An Evaluation of the Success of Moodle at Independence Junior College

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Abstract

Learning Management Systems (LMSs) are currently the most utilized tool when obtaining higher education. Educational organizations have been adapting LMSs. An LMS is a digital learning environment that manages all aspects of a company's various training efforts, manages user information like their user profile, job functions, and preferences (Paycor,2021). Educational institutions like Independence Junior College use LMSs to maintain eLearning courses and track completions, results, and learner's progress. Task–Technology Fit has been shown to influence both the use of learning systems and their performance impacts. The study described in this paper used the Technology -to-Performance chain as a framework to support the claim that the utilization of the LMS is successful. The findings indicated that lectures like using the LMS or have intentions to continue to incorporate an LMS based on its impact, the feedback from the students, and its performance outcome. We will be discussing and analyzing the effects of the task technology fit of the Moodle LMS for teachers at Independence Junior College.

Keywords : Modular ObjectOriented Dynamic Learning Environment (MOODLE), Independence Junior College (IJC)- Task Technology Fit (TTF) , Distance learning/ education, Learning Management System(LMS), LMS Platform , E-Learning, Technology-Performance-Chain

Introduction

Importance of the Research

The importance of this research is to conduct a study which can provide information about Moodle as a primary LMS and the possible future utilization of other LMS's in order to evaluate its effectiveness based on preference.In recent time Moodle and other LMSs have continued to gain popularity even more than usual due to the novel Covid 19 pandemic.This research will allow us identify its effectiveness and possible future utilization in the educational system.

Originality of Research

This research is being conducted by students of the University of Belize currently undertaking the Management Information Systems Course. This research topic was selected based on its popularity and usage of the LMS at Independence Junior College.The results from this research will be available as a journal as referencing for those who so choose to consider utilizing an LMS. All information was collected under the supervision and guidance of Mr. Manuel Medina in conjunction with the students carrying out this research. The information being collected and shared from the research is from primary sources and credible therefore can be used for future research.

The Known and Unknown

The known information about the Moodle Learning management system is that it is designed with a simple and flexible user interface ,it is a customizable learning platform, it is mobile and it has Unlimited Expertise & LMS Support. An example of customization would be the fact that the educational institution can incorporate the schools colors and themes onto it. The lectures can choose what buttons to make active or inactive or adjust what is available to be seen or not. The Unknown is that we are uncertain if it will continue to be used as an educational platform.

Objectives of the Research

- To identify if the users in this case, teachers prefer Moodle over other LMSs
- To get an insight into the thought process of utilizing Moodle
- To determine which LMS would be more fit for Independence Junior College

Goals of the Research

To conclude whether or not teachers like using the Moodle LMS as their default educational platform LMS in the future.

Literature Review

Learning Management Systems (LMS) are extensively used in today's way of teaching. In most of the research on LMSs, technology is a focus that was limited to studies of adoption. In order to take advantage of the potential associated with LMSs research, one must address the role of LMS to learn the success needed.Task technology fit is one factor that influences both the use of information systems and their performance impacts. The study in this paper used the technology to performance chain as a framework to address the question of how task technology fit influences the performance chain as a framework to address the question. The result provided strong support for the importance of task technology fit, this influenced perceived impact on learning both directly and indirectly via level of utilization, task\technology fit had a strong influence on perceived impact of the LMS on learning it only had a weak impact on outcomes in terms of student grades. Contrary to expectations, facilitating conditions and common social norms did not play a role in the performance impact of LMSs. However instructor norms had a significant effect on perceived impact on learning via LMS utilization (Computer and education, 2009).

The LMS way of learning is used by the majority of higher education institutions, the research explores the factors that influence the success of LMS. This paper investigated the role of student and instructor involvement in LMS success, using the DeLone and Mclean (2003) model of information systems success as a framework. Where online questionnaire form students gathered, data enrolled in an Australian University. Student involvement has shown to have a significant effect on the benefits to students of LMS use. The more involved the student is with the LMS site for a course offered the stronger they benefit. The student involvement did not have an effect on LMS use. Instructor involvement is shown to contribute to student benefit by affecting information quality, which affects the benefits students receive from use (Klobas, J 2010).

This is a paper to improve distance learning in Bangladesh by means of a low cost, large-scale interactive learning environment using video mobile phones. SMS- based tools administered in a learning management system, and innovative guidance based on the student-centered learning model the paper addresses the question of how to use an existing learning environment which can reach a majority of the population, that can include thousands of students. In addition, challenges relating to teaching methods, technical tools for learning and communicating are at the forefront (Grönlund, Å, & Islam, Y. M. (2010, October 5).

This study supports a pre-test control group experimental design with the use of a survey of students in the experiment. Where by a statistical analysis performed on data collected from 137 undergraduate students in South African Universities through pre-test and post-test surveys. Here the result reveals that eLearning using LMS is more effective than traditional instruction methods with respect to the improvement of the performance of teaching and learning in higher education. These findings are useful for higher education institutions particularly in developing countries in their decisions to take up digital technologies for improving teaching and learning performance (*Higher Education*, 2020).

Task – technology fit and individual performance

A key concern in Information Systems (IS) is to understand the linkage between information systems and individual performance. The research reported in this study has two primary objectives 1 to propose a comprehensive theoretical model that incorporates valuable insight form two completely different types of research, and empirically test the core of the model; this new model is tested by 600 individuals in two companies. This research tests the highlight of importance fit between technologies and user tasks in achieving individual performance that is impacted form information technology.

Learning management system: Integration Models of convention and distance education for students.

Gladilina, Irina, Pankova, Lyudmila, Sergeeva, Svetlana, Bulochnikov, Natalia, Baldin, Sergey

Learning management systems have become immensely popular over the past couple years here in Belize, however America has implemented these particular systems to suit the convenience of students all over the world. As a third world country, it has been difficult for us to adapt to such significant changes, especially because technology is still considered "new" here in our small country. This paper highlights the different forms of distance learning through LMS and how beneficial it can actually be to educate the students through a virtual university or through a hybrid system, using both face-to-face interaction and online classes. A group of researchers decided to document how LMS Platform has impacted the growth and overall performance of students and the university and how it has also prepared these young adults for the new era of technology of which we live in.

Using LMS platforms is beneficial in many ways, and this paper helps to highlight how you can improve the uses of these platforms to bring the best possible distance education to the students all over the world. These researchers found that higher education institutions utilize this learning management system way more than other institutions. Mostly because adults prefer to work full time while still being able to obtain their education.

Towards an Enhanced Learning Management System for E-Learning in Higher Education Incorporating Distinct Learners' Profiles

Electronic media learning environments are constantly undergoing change with the birth of new technologies. Advancements in technology have not only redefined how we communicate but how we conduct business and more importantly how we learn. More and more educational facilities are implementing the use of an LMS (Learning management system) as a platform to conduct online learning (E-Learning). A study conducted suggest that there is a highly positive relationship between the use of distinct – synchronous and asynchronous – communication tools, the benefits of interaction (Teacher-student interaction, Sharing information), the sustainable education (Self-regulated learning), and the user-friendliness (Accessibility, Efficiency in learning). From a theoretical perspective, this research is considered to be beneficial for academic research since it extends and enhances the understanding of enhancing the way an LMS is used. Specifically, this research contributed to the current literature on the adoption of LMS by educational institutions.

Online learning usage within Yemeni higher education: The role of compatibility and task-technology fit as mediating variables in the IS success model.

Isaac, Osama, Aldholay, Adnan, Abdullah, Zaini, Ramayah,

This research highlights information systems and task-technology fit. Task-technology fit focuses on 'well-defined structured procedures' for conducting work, this can be utilized as an important factor when operating learning management information systems. A survey was collected from a total of 448 students from six different universities and the survey summarized results from several factors, including service, compatibility, quality and how task-technology-fit plays a role in the overall performance of the university. Task-technology-fit has a significant role over quality and usage of online learning as well as overall quality and satisfaction.

Overall, Task-technology-fit has impacted the LMS platform and how it should actually perform. The practice of online learning is innovative and can enhance your communicative capabilities. With the help of task-technology-fit, these platforms can provide an overall better experience, and this is exactly what this paper is trying to implement.

According to Coskuncay, Allison and Ozkan-Yildrim (2018) systems increasing in enjoyment, satisfaction and interactivity were more likely to be accepted by both students and teachers. Through the use of various LMS one of the conclusions made was that success of the LMS was more related to the students' general perception (enjoyment, satisfaction, etc.) than the structure of the various models used (referring to the design and features offered by each model respectively). A system meeting these same standards could prove to benefit Independence Junior College far greater than the one currently in use.

Research Methodology

Research Design

The principal purpose of this study is to utilize the comparative research model to gather the necessary information needed for the research on the evaluation of the success of moodle at Independence Junior College. A qualitative design was chosen for this research, this method allowed for not only in-depth but descriptive information which in-turn allowed for us only to have the most relevant information necessary in order to properly gather and assemble our findings. This information can be used with the most appropriate sampling method to extract accurate information from the surveys. Qualitative method gives us access to a wider audience which therefore leads to the improvement of the data being gathered; furthermore this research was done by emailing surveys to the faculty staff at the Independence Junior College at Independence Village.

Target Population

This study will be conducted in Independence Village, Belize. This study will focus on the faculty staff of Independence Junior College, the teachers of the faculty staff to be specific. These lecturers are those who use Moodle or another LMS platform.

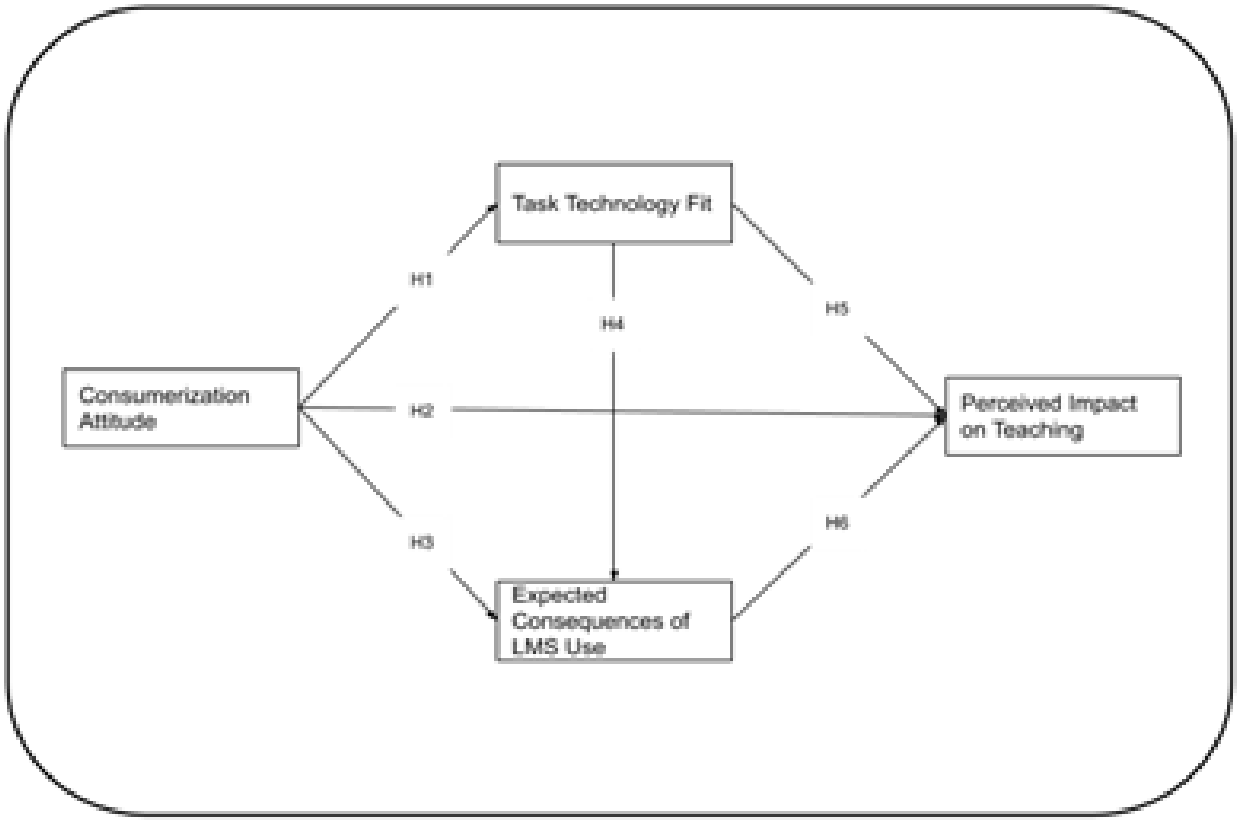
Data Collection

An online survey was issued as our research instrument. Google forms was utilized to design this survey, this made it easier to accommodate the sampling group online. The surveys were distributed via emails through the dean of the institution. The online surveys were distributed for approximately a week in order to receive feedback in a timely manner.

The questionnaire consisted of a total of 48 structures (fixed) questions separated into 7 sections. The first 4 questions dealt with demographics such as age, gender, the faculty that the professor teaches in and what is the professor's highest degree. The other questions were placed in 6 other sections namely, teaching preferences, prior learning management system use, task-technology fit, Expected consequences

of LMS use, perceived impact on teaching, consumerization attitude. These questions were set up this way because when separating the categories, the audience can easily fill it out and this also analyses the data for you.

Data Analysis



H1: Consumerization attitude will negatively influence perceived task-technology fit.
H2: Consumerization attitude will positively influence perceived impact on teaching.
H3: Consumerization attitude will negatively influence expected consequences of LMS use.
H4: Task–technology fit will have a positive influence on expected consequences of organizational LMS use.
H5: Task–technology fit will have a positive influence on perceived impact on teaching.
H6: Expected consequences of LMS use will positively influence perceived impact on teaching.

We now move on from Academic Research over to Applied Research.
Each section will use a histogram to depict our findings.

The preparation of our information should be handled in the most efficient and reliable way possible. The process for investigating the data will be gathered through a questionnaire form which will then be stored into a factual data analysis package. Doing so, the information would be processed through an accurate device known as Statistical Package for the Social Sciences (SPSS) which seems to be the most used software package for human behaviour research. Using this software, it is easier to compile the descriptive statistics, as well as graphical depictions (bar graphs, pie charts, frequency tables, cross-tabulation tables, etc.) based on our information gathered. From the tables and graphs constructed, it will be easier for the researchers to deduce their interpretations and decide whether to accept or reject the null hypothesis

A total of 20 teachers responded to the questionnaire. There were more female respondents than males.

Gender	Count
Male	7
Female	13
Grand Total	20

The ages of the respondents ranged from 20-60 with 65% of the lecturers being under the age of 40. Those above 40 are typically not as technologically intelligent as those under the age of 40**.**

Age	Count
20-30	**6**
31-40	**7**
41-50	**5**
51-60	**2**
>60	**0**

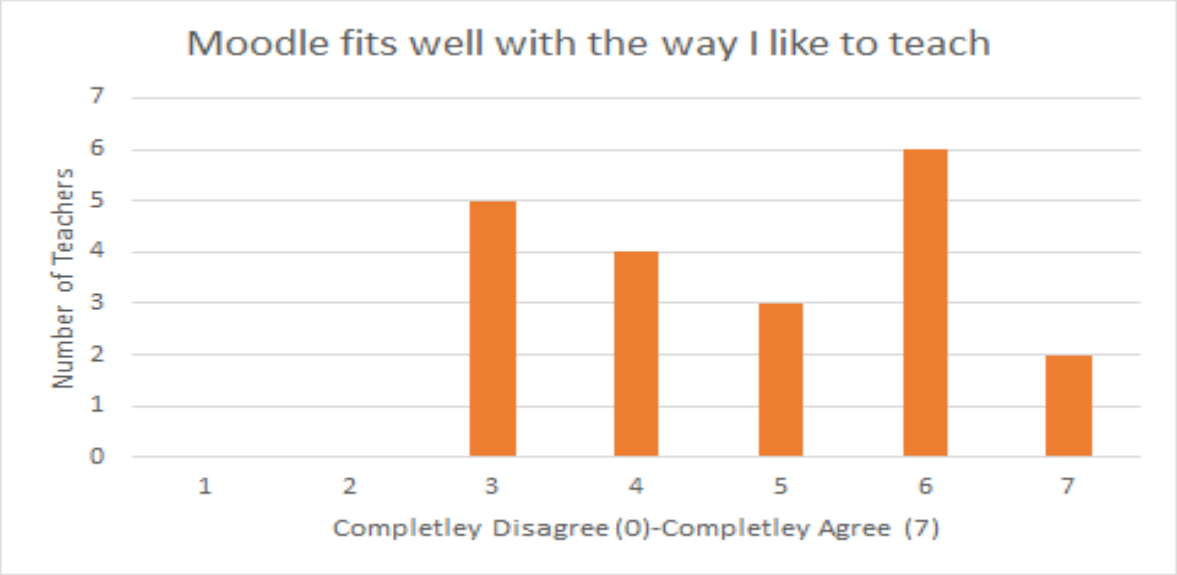
The educational degree obtained by the participants ranged from Associates to Masters, none of the participants had obtained a PhD. 50% of the participants has obtained a Bachelor's Degree

Education	Count
Associates	**8**
Bachelor's	**10**
Masters	**2**
PhD	**0**

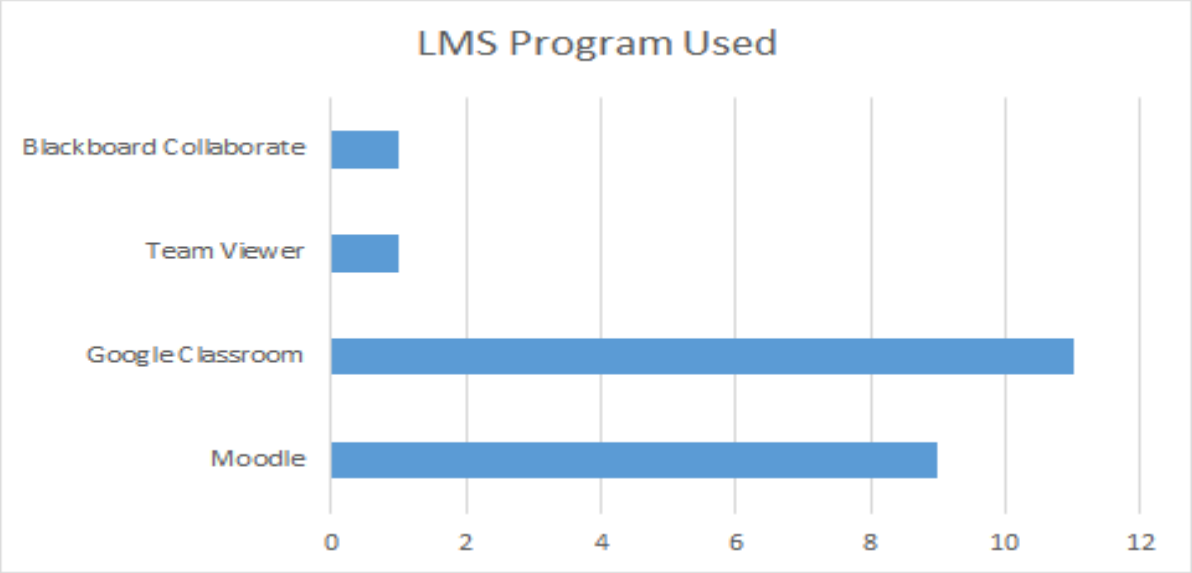
There are only 2 departments available at Independence Junior College. With the lecturers almost evenly distributed among the 2.

Faculty	Count
Business	**11**
Science	**9**

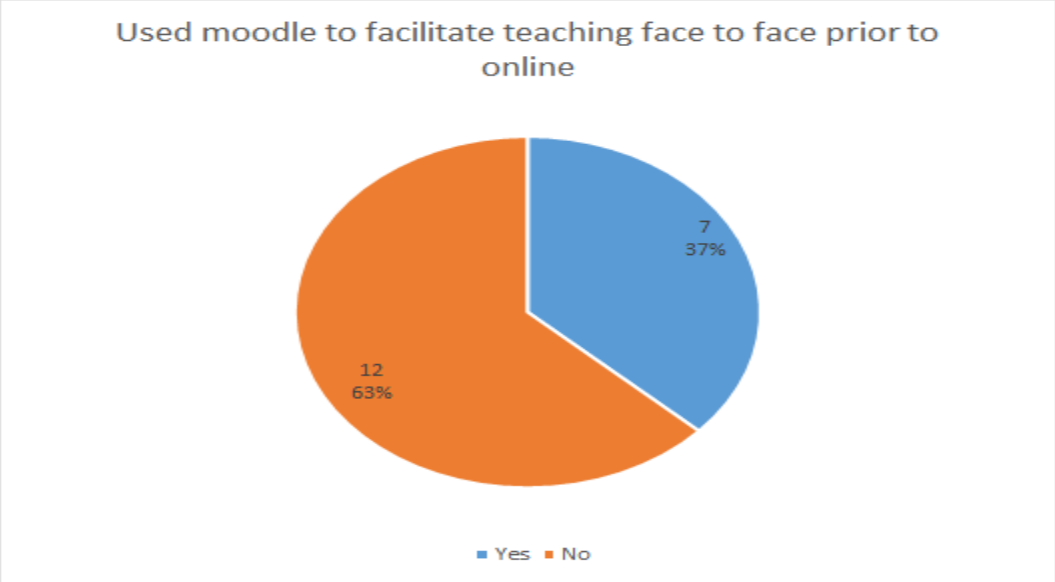
The acceptivity of Moodle by teachers. 45% of lecturers did not agree that Moodle fitted well with the way they prefer to teach.



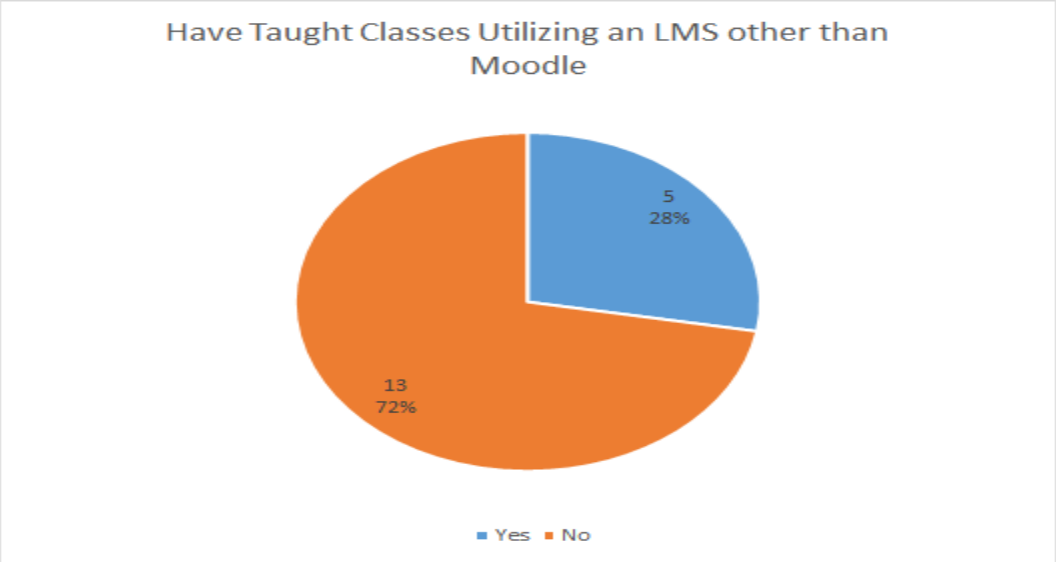
The LMS platform currently in use by the various lecturers.



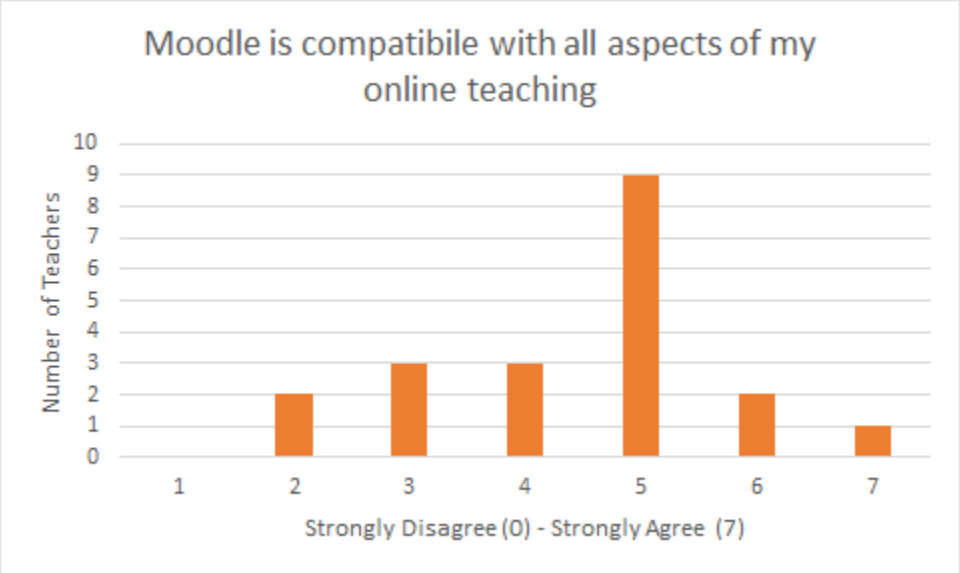
The use of Moodle to Facilitate teaching and learning prior to online are 37% used the Moodle while 63% did not use it.



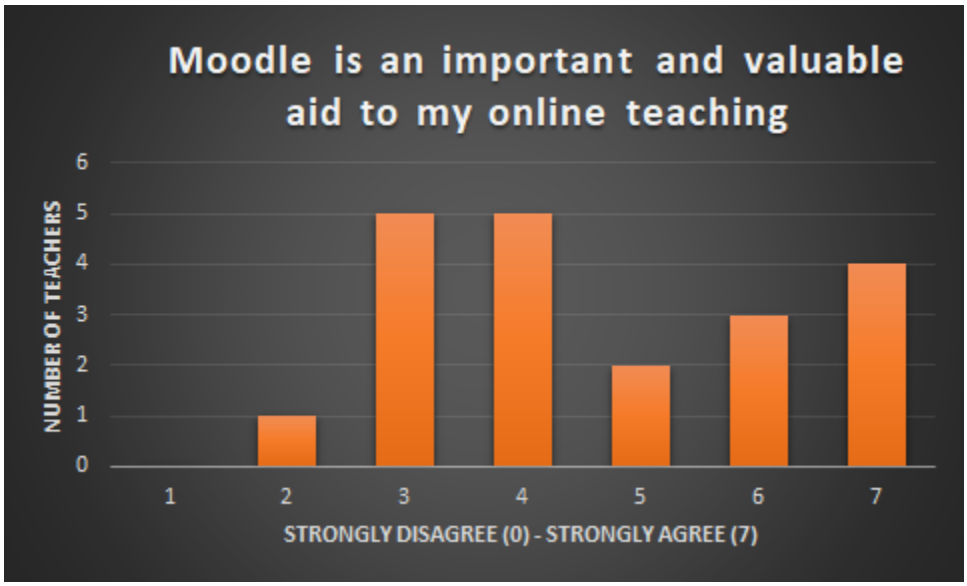
The chart show that 72% of teacher use an LMS apart from Moodle while 29% use only Moodle to teach,



The compatibility of Moodle to each lecturer showed that 40% of lecturers did not agree that Moodle was compatible with all aspects of their teaching



Exactly 55% of lecturers at Independence Junior College did not agree that Moodle was an important and valuable aid to online teaching.


Moodle is an important and valuable aid to my online teaching
NUMBER OF TEACHERS
0
1
2
3
4
5
6
1
2
3
4
5
6
7
STRONGLY DISAGREE (0) - STRONGLY AGREE (7)

Conclusion

After successfully concluding this research,We can ascertain that the lectures at Independence Junior college are comfortable and satisfied with using the Moodle platform. Based on their responses a unanimous consensus was one of continued utilization. The vast majority of the lectures have used some form of LMS for conducting lessons and anticipate its continuation.
We also found that the lectures prefer Moodle because of its ease of use and its multi-functionality features. They appreciate that it is user friendly and mobile. Our initial data was gathered through the use of google forms where by a total of 30 surveys were conducted , with the response of 20 of the 30 we provided their insight on the LMS utilization at Independence Junior College. Our 2 limitations we encountered were 1: our data was not firsthand data and 2: We did not get a respite to all the surveys that were distributed.This may be because of the time we chose to distribute the survey. For future reference we can agree that we may need to send out the surveys a bit more ahead of time. This is to make sure that we get a greater number of responses to be able to depict more accurate and real time results. We can conclude that the Moodle LMS is a success at Independence Junior College.

Reference

A taskâ“technology fit view of learning management system impact. (2009, February 1). ScienceDirect. https://www.sciencedirect.com/science/article/abs/pii/S0360131508001541?via%3Dihub

Findik-Coşkunçay, D., Alkiş, N., & Özkan-Yildirim, S. (2018). A Structural Model for Students' Adoption of Learning Management Systems: An Empirical Investigation in the Higher Education Context. *Journal of Educational Technology & Society, 21*(2), 13-27. Retrieved April 29, 2021, from http://www.jstor.org/stable/26388376

Goodhue, D., & Thompson, R. (1995). Task-Technology Fit and Individual Performance. *MIS Quarterly, 19*(2), 213-236. doi:10.2307/249689

Grönlund, Å, & Islam, Y. M. (2010, October 5). A mobile e-learning environment for developing countries: The Bangladesh Virtual Interactive Classroom. Retrieved April 28, 2021, from https://www.tandfonline.com/doi/abs/10.1080/02681101003746490

Higher Education. (2020, October 7). Moodle. https://moodle.com/solutions/higher-education/#:%7E:text=The%20platform%20of%20choice%20for,educators%20to%20improve%20our%20world.

Investigating the Impact of eLearning Using LMS on the Performance of Teaching and Learning in Higher Education. (2018, November 1). IEEE Conference Publication | IEEE Xplore. https://ieeexplore.ieee.org/abstract/document/8632648

Klobas, J. E. (2010, May 12). *The role of involvement in learning management system success*. Journal of Computing in Higher Education. https://link.springer.com/article/10.1007/s12528-010-9032-5?error=cookies_not_supported&code=1c888f14-f9e7-40e4-9611-6b698ed96d71

Paycor. (n.d.). *LMS Meaning | Learning Management System*. Retrieved April 8, 2021, from https://www.paycor.com/resource-center/hr-glossary/lms-meaning/#:%7E:text=LMS%20means%20learning%20management%20system,profile%2C%20job%20functions%20and%20preferences.

Appendix

Survey questionnaire:

1. Please indicate your gender
2. Please indicate your age range:
3. Please indicate your highest degree attained:
4. Please indicate the faculty you teach in;
5. Please indicate which Learning Management System (LMS) you have used;
6. I prefer teaching face to face rather than online.
7. Is teaching face to face more effective than online?
8. Students learn more in my face-to-face classes than online?
9. I would not want to teach any online courses after the Junior College moves back to face-to-face teaching.
10. Please state the number of semesters you have used Moodle (or other specified LMS) used
11. Moodle to facilitate teaching face-to-face classes prior to the Junior College's move to online delivery?
12. I have taught classes utilizing an LMS other than Moodle.
13. How many semesters have you taught using an LMS other than Moodle?
14. I used an LMS other than Moodle to facilitate teaching face-to-face classes (prior to online delivery)?
15. I plan to continue using Moodle to enhance my teaching after we return to face-to-face teaching.
16. I would like to continue using my preferred LMS to enhance my teaching after we return to face-to-face teaching?
17. Moodle is compatible with all aspects of my online teaching.
18. Moodle is easy to use.
19. Moodle is user friendly.
20. It is easy to get Moodle to do what I want it to do.
21. Moodle is easy to learn.
22. It is easy for me to become more skillful at using Moodle
23. New features of Moodle are easy to learn.
24. Do you think the output from Moodle to the students is presented in a useful format?
25. Can you provide accurate information to your students with Moodle ?
26. Can you provide up-to-date information to your students with Moodle?
27. Can you provide information students need in time using Moodle?
28. Can you provide information that seems to be just about exactly what your students need with Moodle?
29. Using Moodle will help me to accomplish my online teaching more quickly.
30. Using Moodle will help me to accomplish my online teaching more quickly
31. Using Moodle will improve my online teaching performance.
32. Using Moodle will increase my online teaching productivity
33. Using Moodle will enhance my effectiveness as a teacher while teaching online.
34. Using Moodle will make it easier to complete my teaching tasks while teaching online.
35. Using Moodle will give me greater control over my teaching tasks while teaching online.
36. Overall, I think that Moodle will be useful in my ability to teach online.
37. Using Moodle will improve the quality of my online teaching.
38. Moodle has a large positive impact on my effectiveness and productivity as an online teacher. Moodle is an important and valuable aid to me in my online teaching
39. I teach better online with Moodle than without it.
40. If I could choose my own Learning Managements System it would fit well with teaching online.

41. If I could choose my own Learning Managements System it would fit well with helping me to be efficient in teaching online.
42. If I could choose my own Learning Managements System it would be compatible with my online teaching.
43. If I could choose my own Learning Managements System my online teaching performance would improve.
44. If I could choose my own Learning Managements System I would work faster while teaching online.

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