mountainous areas or far-flung places where signal is poor and they cannot attend online classes; we make ways just so we can cope up with the class and can submit outputs. So far, the e-ARAL is okay.*

P2 *The problem I encountered in utilizing the e-ARAL is that I suffer financial constraints which prevented me from using the app.*

P8 *One of the problems I encountered in using the e-ARAL is, when using it, we need have a strong internet connection to access the subjects and to download/submit a file and when taking exams and quizzes.*

P9 *Secondly, most of my fellow students are residing in the highland area of the province so basically, they do not have internet connection, even phones or laptops. This is why, they cannot use or access the e-ARAL. If they want to, they need to have strong connection, and also buy high-end gadgets.*

The economical difficulty causing students to not avail a strong internet connection and device would certainly result in the unsuccessful implementation of e-learning; thus, users' experience and perceptions towards such system is at stake (Maslov et al., 2021). Though educational benefits do not flow automatically from having a good internet connection, there is a great deal when students can conveniently access educational resources via the internet (Adzharuddin & Ling, 2013). Thus, investing in it, though causing additional weight, could be considered. In this way, improved academic standards and quality can be ensured..

3.2.3. Theme 3: Learners' Engagement Struggles.

Aside from the technical, technological and economic issues surfaced in the utilization of QSU e-ARAL, the wriggles on students' engagement and participation in class seem more upsetting. Students cannot fully and effectively participate in class using the LMS. It does not also guarantee holistic learning especially for courses that are skills-based. Thus, the traditional classrooms cannot be altered by just fully utilizing the online learning system.

Difficulty in participating in class. The LMS is expected to serve as a portal enabling instructors and students to interact away from the classroom, making discussions through virtual forums which may take up too much time in the classrooms (Adzharuddin & Ling, 2013). It could also serve as one of the solutions for other instructional activities such as administering tests, sharing files and many others (Ayub et al., 2010). But all these benefits of the LMS could not be attained fully when students have the difficulty to be engaged.

Student-users vividly shared their experiences along difficulty of submitting requirements on time and taking exams and quizzes. Activities and exams take a major percentage in the final grades of students. When students do not meet deadlines of submission, do not accomplish certain tasks on time or do not complete tests or quizzes, their grades will greatly be affected.

Students shared their experiences along this issue:

P4 *There are times that I cannot access the* e-ARAL *, so I sometimes cannot do the tasks assigned to us.*

P6 *When taking the exam and quizzes, it takes a minute before I can click the next page. This takes time. Instead of finishing the exam earlier, a student cannot. With this problem, I have a difficulty of participating in class and class activities.*

P7 *I was faced with poor internet connection. With this, I was not able to submit my requirements on time. This affected my school performance.*

To note, the widespread utilization of LMS to aid educational initiatives among colleges and universities can be observed (Walker et al., 2016). It has significantly contributed to supplementing face-to-face learning sessions and supporting blended instruction (Klobas &McGill, 2010). But when students encounter problems on engaging themselves in the process and students' participation in class is not realized, the majority, if not all, things fail.

Does not guarantee holistic learning. Online learning environments cannot replace in-person instruction, despite what some people may say. This may be the cause of certain students' preference for participating in traditional classroom activities. Because of the ability for agriculture students to take part in practical activities like field work and laboratory work, face-to-face instruction was seen to be more convenient. Since the QSU e-ARAL has some restrictions, classrooms are the only place where learning may be maximized. When using the LMS, skill execution, such paraphernalia holding and command performance, cannot be guaranteed. Therefore, it cannot ensure that students will learn holistically.

This struggle among participants was shared by them in the following statements:

P3 *As an agriculture student, it is more convenient to undergo face-to-face classes since our course is science-based, we have hands-on activities such as laboratory and field activities, that's why, it is more convenient to attend f2f rather than online or using e-ARAL.*

P8 *I learn more during face-to-face classes since there are limitations on what the e-ARAL can offer.*

P9 *I am a criminology student. The proper way of holding a gun, proper saluting, proper execution of military commands cannot be done in online platforms. This can be used for discussions but it cannot be guaranteed that students listen or read their lessons uploaded in the e-ARAL. So, face-to-face is still better.*

Classroom teaching is an established instructional medium in which teaching methods, styles, and techniques have been refined over time. This makes it helpful over its online counterpart (Xu & Jaggars, 2016). It is dynamic such that it provides real-time

instruction, sparks innovative questions, provides immediate feedback and has a more flexible content delivery (Salcedo, 2010). It does not depend on an impeded internet connection; thus, could guarantee a holistic and non-obstructed learning amongst students.

4. CONCLUSION

The Learning Management System could essentially and effectively mimic everything that a traditional classroom can accomplish without the cost of printing materials for class, haggling with the limitation on the number of students to be accommodated and constraints on tracking tools. This could complement in-person classes and in offering remote classes.

However, if the quality of the LMS is low, student engagement becomes limited, holistic learning cannot be warranted.

If the LMS is to be used continuously to support in-class instruction, alterations and enhancements may be made to make it more effective, adaptive, and flexible to the needs of the teaching-learning process, particularly given the undeniable advantages of online learning. The server may need to be improved to withstand faults and downtimes, which will eventually lead to faster throughput and turnaround times. Regular monitoring and upkeep could be quite beneficial for quickly addressing any potential problems. To fully make the most of the system's use, intensive system training could be provided to all users. It is expected that when the LMS is improved, the way instruction is delivered will also improve

REFERENCES

Adzharuddin, N., & Ling, L. (2013), Learning Management System (LMS) among University Students: Does it Work?. *International Journal of e-Education, E-Business, e-Management and e-Learning*, *3*(3), 248-252. DOI: 10.7763/IJEEEE.2013.V3.233.

Alecu, I. N., Marcuta, L., Marcuta, A., & Angelescu, C. (2011), The role of an E-learning platform in the sustainable development of the online learning at the University of Agricultural Sciences and Veterinary Medicine. *Scientific Papers Series–Management, Economic Engineering in Agriculture and Rural Development*, *11*(2), 5-8.

Alenezi, A. (2018), Barriers to Participation in Learning Management Systems in Saudi Arabian Universities. *Education Research International*, 2018, Article 9085914.
https://doi.org/10.1155/2018/9085914

Alghamdi, S., & Bayaga, A. (2016). Use and attitude towards learning management systems (LMS) in Saudi Arabian universities. *Eurasia Journal of Mathematics, Science and Technology Education*, *12*(9), 2309-2330.
https://doi.org/10.12973/eurasia.2016.1281a.

Alhumsi, M. H., & Alshaye, R. A. (2021). Applying technology acceptance model to Gauge University students' perceptions of using blackboard in learning academic writing. *Knowledge Management & E-Learning*, *13*(3), 316–333.
https://doi.org/10.34105/j.kmel.2021.13.017

Alias, N. A., & Zainuddin, A. M. (2005). Innovation for better teaching and learning: Adopting the learning management system. *Malaysian Online Journal of Instructional Technology*, *2*(2), 27-40.

Alshammari, S., Ali, M., & Rosli, M. (2016). The Influences of Technical Support, Self-Efficacy and Instructional Design on the Usage and Acceptance of LMS: A Comprehensive Review. *TOJET: The Turkish Online Journal of Educational Technology*, *15*(2), 116-125.

Al-Samarraie, H., Teng, B. K., Alzahrani, A. I., & Alalwan, N. (2018). E-learning continuance satisfaction in higher education: A unified perspective from instructors and students. *Studies in Higher Education*, *43*(11), 2003-2019.
https://doi.org/10.1080/03075079.2017.1298088.

Alturki, U., Aldraiweesh, A., & Kinshuck. (2016). Evaluating The Usability And Accessibility Of LMS "Blackboard" At King Saud University. *Contemporary Issues on Education Research*, *9*(1), 33-44.
https://doi.org/10.19030/CIER.V9I1.9548

Boram, P. (2020, July 16). (News Focus) After Six Months, Pandemic Accelerates Arrival of Contactless Future in S. Korea. *Yonhap News Agency.*
https://en.yna.co.kr/view/AEN20200716002500315.

Bove, L., & Conklin, S. (2020). Learning strategies for faculty during a learning management system migration. *Online Journal of Distance Learning Administration*, *23*(1).

Chen, N. S., Lin, K. M., & Kinshuk. (2008), Analysing users' satisfaction with e-learning using a negative critical incidents approach. *Innovations in Education and Teaching International*, *45*(2), 115-126.
https://doi.org/10.1080/14703290801950286.

Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, California, SAGE Publications.

Dahlstrom, E., Brooks, DC., & Bichsel, J. (2014). *The Current Ecosystem of Learning Management System in Higher Education: Student, Faculty and IT Perspectives*. Louisville, CO: ECAR.

Dayagbil, F. T., Palompon, D. R., Garcia, L. L., & Olvido, M. M. J. (2021). Teaching and Learning Continuity Amid and Beyond the Pandemic. *Frontiers in Education*, 6, 1–12. https://doi.org/10.3389/feduc.2021.678692

De Lima, C., Cid Bastos, R., & Caetano Bastos, L. (2021). The Information Quality impact on Learning Platforms. *Renote*, *8*(2), 59-68. https://doi.org/10.22456/1679-1916.110204.

Fathema, N., Shannon, D., & Ross, M. (2015), Expanding the technology acceptance model (TAM) to examine faculty use of learning management systems (LMSs) in higher education institutions. *Journal of Online Learning & Teaching*, *11*(2), 210-232.

Hwee, J., & Koh, L. (2020). Perceptions of learning management system quality, satisfaction, and usage: Differences among students of the arts. *Australian Journal of Educational Technology*, *36*(30), 26-40. https://doi.org/10.14742/ajet.5187.

Klobas, J. E., & McGill, T. J. (2010). The role of involvement in learning management system success. *Journal of Computing in Higher Education*, *22*(2), 114-134. http://doi.org/10.1007/s12528-010-9032-5.

Kraleva, R., Sabani, M., & Kralev, V. (2019). An analysis of some learning management systems. *International Journal on Advanced Science, Engineering Information Technology*, *9*(4), 1190-1198. DOI:10.18517/ijaseit.9.4.9437

King, N. (2004). Using templates in the thematic analysis of text. In Cassell C., & Symon, G. (Eds.), Essential guide to qualitative methods in organizational research (pp. 257–270). London, UK: Sage. http://dx.doi.org/10.4135/9781446280119.n21

Koh, J., & Kan, R. (2020). Perceptions of learning management system quality, satisfaction, and usage: differences among students of the arts. *Australian Journal of Educational Technology*, *36*(3). https://doi.org/10.14742/ajet.5187

Kroner, G. (2014, January 7). Does Your LMS Do This? Edutechnica. https://edutechnica.com/2014/01/07/a-model-for-lms-evolution/.

Le, H., Janssen, J., & Wubbels, T. (2018). Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of Education*, *48*(1), 103-122. https://doi.org/10.1080/0305764X.2016.1259389.

Leeds, E., Campbell, S., Baker, H., Radwan, A., Brawley, D., & Crisp, J. (2013). The impact of student retention strategies: An empirical study. *International Journal of Management in Education*, *7*(1/2), 22-43. DOI: 10.1504/IJMIE.2013.050812.

Maslov, I., Nikou, S., & Hansen, P. (2021). Exploring user experience of learning management system. *The International Journal of Information and Leaning Technology*, *38*(4), 344-363. https://doi.org/10.1108/IJILT-03-2021-0046

Mishchenko, E. (2020). LMS Technical Analysis: problems of choice. *E3S Web of Conferences*, *24*(07005), 1-10. https://doi.org/10.1051/e3sconf/202124407005.

Mohsen, M. A., & Shafeeq, C. P. (2014). EFL teachers' perceptions on blackboard applications. *English Language Teaching*, *7*(11), 108-118. http://dx.doi.org/10.5539/elt.v7n11p108

Navarro, M. M., Prasetyo, Y. T., Young, M. N., Nadlifatin, R., & Redi, A. A. N. P. (2021). The perceived satisfaction in utilizing learning management systems among engineering students during the COVID-19 pandemic: Integrating task technology fit and extended technology acceptance model. *Sustainability (Switzerland)*, *13*(19), Article: 10669. https://doi.org/10.3390/su131910669

Nguyen, N. (2021). A study on satisfaction of users towards learning management system at International University – Vietnam National University HCMC. *Asia Pacific Management Review*, *26*(4), 186-196. https://doi.org/10.1016/j.apmrv.2021.02.001.

Salcedo, C. S. (2010). Comparative analysis of learning outcomes in face-to-face foreign language classes vs. language lab and online. *Journal of College Teaching & Learning (TLC)*, *7*(2), 43-54. https://doi.org/10.19030/tlc.v7i2.88

Sawafta, W., & Al-Garewai, A. (2016). The effectiveness of blended learning, based on learning management system "blackboard" in direct and delayed achievement of physics and learning retention among the students of Health Colleges in King SaudUniversity. *Journal of Educational and Psychological Studies*, *10*(3), 476-497. DOI: 10.53543/jeps.vol10iss3pp476-497.

Shah, S. N. A., Khan, A. U., Khan, B. U., Khan, T., & Xuehe, Z. (2021). Framework for teachers' acceptance of information and communication technology in Pakistan: Application of the extended UTAUT model. *Journal of Public Affairs*, *21*(1), Article: e2090. https://doi.org/10.1002/pa.2090.

Siemens, G. (2004). Connectivism: A learning theory for the digital age. http://www.elearnspace.org/Articles/connectivism.htm Smith, L., & Abouammoh, A. (2013). *Higher Education in Saudi Arabia: Achievements, Challenges, and Opportunities*. Springer, Dordrecht, Netherlands. https://doi.org/10.1007/978-94-007-6321-0.

Teräs, M., Suoranta, J., Teräs, H., & Curcher, M. (2020). Post-Covid-19 education and education technology

'solutionism': A seller's market. *Postdigital Science and Education*, *2*(3), 863–878. https://doi.org/10.1007/s42438-020-00164-x.

Turnbull, D., Chugh, R., & Luck, J. (2021). Learning management systems: a review of the research methodology literature in Australia and China. *International Journal of Research and Method in Education*, *44*(2), 164-178. https://doi.org/10.1080/1743727X.2020.1737002.

Walker, D., Lindner, J., Murphrey, T., & Dooley, K. (2016). Learning management system usage: Perspectives from university instructors. *The Quarterly Review of Distance Education*, *17*(2), 41-50.

Yakubu, M. N. (2019). The effect of quality antecedents on the acceptance of learning management systems: A case of two private universities in Nigeria. *International Journal of Education and Development using Information and Communication Technology*, *15*(4), 101-115.

Xu, D., & Jaggars, S. S. (2016). Performance gaps between online and face-to-face courses: differences across types of students and academic subject areas. *Journal of Higher Education*, *85*(5), 633-659. https://doi.org/10.1080/00221546.2014.11777343