



## Undergraduates' Level of Acceptance and Utilization of Moodle Platform for Learning During Covid-19 Pandemic

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### ABSTRACTS

This study investigated the undergraduates' level of acceptance and utilization of Moodle platform for learning at the University of Ilorin. This study adopted descriptive research of the survey type. A random sampling technique was used to select two hundred (200) undergraduates who formed the sample size for this study. The data obtained through the questionnaire was subjected to both descriptive and inferential statistics. Frequency counts and means score was used to answer the research questions, ANOVA was used to test hypothesis one while a t-test was used to test hypothesis two. The findings of this study were: the Undergraduates' level of acceptance of Moodle platform for learning is negative with a grand mean score less than the benchmark [ $2.18 < 2.45$ ]; the Undergraduates' level of utilization of Moodle platform for learning is negative with the grand mean score less than the benchmark [ $2.32 < 2.45$ ]; there was a significant difference in the undergraduates' level of acceptance of Moodle platform for learning based on the area of specialization [ $p = .000 < 0.05$ ]; and there was a significant difference between male and female Undergraduates level of utilization of Moodle platform for learning [ $p = .026 < 0.05$ ]. The study concluded that Moodle platform with so many existing features and future potential uses is not broadly accepted and utilized in many universities. It is recommended among others that Universities should implement a platform that supports online learning activities so that it makes it easier for lecturers to engage students virtually and delves further into the obstacles faced by students in online learning activities.

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## 1. INTRODUCTION

The outbreak of Covid-19 has brought massive impacts on the education system across the globe. The pandemic forces closures of schools and universities to support the social distancing protocol proposed by. This leads to the shift of the education system from face-to-face learning to online learning to halt the spread of the pandemic (Tadesse & Muluye, 2020). The pandemic has necessitated electronic learning.

However, electronic learning is used to reach individuals who are not opportune to get educational services in their immediate environment. It is a medium of learning, unlike the conventional medium where learners would have to learn within the four walls of the classroom. This is why it is considered the most preferable mode of learning during the Covid-19 pandemic; learners adopt virtual platforms for their learning activities. However, virtual platforms are not only used by distance learners but also to blend or aid the conventional teaching process for effective instructional delivery (Fashade et al., 2017).

E-learning is an emerging field as a promising instructional medium as well as a ripe arena in which to conduct research on its impact on teaching and learning activities. The fundamental nature of e-learning as an instructional medium differs substantially from face-to-face delivery, thereby requiring more new features for course development, online assessment, and interaction. Moodle is a software package for producing internet-based courses and websites. It is a Learning Management System (LMS) that allows for better cooperation among learners, tutors, and students (Chourishi, 2015).

Teaching and learning through Internet platforms is very popular among instructors nowadays. This is not only due to the convenience and easy communication with learners but also because the platforms offer a benefit in motivating learners to prepare the lesson beforehand and revise the learned contents, as well as to inquire about any problems with the instructors. Amongst the existing platforms, Moodle is globally one of the most popular open-source ones. As a whole, the system is user-friendly and capable of being both a content management system (CMS) and a learning management system (Gamage, 2019).

Software vendors, open-source developers, and educational institutions, cognizant of this development, have embraced systems that can facilitate the management of courses and engagement with students remotely. The technologies that facilitate the provision of courses over long distances are broadly termed learning management systems or LMSs. Learning management systems can be defined as web-based software platforms that provide an interactive online learning environment and automate the administration, organization, delivery, and reporting of educational content and learner outcomes.

Learning Management System (LMS) is a digital platform commonly used to facilitate teaching and learning activities, especially at the tertiary level. It is employed to support both online and blended learning and functions as a bridge between instructors and learners by providing a well-organized learning medium. It is believed that the integration of multiple digital platforms had facilitated teaching and learning activities well. The students believed that learning through making use of LMS helped them to be more discipline through the remainder of the task submission deadline. LMS also provided various materials that can be accessed by the students easily, thus it helped them to understand the material better and motivated them to learn more (Irzawati, 2021).

Moodle contains various design aspects that allow instructors and students to interact, collaborate, and experience online learning in exciting multiple ways. Moodle can be used to supplement on-ground courses or can be used to host completely online courses (Schneider, 2019). Moodle platform can track users' log files and record the whole process of user

operation. For example, the platform can record students' page browsing records, times of interaction, content, and frequency of discussion, times of downloading and browsing course material, time of submitting an assignment, assignment content, quiz and exam grades, and so on. The Moodle application platform is a type of e-learning platform used in the teaching process (Oproiu, 2015). Moodle gives students significant scope for independence, which in turn promotes learning, social interaction, and the social construction of knowledge. Students' learning outcomes can be achieved through integrated learning using Moodle (Treagust, 2018). Through the utilization of Moodle application, the content management system helps in teaching and learning in various aspects, including enabling teachers to provide students with materials for different types of real-time interactions with students. Moreover, it can be used as a learning resource for students, in many forms such as plain text, links, a source of references, or a repository for related documents (Schneider, 2019).

More so, the use of Moodle platform has further improved the examination evaluation mechanism and promoted the formative evaluation of courses. The user log data generated by Moodle can also be used to analyze students' learning behavior and manage the whole course process. Moodle can create activities that encourage learning, such as a forum (web board), messaging, or chat, allowing students to exchange ideas, homework assignments, or quizzes, which enhance learners' understanding or enable students and teachers to communicate beyond the classroom. All of these activities encourage learners to be more enthusiastic about learning, including thorough preparation before entering the classroom. Moodle application allows students to explore, discover and learn new things (Schneider, 2019).

In addition to the utilization, Moodle helps to promote teachers' activities across disciplines through their working together to share the responsibility for their students during the course. This is consistent with learning in modules or block systems, which normally integrate across disciplines both vertically and horizontally, as managed through the problem-based learning (PBL) model.

The outbreak of Covid-19 has brought massive impacts on the education system across the globe. The pandemic forces closures of schools and universities to support the social distancing protocol proposed by World Health Organization (WHO). This leads to the shift of the education system from face-to-face learning to online learning to halt the spread of the pandemic (Tadesse & Muluye, 2020). Many universities and colleges have introduced Moodle learning management system as a supplement to their traditional face-to-face lecture room teaching and learning methodology. Regrettably, Moodle learning management system platform has been underutilized by undergraduates since its introduction to universities.

Moodle application is a web-based learning management system and the factor which mostly hinders its acceptance is the unavailability of technological resources. Another factor is the functionality of the technology tools and the lack of skill to enable the functions. Also, many students disengaged themselves from learning especially if it follows only the traditional teacher-centered, classroom learning characterized by instructors dictating content. This lack of motivation leaves teachers in undergraduate programs distraught with the task of keeping students interested in their lectures and other learning activities which possess a great worry in the acceptance of Moodle learning platform.

More so, research shows that the challenges of the integration of Moodle application are that students who are supposedly meant to make use of it are not either aware of its effectiveness, refrain for the use of it due to cultural beliefs or orientations, or do not see it as a tool for facilitating learning rather a tool for just entertainment. Hence, the research

focus on investigating the undergraduates' level of acceptance and utilization of Moodle application for learning at the University of Ilorin.

Research questions are:

- (i) What is the undergraduate's level of acceptance of Moodle platform for learning during the Covid-19 pandemic?
- (ii) What is the level of utilization of Moodle platform for learning during the Covid-19 pandemic?
- (iii) What is the influence of the area of specialization on undergraduates' level of acceptance of Moodle platform for learning during the Covid-19 pandemic?
- (iv) What is the influence of gender on undergraduates' level of utilization of Moodle platform for learning during the Covid-19 pandemic?

Research hypotheses are:

- (i) H<sub>01</sub>: There is no significant difference in the undergraduates' level of acceptance of Moodle platform for learning based on the area of specialization.
- (ii) H<sub>02</sub>: There is no significant difference in the undergraduates' level of utilization of Moodle platform for learning based on gender.

## 2. METHODS

This study adopted a descriptive research design of the survey type. This is because the descriptive research design of the survey type involves the collection of information from a defined population to describe the characteristics of members of the population based on the phenomenon under consideration without involving any external manipulation. Therefore, the survey type enabled the researcher to generate relevant information from the respondents.

This study was limited to undergraduates at the University of Ilorin. A designed questionnaire titled "Undergraduates' level of Acceptance and Utilization of Moodle Platform for Learning during Covid-19 pandemic was used to gather relevant information regarding this study. The questionnaire was divided into three (3) sections. Section A consists of demographic data of the respondents, section B seeks the level of acceptance of Moodle application while section C seeks for utilization of Moodle Platform for learning. The questionnaire items were rated on the response mode of SA=Strongly Agree, A=Agree, D=Disagree, SD= Strongly Disagree. The population for this study consisted of all undergraduates at the University of Ilorin, Nigeria. The target population consisted of eight selected faculties at the University of Ilorin, Nigeria. Simple random sampling techniques were used to draw the sample size across the selected faculties. Two hundred (200) undergraduates formed the sample size of this study.

**Table 1** and Figure 1 shows that the total number of undergraduates that participated in this study was 200. Out of these 200 undergraduates, 123(61.5%) were male while 77(38.5%) were female. The result from this table shows that male Undergraduates participated more than females Undergraduates in the study.

**Table 1.** Distribution of the participants based on gender.

Gender	Frequency	Percentage	Cumulative
Male	123	61.5	61.5
Female	77	38.5	100.0
<b>Total</b>	<b>200</b>	<b>100.0</b>	

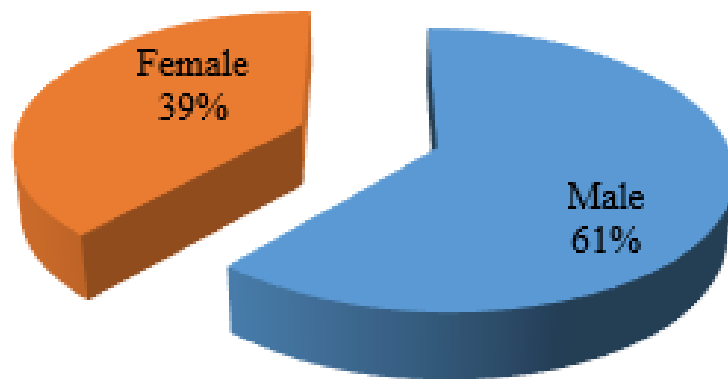


Figure 1. presents the distribution in the pie chart.

Table 2 and Figure 2 shows the distribution of the respondents across the sampled faculties. The total number of the Undergraduates’ that participated in this study was 200 of which Humanities 39(19.5%), Science 37(18.5%), Education 34(17.0%), Agriculture 24(12.0%), Art 23(11.5%), Engineering 15(7.5%), Computer Science 15(7.5%) and Law13(6.5) respectively.

Table 2. Distribution of the Participants Based on Area of Specialization.

Specialization	Frequency	Percentage	Cumulative
Humanities	39	19.5	19.5
Science	37	18.5	38.0
Education	34	17.0	55.0
Agricultural	24	12.0	67.0
Art	23	11.5	78.5
Engineering	15	7.5	86.0
Computer Science	15	7.5	93.5
Law	13	6.5	100.0
<b>Total</b>	<b>200</b>	<b>100.0</b>	

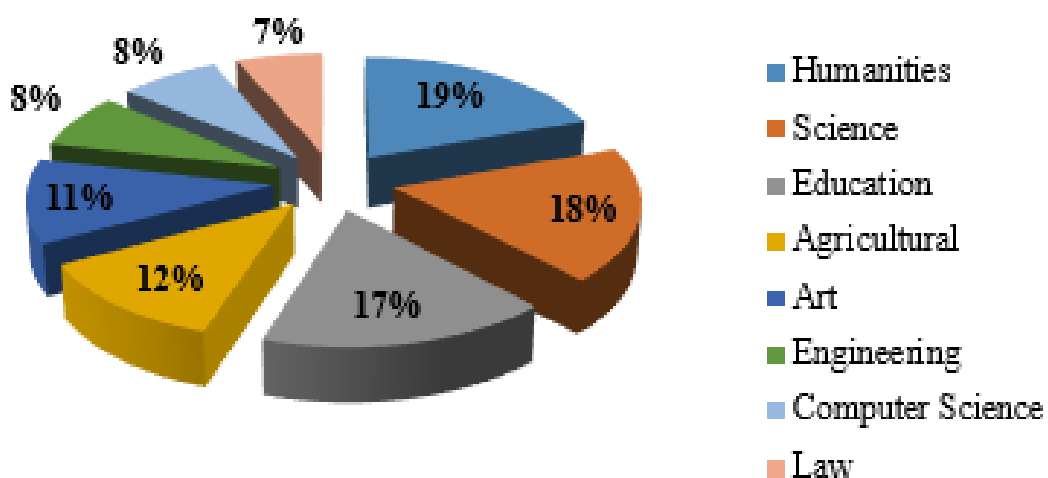


Figure 2. Presents the distribution in the pie chart.

### 3. RESULTS

#### 3.1. Research Question 1: What is the Undergraduates' level of acceptance of Moodle Platform for learning during the Covid-19 pandemic?

**Table 3** shows the Undergraduates' level of acceptance of Moodle Platform for learning at the University of Ilorin, Nigeria. The level at which the Undergraduates agreed to the items on the table is as follows: Moodle learning platform is more suitable for my needs ( $\bar{x}$  =1.74), I prefer to use Moodle platform for my learning activity ( $\bar{x}$  =2.18), I prefer doing quizzes in Moodle application to the conventional classroom ( $\bar{x}$  =2.13), with Moodle application lessons can be explored anywhere and this enhances academic performance ( $\bar{x}$  =2.22), I prefer to exchange ideas with other students via Moodle platform ( $\bar{x}$  =2.22), I always try to use Moodle to do my Academic Work due to Its useful features ( $\bar{x}$  =2.40), I agree that Moodle is one of the best platforms that can be used for virtual or blended learning ( $\bar{x}$  =2.41), I enjoy using Moodle platform to do various academic work ( $\bar{x}$  =2.38), I feel relaxed and happy when using Moodle platform to answer questions and solve academic problems at my own pace ( $\bar{x}$  =2.34) and I admitted that learning becomes less stressful and homework is easier to do while using Moodle platform ( $\bar{x}$  =1.76). Meanwhile based on the value of the Grand Mean (2.18 out of 4.00 maximum values obtainable) which falls, within the decision value for **Negative**, it can be inferred that the Undergraduates' level of acceptance of Moodle Platform for learning is Negative.

**Table 3.** Undergraduates' Level of Acceptance of Moodle Platform for Learning during Covid-19 Pandemic.

Item	SA	A	D	SD	Mean	Std. D
Moodle learning platform is more suitable for my needs	5	18	96	81	1.74	.726
I prefer to use Moodle platform for my learning activity	4	43	138	15	2.18	.582
I prefer doing quizzes on Moodle learning platform to conventional classroom	11	46	100	43	2.13	.808
With Moodle, platform lessons can be explored anywhere and this enhances my academic performance	14	46	110	30	2.22	.784
I prefer to exchange ideas with other students via Moodle platform	16	52	91	41	2.22	.862
I always try to use Moodle to do my Academic Work due to Its useful features	23	62	87	28	2.40	.868
I agree that Moodle is one of the best platforms that can be used for virtual or blended learning	25	59	89	27	2.41	.875
I enjoy using Moodle platform to do various academic work	28	53	86	33	2.38	.921
I feel relaxed and happy when using Moodle application to answer questions and solve the academic problem at my own pace	24	47	102	27	2.34	.859
I admitted that learning becomes less stressful and homework is easier to do while using Moodle platform	14	16	78	92	1.76	.875
<b>Grand Mean</b>					<b>2.18</b>	

**Key:** SD = Strongly Disagree, D= Disagree, A = Agree, SA = Strongly Agree

**Decision Value:** **Negative**=0.00-2.44, **Positive** = 2.45-4.00



### 3.2. Research Question 2: What is the Undergraduates' level of Utilization of Moodle Platform for learning during the Covid-19 pandemic?

Table 4 shows the Undergraduates' level of utilization of Moodle Platform for learning at the University of Ilorin, Nigeria. The level to which the Undergraduates agreed to the items on the table is as follows: Moodle enabled me to participate more actively and complete my assignments more regularly than in exclusively classroom courses ( $\bar{x}$  =2.07), It was easy to communicate with lecturers through Moodle learning platform ( $\bar{x}$  =2.50), I utilize Moodle platform to enhance classroom discussion ( $\bar{x}$  =2.30), I can use Moodle platform to create easy communication with my fellow students ( $\bar{x}$  =2.37), I can communicate easily using Moodle platform ( $\bar{x}$  =2.23), I feel comfortable using Moodle platform ( $\bar{x}$  =2.46), Moodle Platform helps the student prepare themselves before class ( $\bar{x}$  =2.27), I can use Moodle platform to quickly create assignments ( $\bar{x}$  =2.34), I utilize Moodle Platform to create educational discussions with my colleague ( $\bar{x}$  =2.27) and I can use Moodle Platform to connect to many students across different locations ( $\bar{x}$  =2.34). Meanwhile, based on the value of the Grand Mean (2.32 out of 4.00 maximum values obtainable) which falls within the decision value for **Negative**, it can be inferred that the Undergraduates' level of utilization of Moodle Platform for learning is Negative.

**Table 4.** Undergraduates' Level of Utilization of Moodle Platform for Learning during Covid-19 Pandemic.

Item	SA	A	D	SD	Mean	Std. D
Moodle enabled me to participate more actively and complete my assignments more regularly than in exclusively classroom courses	12	41	96	51	2.07	.836
It was easy to communicate with lecturers through Moodle learning platform	28	58	99	15	2.50	.827
I utilize Moodle learning platform to enhance classroom discussion	25	44	97	34	2.30	.900
I can use Moodle learning platform to create easy communication with my fellow students	21	59	92	28	2.37	.852
I can communicate easily using Moodle learning platform	18	42	107	33	2.23	.829
I feel comfortable using Moodle learning platform	24	66	88	22	2.46	.844
Moodle learning platform helps student to prepare themselves before class	21	42	107	30	2.27	.843
I can use Moodle learning platform to quickly create assignments	28	44	96	32	2.34	.910
I utilize Moodle learning platform to create educational discussions with my colleague	28	31	107	34	2.27	.905
I can use Moodle learning platform to connect to many students across different location	25	51	91	33	2.34	.899
<b>Grand Mean</b>					<b>2.32</b>	

**Key:** SD = Strongly Disagree, D= Disagree, A = Agree, SA = Strongly Agree

**Decision Value:** **Negative**=0.00-2.44, **Positive** = 2.45-4.00

### 3.3. Hypothesis One: there is no significant difference in the undergraduates' acceptance of Moodle platform for learning based on the area of specialization.

**Table 5** result indicates a significant difference in the undergraduates' acceptance of Moodle platform for learning based on the area of specialization, this is as a result of {F(7,

192) = 6.76,  $p = .000$ . This meant that the null hypothesis was rejected because of the significant value (.000) which is less than the alpha value of 0.05. Thus, there was a significant difference in the undergraduates' acceptance of Moodle platform for learning based on the area of specialization.

**Table 5.** Summary of the ANOVA of Undergraduates' Acceptance of Moodle Platform for Learning Based on Area of Specialization.

Sources of Variance	Sum of Squares	Df	Mean Square	F	Sig.	Decision
Between Groups	621.6	7	88.8	6.76	.000	Rejected
Within Groups	2522.3	192	13.1			
<b>Total</b>	<b>3143.9</b>	<b>199</b>				

**3.4. Hypothesis Two:** there is no significant difference in the Undergraduates' level of utilization of Moodle Platform for learning based on gender.

**Table 6** indicates that  $df (198)$ ,  $t = 2.24$ ,  $p = .026$ . This means that the null hypothesis was rejected. This was a result of the  $t$ -value of 2.24 resulting in a .026 significance value which was less than the 0.05 alpha value. Thus, the stated null hypothesis was rejected: There was a significant difference between male and female Undergraduates' levels of utilization of Moodle Platform for learning. Male Undergraduates had a high mean score in the utilization of Moodle Application for learning. This is because male Undergraduates participated more than female undergraduate.

**Table 6.** Summary of the t-test of Male and Female Undergraduates Level of Utilization of Moodle Platform for Learning.

Gender	N	X	SD	Df	t	Sig. (2-tailed)	Decision
Male	123	23.61	3.53	198	2.24	.026	Rejected
Female	77	22.36	4.28				
<b>Total</b>	<b>200</b>						

#### 4. DISCUSSION

This study investigated the undergraduates' acceptance of and attitude toward the utilization of Moodle platform for learning at the University of Ilorin. Research question one seeks to determine undergraduates' level of acceptance of Moodle platform for learning. Different items were tested and from the data gathered, it was revealed that undergraduates' level of acceptance of Moodle Platform for learning at the University of Ilorin is negative with a grand mean score less than the benchmark. The finding of this study is similar to that of Asunka (2019) who revealed that the level of awareness and perception of virtual classroom platforms among undergraduates is somehow considerable, but the degree of acceptance and use was limited to reference sources.

Research question two examined undergraduates' level of utilization of Moodle platform for learning, the finding revealed that undergraduates' attitude toward the utilization of Moodle platform for learning is negative. That is students are not showing positive interest in the utilization of Moodle learning management system. The majority of these students have not been engaged through Moodle LMS before. Who concluded that Moodle platform has been more and more widely used in transnational education. Highly depends on the use of Moodle platform. Moodle platform has to a certain extent integrated into the ordinary face-



to-face offline teaching and has become indispensable and important support for carrying out the online and offline mixed teaching mode.

Hypothesis one shows a significant difference in the undergraduates' acceptance of Moodle platform for learning based on the area of specialization. That is, undergraduates' areas of specialization influenced the use of Moodle platform for learning. This conforms with the finding of Anaza, (2017) who concluded that lecturers and students with a science background may be positively predisposed to the computer-based system thereby using it more often. Hypothesis two shows a significant difference between male and female Undergraduates' level of utilization of Moodle platform for learning. Male Undergraduates had a high mean score in the utilization of Moodle platform for learning. Females generally have negative attitudes toward computers and greater computer anxiety than males.

## 5. CONCLUSION

Moodle learning management systems with so many existing features and future potential uses are not broadly accepted and utilized in many universities. It must also be emphasized that despite the new opportunities that Moodle LMS presents in empowering individuals, transforming the teaching and learning processes, as well as fostering the development of skills in the new millennium. The level of acceptance of and attitude toward the utilization of Moodle learning management system among undergraduates is small compared to other LMS like Google Classroom, Google Meet, Microsoft Teams, and Zoom. It is recommended that higher learning institutions should create awareness as well as to conduct training for Moodle users to impart enough knowledge for system utilization.

## 6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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