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## **WEB-BASED LEARNING AND STUDENTS' SCHOLASTIC ACCOMPLISHMENT AT NATIONAL OPEN UNIVERSITY OF NIGERIA**

**Abstract.** The study examined the impact of Web based learning structures (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Internet Learning for coach student and Student - Student Connection and Times of Access of Internet Learning Applications) on students' scholarly accomplishment at the National Open University of Nigeria. The descriptive survey research design was used with a population of 100 to 400 students and a sample size of 150 students from the National Open University of Nigeria's schools of law, arts and social science, business and human resources, education, science and technology, and center for continuing education. A questionnaire with 53 questions titled: Experts validated the Online Learning and Learners' Academic Achievement in National Open University of Nigeria Scale (OLLAAS), and Cronbach's alpha yielded a reliability coefficient of 0.76. To test the hypotheses at the 0.05 level of significance, data were analyzed using Multiple Regressions and the Pearson Product Moment Correlation Coefficient. The discoveries of the review uncovered that the Internet learning structures (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Web based Learning for mentor student and Student - Student Connection and Times of Access of Web based Learning Applications) essentially impacted students' scholarly accomplishment ( $F(6, 143) = 24.907$ ;  $R^2 = 0.511$ ), and mutually represented 49.1% of its difference. Moodle ( $r = .206$ ,  $P0.001$ ), Blackboard ( $r = .417$ ,  $P0.001$ ), the Online Library ( $r = .594$ ,  $P0.001$ ), the Online Course Module/Study Guide ( $r = .395$ ,  $P0.001$ ), online learning for tutor-learner and learner-learner interaction ( $r = .442$ ,  $P0.001$ ), and periods of access to online learning applications ( $r = .625$ ,  $P0.001$ ) all had positive correlations with students. In light of the discoveries, it was suggested that administration ought to put more in training of this season of computerized age through satisfactory financing to empower schools obtain and introduce ICT foundation. The government and all relevant stakeholders ought to address the problem of incessant power outages. Mechanical gadgets ought to likewise be made accessible to students at sponsored rates to empower everybody partake in remote learning. Web based learning meetings ought to be planned with significant and profoundly captivating and intelligent learning exercises to lessen fatigue among detached students during learning.

**Keywords:** Web based learning structures; students' scholarly accomplishment; distance learners; the Covid-19 Era.

### **1. INTRODUCTION**

Open and Distance Learning saw different types of change in the post advanced age. This has changed the substance of teaching and learning at the National Open University of Nigeria. This perpetually prompted presentation of various types of web-based learning into teaching and growing experience. The use of various online learning tools, also known as digital learning, is a key component of online learning. The internet is used to receive and exchange information. It is ordinarily including an association among coaches and students through web-based classes and stages. In this way, web-based learning offers schools the chances to virtual classes to keep training pushing ahead at whenever. There are various types of web-based realizing, which is where all the disarray will in general begin. It's urgent to take note of that internet learning is a technique for getting instruction from a distance, which makes it a type of remote learning. For instance, formal

educational institutions can provide complete online courses for college-level education remotely. Online learning also includes professionals enrolling in courses to acquire a particular skill to aid in their work or job search. Online tutoring in particular subjects is another option available to school students who are unable to attend class. With a guide, students' work with an internet-based master freely from the conventional classes they have at school. Tutors are skilled educators who personalize what students learn in school and provide structure to the online learning process, frequently leading to deeper mastery of concepts. The historical backdrop of teaching and learning in advanced education settings has transcendentally been face-to-face. Nonetheless, different modes including distance learning have created in equal, including schooling by postal correspondence and radio and TV courses (e.g., United Kingdom's Open University). All the more as of late, training have additionally moved as our reality has become more computerized [1]. For some, going to research or YouTube to look for data or gain proficiency with an expertise is normal practice [2]. Obviously, formal learning is likewise progressively situated on the web. According to [3], takes note of, "The juncture of innovation and schooling is convoluted, disconnected and untidy." This is reflected in the current situation, when the pandemic has intensified, forcing some individuals to move to entirely remote education. On the web and remote types of training have happened in Australia and New Zealand since around 1922 [4]- [6]. In the College where this study happens, on the web and remote instructing preceding 2020 was for the most part restricted to explicit college classes, but not many were offered completely on the web.

The COVID-19 pandemic began in 2020, resulting in the worldwide closure of educational facilities for hundreds of millions of students. According to [7], school closures were therefore regarded as an important preventative measure to reduce COVID-19 transmission. As a direct consequence of this, administrators and teachers were confronted with a variety of unexpected circumstances and difficulties regarding the most effective method for continuing learning in spite of the various restrictions and constraints. Because of this, there was a change in conveyance technique as educators and facilitators presently started to draw in understudies in web based picking up having with regards to mechanical access, parental help and scholastic objectives. Crisis Remote Instructing can subsequently be viewed as a reaction to an arising emergency (Coronavirus) which is not quite the same as pre-arranged web-based learning. This is on the grounds that 'ERT offers quickly created, impermanent educational help in an emergency without pre-arranged designs and assets being made accessible [8]. The World Health Organization (WHO) has cautioned that Coronavirus is probably going to torment the world for quite a while and that the planet will just getting back to ordinary once a viral strain immunization has been found.

With the abrupt conclusion of schools, classes at all levels moved from traditional (physical) to remote learning conditions. Teachers and schools have attempted to design and offer online courses via television or the Internet. More than 1.5 billion students of all ages were impacted by approximately 200 nationwide COVID-19 school closures [10]- [11]. The teaching and learning environment as well as educational interactions had to undergo a number of structural changes as a result of education being entirely delivered online, including knowledge construction and socialization. Most would agree that under ordinary conditions, online training makes flexibility for gaining and educating from whenever and anyplace. Be that as it may, the Coronavirus pandemic provoked a crisis progress from customary to separate advancing at all degrees of instruction, called crisis remote teaching [8]. In response to the pandemic, emergency remote teaching was established. The circumstance was different from the all-around arranged and appropriately organized conventional strategy to web based advancing as it was startling and

remarkable for educators, understudies, and guardians. For the first time in world history, all understudies were expected to take every one of their classes on the web and all educators and speakers were expected to educate on the web. Notwithstanding, very much arranged internet learning is a perplexing cycle where cautious educational plan and improvement is expected to establish an effective learning climate [12]- [13]. Emergency remote teaching is a temporary solution to a problem that arises quickly. According to [8], "the primary objective in these circumstances is to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis" rather than "re-creating a robust educational ecosystem).

As a result, the courses that are offered in such circumstances should not be regarded as long-term solutions. A differentiation ought to be made between these two terms as "how much teachers put stock in distance schooling nowadays will play a significant job in the success of distance training in a post-Coronavirus world" [14]. What's more, crisis remote showing in this present circumstance made a commitment for understudies, while very much arranged distance learning establishes a flexible and elective learning climate [14]. Nonetheless, similarly as any new idea or development, the shift from the idea of internet figuring out how it has brought new difficulties and open doors at a social and innovative level. The online course module/study guide and other learning management systems, which are mostly used to describe online lessons or units, are used in online learning for tutor-learner and learner-learner interaction and periods of interaction with access to online learning applications. Content and activities for online courses are typically organized into modules to provide students with a clear learning path. It depicted how long talks are, the way grouping content and exercises, how mentors check in with understudies to guarantee understanding, how coaches make uninvolved encounters more dynamic and how guides move understudies starting with one experience then onto the next.

Asides, other learning the board frameworks, for example, Moodle and Blackboard make critical commitment in web-based learning. Moodle is a PHP-based learning management system (LMS) that is distributed under the General Public License and is free and open-source. Moodle is used for blended learning, distance education, flipped classroom, and other e-learning projects in schools, universities, workplaces, and other sectors. It was built on pedagogical principles. Moodle was initially evolved by Martin Dougiamas to assist teachers with making on the web courses with an emphasis on cooperation and cooperative development of content, and it is in persistent development. Though Blackboard is the main LMS worked in a joint effort with the worldwide schooling local area. Integrate intuitive, natural workflows for educators and students into the centralized learning experience, from course development to assessment. Blackboard empowers teachers to give understudies course materials, conversation sheets, virtual visit, online tests and a scholastic asset community. How much Board is utilized in a course fluctuates? Blackboard Learn can only be used in the cloud, whereas Moodle can be used both on premise and in the cloud. While Blackboard Learn offers students robust reporting features, Moodle offers an optional, fully branded mobile app, despite having similar features.

Students are, without a doubt, the primary beneficiaries of educational programs, and a sudden deviation from the norm presents its own difficulties and impacts their learning outcomes. Gaining went from the common taking of notes, tests and assessments in a homeroom climate with the teacher truly presents different method for innovation and applications, for example, the utilization of digital books, web-based learning stages, for example, Google Study Hall, Zoom, WhatsApp bunch gatherings and Wire. During the COVID-19 emergency, educational technologists, faculty developers, and instructional designers have been working together at

National Open University of Nigeria over the past few months to assist academics, staff, and graduate students in making the transition to online learning instruction as quickly as possible by utilizing Moodle, Blackboard, the online library, the online course module/study guide, and online learning for tutor-learner and learner-learner interaction. Coordinated studios, one-on-one meetings, and different administrations were made accessible. Challenges were overcome and resources were established. As a general rule, numerous establishments will eventually go to completely or halfway web based advancing as a reaction to different crises from here on out. This is the ideal opportunity to get ready. What was acceptable as online instruction might not be suitable for this change. Instead of endeavoring to repeat up close and personal talks utilizing innovation, quality web-based courses require drawing in understudies with the substance, encouraging coordinated effort, and making local area. There are many moves toward making a web-based course, the most important phase in getting ready for an internet based course is to characterize quantifiable learning goals obviously.

Different examinations have been done to assess the general effort of web based figuring out how to check whether it was a triumph or disappointment. Different specialists then again are worried about the effect on different members, for example, guardians who needed to engage in the educational experiences of their wards. As much as these are significant centre focuses, there is an unremitting need to assess learning viability of students. It is additionally critical to assess learning results as far as set goals by checking on different elements that add to learning adequacy, for example, the different issues looked by students throughout this technique for conveyance and saw benefits. The need to comprehend whether learning has been successful given the factors and factors being considered accordingly makes this study critical to address questions, for example, are students happy with this method of conveyance? What issues did students encounter? How can this method of instruction be improved to enhance learning experiences? What roles can the learning institution play in ensuring advancements? Should there be training carried out for both learners and instructors to give better growth opportunities? Were the students ready to keep up with full focus in spite of interruptions at home? Do students think this method of instruction is better than the previous one? Are the learning resources suitable for self-study? Did the students encounter any challenges?

Eventually, this concentrate on web based learning should be visible as a chance for progression in training by and large by embracing the utilization of ICT in giving better and more favourable growth opportunities for students as a reaction to crisis as well as a way to work on generally standard of learning and furnishing instructive establishments with legitimate data expected through sufficient examination on the most proficient method to work with learning if there should arise an occurrence of another pandemic or crisis. In other words, the main purpose of this study was to investigate the impact of web-based learning structures (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Internet Learning for mentor student and Student - Student Cooperation and Times of Access of Internet Learning Applications) on students' scholarly accomplishment at the National Open University of Nigeria.

**Statement of the problem.** The change in teaching and learning in National Open University of Nigeria is a sudden progress to web-based advancing as a reaction to the Coronavirus pandemic dissimilar to the typical internet realizing which is initially coordinated and planned in web-based design. This method of instruction was adopted by all educational establishments in various nations to meet the educational requirements of students. The transition to online education has resulted in new obstacles and drawbacks, affecting students' ability to learn effectively. In addition to the primary objective of this access concept, which is to offer learning opportunities

and continuing education despite restrictions and from the comfort of one's own home, online learning has encountered some difficulties. Facilitators additionally confronted the issues of changing over paper-based informative materials into computerized structure that can be surveyed on different innovative gadgets and stages while most understudies griped turning around issues, for example, unfortunate organization inclusion to go to virtual classes among others.

An in-depth study is required to comprehend the nature of this new response system, its utility to the educational system, its contributions to the effectiveness of learners' learning, and the need for improvement in its implementation. As is to be expected, every new system must have its drawbacks. This study is conducted to fill a void left by the lack of research on the impact of this transition on students' learning effectiveness at the National Open University of Nigeria. Specifically, the study was guided by the following research questions:

1. How much the web-based learning structures (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Internet Learning for mentor student and Student - Student Cooperation and Times of Access of Internet Learning Applications) impact students' scholarly accomplishment in National Open University of Nigeria.
2. In National Open University of Nigeria, is there a connection between the independent variables (Moodle, Blackboard, online library, online course module/study guide, online learning for tutor-learner and learner-learner interaction, and access times to online learning applications) and the dependent variable (students' scholarly accomplishment)?

## 2. THE THEORETICAL BACKGROUNDS

Several instructive specialists [15]- [17], theoretical models [18] have been proposed to explain the connection between learning variables and educational outcomes for students. In particular, each hypothetical model incorporates attributes of the student, the learning climate, and the nature of guidance the learner gets. Survey of exact writing on and indicators of scholarly accomplishment, showed that understudy attributes display the main direct effect on accomplishment. According to [18], hypothesis of instructive efficiency was observationally tried as a rare example of speculations of scholastic accomplishment. Walberg's hypothesis of scholarly accomplishment places that mental attributes of individual understudies and their quick mental conditions impact instructive results (mental, behavioral, and attitudinal) [20]. Further, Walberg's examination recognized nine key factors that impact instructive results as: ability/previous achievement of the student, motivation, age/developmental level, quantity and quality of instruction, classroom climate, home environment, peer group, and exposure to mass media outside of school are all factors to consider [21].

Scientists chipping away at the appraisal of learning conditions have likewise evolved and approved constructivist-based, individual types of learning environment measures to tap students' individual, instead of aggregate viewpoints of study hall life [22]- [23]. Learning climate has often been read up for the reasons for ensuring greatest student accomplishment in his/her schooling attempts. Further, learning is a profoundly individual cycle which happens inside a bigger climate. Learning is hence intervened by a person's connections with and view of the outer climate [24]- [25].

Research has shown that scholastic conditions add to gains in understudy capacities, interests, and mentalities [26]- [27]. According to [28], noticed that conditions encourage the development of capabilities, persuade individuals to participate in various exercises, and prize individuals for their display of values and perspectives. Climate along these lines impacts

individual and expert self-discernments, capabilities, perspectives, interests, and values. According to [28], college students' experiences include, but are not limited to: (a) a student's quest for scholarly conditions that match their examples of capacities, interests, and character profiles; (b) impacts of scholastic conditions on understudy's social conduct with an end goal to obtain the ideal capacities, interests and values; what's more (c) a student accomplishment to incorporate an element of character type and the scholarly climate.

Most exploration has zeroed in on student and faculty interactions in the classroom context [29]- [30]. Barely any examinations, nonetheless, have analyzed the connection between student-faculty interaction outside of classroom and student involvement in learning [30]. Deciding whether faculty or the student have an impact on student overall academic performance is significant. Moreover, it is essential to think about student' contribution in learning (e.g., dealing with free tasks, examining coursework with different students, considering with different students), as it assumes a critical part in understudies' scholarly accomplishment. Since personnel give the student learning materials, the student has an obligation of finishing the required activities so as to understand a better comprehension of the topic.

With the utilization of innovation in the educating and learning conditions, research has featured the advantages of online learning for students. Research studies demonstrate that the utilization of instructive innovation bear the cost of the students more noteworthy namelessness and valuable chances to rehearse a scope of nonexclusive abilities (for example, the board of self, others, task, data) [31]- [32]. Further, through web-based innovations, students can benefit from an intuitive and drawing in climate with a scope of learning frameworks and supports hence empowering them to expand and make sense of their experience [33]- [34]. With computer assets, learners are giving the open door to interact with computers on a regular basis. In point of fact, the majority of library resources can be accessed online, and students do not need to be in a physical location like a library to access the majority of research articles and technical research reports. With cutting edge computer innovation and library online information bases, recovering exploration has been made a lot more straightforward. Further, with computer assets, students get an opportunity of further developing their computer proficiency, which can be viewed as a "basic channel" for the work market representing things to come [35]- [37].

Therefore, the hypothesis of association and autonomy is generally applicable to this review. According to [36], the idea interaction and independence gave the possibility of communication and freedom in distance learning system. As per this hypothesis, a distance student is free in choosing course, in picking any method of learning in media informative bundle given by the distance establishment, in self-contemplating, in finishing tasks and in advancing by his/her pacing while simultaneously he/she is gotten contact with others to propel and support him/her in the arrangement of distance learning so wearing down rate/dropout rate might be decreased; furthermore, ambiguities, misinterpretations and dissatisfactions are limited. The independent study of distance learners is the theory's most important premise, followed by interactive activities, which is the theory's less important premise. That's what he expressed "appropriately planned distance courses comprise of a combination of freedom and intelligent learning exercises". According to Daniel, independent activities include: perusing a text, concentrating on the literature sent by the distance establishment. On the other hand, under communication, Daniel summarized the following:

- Students and tutors require face-to-face tutorial meetings, which may be required for new students in distance education;

- The face to face gatherings would be useful assuming they play out a weaning (crossing over) capability among formal and distance method of learning so a distance student progressively may take on the learning styles as per the methods of showing in distance training;
- After the fruition of the primary semester, the up close and personal meeting might be decreased by the idea of the course;
- Free telephonic administrations might play out a directed instructive discussion among mentors and distance students; also,
- Two-way correspondences might be overseen by orchestrating a conversation meeting soon after the transmission of radio and television programs. Using Moodle, Blackboard, the Online Library, the Online Course Module/Study Guide, Internet Learning for mentor students and Student-to-Student Cooperation, and Times of Access of Internet Learning Applications, this theory of interaction and two-way communication can make it easier for distance learners to self-study.

### 3. RESEARCH METHODS

The Ex-post-facto research configuration was taken on for this review. The populace contains all students in National Open University of Nigeria concentrate on focus, Ijokodo, Eleyele, Ibadan. Students from the National Open University of Nigeria's schools of law, arts and social science, education, science and technology, and business and human resources, as well as the center for continuing education, made up the population. From the study center, a simple sample size of 150 respondents was purposefully selected. Thirty (30) respondents each were chosen from the five (5) resources. Multi-stage examining method was utilized in choosing the example size for the review. In the primary stage, five (5) resources were purposively chosen in particular school of Regulation, Expressions and Sociology, Business and HR, Training, Science and Innovation and Community for Proceeding with Schooling. In the subsequent stage, every personnel were separated into three layers in view of the mandatory, the required and the elective web-based courses presented by the understudies. In contrast, thirty (30) students from each faculty selected for study were selected at random in the final stage. Consequently, a sum of 150 respondents were chosen for the review. A questionnaire with 53 questions titled: The National Open University of Nigeria's (NOUN) Online Learning and Learners' Academic Achievement Scale (OLLAAS) was used to collect data. The instrument is separated into two sections A and B. Section A deals with respondents' very own data while Part B gathered information on the factors under concentrate on a 4 Likert design with choices going from Emphatically Concur (SA)= 4, Concur (A)= 3, Unequivocally Dissent (SD)= 2, Deviate (D)= 1. Cronbach alpha was used to calculate the questionnaire reliability coefficient  $r$  at 0.76 following face and content validation. To test the hypotheses at the 0.05 level of significance, descriptive statistics, multiple regressions, and the Pearson Product Moment Correlation Coefficient were used to analyze the data.

### 4. FINDINGS

**Research Question 1:** How did the Web based learning parts (Moodle, Blackboard, On the web Library, Online Course Module/Study Guide, Web based Learning for mentor student and

Student - Student Collaboration and Times of Access of Web based Learning Applications) impact students' scholastic accomplishment in the foundation?

Table 1

### Multiple Regression Analysis on Interpersonal relationship

Multiple R= .715 Multiple R2= .511, Multiple R2 (adjusted)= .491, Standard error of estimate= 2.573

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	989.277	6	164.879	24.907	0.000
Residual	946.617	143	6.620		

Table 1 presents results on the cooperative impact of Web based learning parts (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Internet Learning for coach student and Student - Student Connection and Times of Access of Internet Learning Applications) impact students' scholastic accomplishment in the establishment. The multiple regression correlation coefficient (R) that indicates a linear relationship between the independent variables and the dependent variable is 0.715, while the multiple R2 is 0.511 and the adjusted R2 is 0.491, respectively, were shown in the table. This implies that the autonomous factors (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Web based Learning for coach student and Student - Student Cooperation and Times of Access of Internet Learning Applications) added to 49.1% of the varieties in the reliant variable, this variety is genuinely huge at  $P < 0.01$ . Further in table, the examination of difference of the numerous relapse information created a F-proportion of  $F(6, 143) = 24.907$  which was critical at  $P < .01$ . The multiple regression correlation coefficient (R) revealed a linear relationship between the dependent variable (learners' academic achievement) and the online learning components (Moodle, Blackboard, online library, online course module/study guide, online learning for tutor-learner and learner-learner interaction, and periods of access to online learning applications). The cooperative commitment of the autonomous factors to the variety in the reliant variable (49.1%) was critical. Additionally, the result suggests that the remaining variance may have been caused by additional variables that were not included in this model.

**Research Question 2:** Is there a connection between the independent variables (Moodle, Blackboard, online library, online course module/study guide, online learning for tutor-learner and learner-learner interaction, and access times to online learning applications) and the dependent variable (students' scholarly accomplishment)?

Table 2

### Summary of correlation matrix showing the relationship between the study variables

		LEOCOLT	MOL	BOL	OLOL	OCMSG	OLTLLLI	PAOLA
LAA	Pearson Correlation	1	.206*	.417**	.594**	.395**	.442**	.625**
	Sig. (2-tailed)		.011	.000	.000	.000	.000	.000
	N	150	150	150	150	150	150	150
MOL	Pearson Correlation	.206*	1	.489**	.227**	.280**	.187*	.415**
	Sig. (2-tailed)	.011		.000	.005	.001	.022	.000
	N	150	150	150	150	150	150	150
BOL	Pearson Correlation	.417**	.489**	1	.398**	.199*	.213**	.446**



	Sig. (2-tailed)	.000	.000		.000	.015	.009	.000
	N	150	150	150	150	150	150	150
OLOL	Pearson Correlation	.594**	.227**	.398**	1	.355**	.494**	.512**
	Sig. (2-tailed)	.000	.005	.000		.000	.000	.000
	N	150	150	150	150	150	150	150
OCM	Pearson Correlation	.395**	.280**	.199*	.355**	1	.671**	.635**
SG	Sig. (2-tailed)	.000	.001	.015	.000		.000	.000
	N	150	150	150	150	150	150	150
OLTL	Pearson Correlation	.442**	.187*	.213**	.494**	.671**	1	.586**
LLI	Sig. (2-tailed)	.000	.022	.009	.000	.000		.000
	N	150	150	150	150	150	150	150
PAOL	Pearson Correlation	.625**	.415**	.446**	.512**	.635**	.586**	1
A	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	150	150	150	150	150	150	150

\*. Correlation is significant at the 0.01 level (2-tailed).

\*\* Learners' Academic Achievement (LAA); Moodle Online Learning (MOL); Blackboard Online Learning (BOL); Online Library Online Learning (OLOL); Online Course Module/Study Guide (OCMSG); Online Learning for Tutor-Learner and Learner-Learner Interaction (OLTLI) and Periods of Access Online Learning Applications (PAOLA)

The Pearson Correlation Moment Coefficient computation's output was shown in the table above as a 2 x 2 matrix, with columns 1 through 6 representing online learning components and column 7 representing variables related to students' academic achievement. Every cell of this lattice presents the Pearson's r connection between the factors, the importance levels for every connection, and the quantity of subjects addressed by every relationship from which the levels of opportunity can be acquired (for Pearson's  $r$   $df = n - 2$ ). This matrix's diagonal cells, row 1, column 1, and row 2, indicate that each variable is correlated with the others. Moodle  $r = 0.206$ , Blackboard  $r = 0.417$ , Online Library  $r = 0.594$ , Online Course Module/Study Guide  $r = 0.395$ , Online Learning for tutor-learner and Learner –Learner Interaction  $r = 0.442$ , Periods of Access of Online Learning Applications  $r = 0.625$ , and the p-value (0.01) is less than ( $<$ ) 0.05 level of significance, the implication of the result is that the null The examination above implies that web based learning parts are significant in expanding understudies' entrance and variation to new typical. It additionally suggests that improvement in the web-based learning parts (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Internet Learning for mentor student and Student - Student Cooperation and Times of Access of Web based Learning Applications) would achieve better students' scholastic accomplishment somewhere far off learning foundations.

## 5. CONCLUSION AND PROSPECT FOR FURTHER RESEARCH

The principal research question states; how much the web based learning structures (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Web based Learning for mentor student and Student - Student Communication and Times of Access of Internet Learning Applications) impact students' scholarly accomplishment in Public Open College of Nigeria. Finding shows that every one of the six factors mutually added to the expectation of students' scholastic accomplishment in National Open University of Nigeria. That is, every one of the variables joined together represented 49.1% fluctuation in the forecast of students' scholarly accomplishment. This suggests that with every one of the six elements considered in the review,

students' scholastic accomplishment will increment by 49.1%, while the excess 50.9% of the variety is past the extent of this review. As a result, in this study, Moodle, Blackboard, the online library, the online course module/study guide, online learning for tutor-learner and learner-learner interaction, and access times for online learning applications only have 49.1% influence on students' academic achievement. This finding certifies the finding of [38], who found that course items can be effortlessly worked with while utilizing web based learning approach all the more particularly utilizing asynchronous mode. This is on the side of past examinations of [39], who revealed that with the six factors there is plausibility of getting to addresses after class meetings on the grounds that recorded talks give understudies who face web associations unsettling influence or restricted data transfer capacity a second an open door to follow up. This imply that web based learning is as yet helpful not just in the midst of up close and personal class interference yet additionally in facilitating obviously educational program inclusion.

Research question two states; Is there any connection between autonomous factors (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Web based Learning for mentor student and Student Cooperation and Times of Access of Web based Learning Applications) and ward variable (students' scholarly accomplishment) in National Open University of Nigeria. Discoveries uncovered that there exists connection between students' scholarly accomplishment and six autonomous factors, Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Web based Learning for coach student and Student Collaboration and Times of Access of Internet Learning Applications. It showed that students' academic achievement was positively correlated with the six independent variables. This suggests that students' academic achievement in the institution will rise as a result of their frequent use of the six online learning tools. This is on the side of past investigations of [40], tracked down that the opportunity and adaptability to learn at one's own speed urged numerous understudies to keep concentrating on through web based learning. On the side of this, [41], added that web based learning is an amazing chance to test online instructional method driven approaches, subsequently, close to home presence ought to be enhanced to start an environment of compassion and care, and that attention ought to be on various kinds of existences like showing presence, social presence, and mental presence. In the perspective of [42], web based learning may simply be a way of dealing with stress, however a commendable practice in fostering a lucid internet based training system for the future, remembering that a test might be an open door in mask. Given all of this, one could argue that the addition of online learning components helped students develop coping mechanisms and increased their learning effectiveness at the institution.

The review has a restriction because of analyzed effect of impact of web based learning structures in dedicated distance learning institution that is National Open University of Nigeria which depends on a set number of distance learning establishments in a predetermined number of mindfulness and usage of the designs. This study is principally centered around inspecting the specialized related examples of overcoming adversity of electronic learning structures inside the instructive setting. Notwithstanding, extending the examination for far and wide usage of the designs for the instructive development and improvement in the post computerized age is significant. When initiatives for web-based learning structures are implemented in the education sector, these considerations become especially important because they may contribute to a more innovative and comprehensive strategy for the success of open and distance education in Nigeria. These perspectives give expected roads to future examination and can prompt important enhancements in the field of fruitful Open and Distance learning. The review investigated the singular student's view of the effect, as indicated by seven evaluation aspects, however hidden

arrangements and techniques for execution of the designs needs further investigation. As well as evaluating the effect of the designs and connection between every one of the designs, comparative examination interest in integrated distance learning institutions in Nigeria could be analyzed.

**Conclusion:** This study has had the option to lay out that there is a huge, positive connection between web-based learning structures (Moodle, Blackboard, Online Library, Online Course Module/Study Guide, Internet Learning for mentor student and Student - Student Cooperation and Times of Access of Internet Learning Applications) and students' scholarly accomplishment at the National Open University of Nigeria. Therefore, it is anticipated that student retention and success in distance learning programs will increase if distance learning institutions pay adequate attention to online learning components. The examination in this way reasons that assuming web based learning climate are ideal to distance learners, they would have the option to accomplish positive and advantageous students' scholarly accomplishment. In light of the discoveries of this study it was recommended that:

- Government ought to put more in training of this season of advanced age through satisfactory financing to empower schools acquire and introduce ICT foundation.
- The government and relevant stakeholders ought to address the problem of incessant power outages as soon as possible.
- To enable every student to participate in remote learning, technological devices should be made available to them at discounted prices.
- ERT meetings ought to be planned with applicable and exceptionally captivating and intelligent learning exercises to lessen fatigue among disconnected students during learning.
- Web availability, openness and dependability ought to be refined by the public authority, to empower educators and understudies have network that permits them to have the option to remotely take examples.

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## ВЕБ-ОРІЄНТОВАНЕ НАВЧАННЯ ТА УСПІШНІСТЬ СТУДЕНТІВ У НАЦІОНАЛЬНОМУ ВІДКРИТОМУ УНІВЕРСИТЕТІ НІГЕРІЇ

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**Анотація.** У дослідженні вивчався вплив вебструктур навчання (Moodle, віртуальна дошка, онлайн-бібліотека, модуль онлайн-курсу/навчальний посібник, інтернет-навчання для студента-тренера та зв'язок студент-студент і час доступу до навчальних інтернет-додатків) на навчальні досягнення студентів у Національному відкритому університеті Нігерії. Було використано описовий метод, до дослідження залучено від 100 до 400 студентів з вибіркою 150 студентів факультетів права, мистецтв і соціальних наук, бізнесу та людських ресурсів, освіти, науки і технологій, а також центру безперервної освіти Національного відкритого університету Нігерії. Опитувальник під назвою "Підтверджені експертами академічні досягнення студентів під час онлайн-навчання у Національному відкритому університеті Нігерії" (OLLAAS) містив 53 питання, а коефіцієнт альфа-Кронбаха склав 0,76. Для перевірки гіпотез на рівні значущості 0,05 дані були проаналізовані за допомогою множинної регресії та коефіцієнта кореляції Пірсона. Результати дослідження показали, що структури інтернет-навчання (Moodle, віртуальна дошка, онлайн-бібліотека, модуль онлайн-курсу/навчальний посібник, веб-навчання для студента-наставника та зв'язок студент-студент і час доступу до веб-додатків) суттєво впливають на успішність студентів ( $F(6, 143) = 24,907$ ;  $R^2 = 0,511$ ), до того ж вони впливають на результати навчання — 49,1% різниці. Moodle ( $r = 0,206$ ,  $P0.001$ ), віртуальна дошка ( $r = 0,417$ ,  $P0.001$ ), онлайн-бібліотека ( $r = 0,594$ ,  $P0.001$ ), модуль онлайн-курсу/навчальний посібник ( $r = 0,395$ ,  $P0.001$ ), онлайн-навчання для взаємодії між викладачем і студентом та студентом і студентом ( $r = 0,442$ ,  $P0.001$ ), а також періоди доступу до додатків для онлайн-навчання ( $r = 0,625$ ,  $P0.001$ ) — усі ці фактори позитивно впливають на успішність студентів. З огляду на отримані дані адміністраціям навчальних закладів було запропоновано збільшити фінансування на комп'ютеризацію для того, щоб дати можливість школам отримати і впровадити фундаментальну базу ІКТ. Крім цього, уряду та всім зацікавленим сторонам рекомендовано вирішити проблему безперервних відключень електроенергії. Механічні гаджети також мають бути доступними для учнів за пільговими цінами, щоб дати можливість усім бажаючим брати участь у дистанційному навчанні. Під час навчальних вебзустрічей слід впроваджувати цікаві, інтелектуальні вправи, які б зменшували втому студентів, які навчаються дистанційно.

**Ключові слова:** вебструктури навчання; академічні досягнення студентів; дистанційне навчання; ера Covid-19.



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