



Undergraduate Students' Readiness for the Utilization of Online Learning Platforms During the Covid-19 Lockdown in Rivers State

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ABSTRACT

The covid-19 pandemic took the education sector unawares as it did other sectors. The lockdown imposed by the Rivers State Government during the pandemic ensured the safety of inhabitants but made online learning mandatory for educational institutions. This research assessed the readiness of six hundred and twenty seven (627) 300-level undergraduate students for the utilization of online learning platforms (Google classroom and Zoom) in the Faculty of Education in three universities in Rivers State, Nigeria. The design of the study was descriptive survey research with two research questions and two hypotheses. A questionnaire that contained items to determine the readiness extent of students for the use of Google classroom and zoom as online learning platforms was used for data collection. The face and content validity of the instrument was ensured by experts in measurement and evaluation. Test retest method was used to determine the internal consistency of the questionnaire. The initial and retest scores were correlated using Pearson Product Moment Correlation and a reliability coefficient of (0.730) was established. Mean and Standard deviation were used to answer the research questions, while Analysis of Variance (ANOVA) was used to test the null hypotheses at 0.05 level of significance. Findings revealed that undergraduate students' readiness level for the utilization of zoom videoconferencing app and Google classroom was to a high extent. Given this finding, it was recommended that educational institutions should provide free internet service to students to enable them utilize Google classroom and zoom effectively for their learning.

Keywords: Awareness, Readiness, students, online learning platforms, COVID-19 lockdown

Introduction

The unexpected arrival of the covid-19 pandemic disrupted all social gathering and educational activities around the world. Many nations throughout the world installed facilities for online learning to deal with the shutdown of schools and colleges in order to resume disrupted learning. One of the temporal measures to be employed as an alternative to the typical and traditional face-to-face classroom setting is online learning. The promotion of Internet learning has greatly contributed to the implementation of online learning, also known as E-learning, or virtual learning, in the field of education. Through a virtual classroom supported by social networks, online learning enables students and teachers to collaborate, communicate, and share useful information (Ogunji, Onwe and Ngwa, 2022).

Nigeria has not been exempt from the dangers and difficulties posed by the Covid-19 pandemic. As a result, the Nigerian Federal Government made utilization of online learning tools like Google Classroom and zoom video conferencing app mandatory. A learning management system called Google Classroom and zoom conferencing app focuses more on tailoring students' educational experiences than on administering them. Google Classroom, according to Akpunonu and Fomsi (2021), is a collection of online tools that gives teachers the ability to assign homework, receive students' submissions, mark papers, and provide feedback. Because Google Classroom works as both a synchronous and asynchronous system, even students without devices or networks can access course materials at any time and from any location. However, Zoom video conferencing app is an environment that allows for synchronous communication in which instructors and learners collaborate effortlessly on online instances. When it comes to hosting a webinar, conference or [virtual classroom](#), many users opt for Zoom Meeting. According to Syakur (2020), it was essentially developed to eliminate paper from the classroom and enable digital learning. It was initially intended to be used in conjunction with computers in classrooms, such as Chromebooks, to make it easier for teachers and students to share information and tasks.

Literature Review

The Google company developed Google Classroom as an online learning environment (Oyarinde and Komolafe, 2020). However, was there a thorough evaluation of students' readiness prior to Google Classroom's adoption by schools? Readiness is the state of being prepared to perform a task. Iderima and Awotua-Efebo (2020) state that a student's degree of competence and developmental stage play a significant role in determining how ready they are

for learning. One of the two opposing camps of theorists—the Stage theorists and the Interaction theorists—strongly support each of these elements. The aspects that they feel define readiness are where the stage theory and the interaction theory diverge most. Students must be ready to study in terms of their knowledge of technology, location, and time. Lack of preparation may prevent students from successfully utilizing the course material, working with classmates, and collaborating with instructors.

Rahayu (2020) investigates how students feel and what they take out from the use of the Zoom conference system for synchronous e-learning. The information was gathered using an exploratory sequential design from 62 Indonesian university students taking an English course. The data was gathered through classroom observations and a series of questions using a five-point Likert scale. The three components of activities are communication, course content, and study process, according to observations. The results of the questionnaire show that all three factors provided favourable responses.

Aminin and Leliana (2021) looked on how students used Google Classroom, Zoom, and WhatsApp Groups to conduct online lectures and how they perceived those methods as helpful study methods during the COVID-19 outbreak. 33 male and female EFL students from the English Department who signed up for the Essential Writing Class were the participants. Thematic coding was employed for the data analysis. Most pupils were prepared to study online, according to the data. They were primarily concerned with the content. They did not focus on their method of learning, which was online learning.

Ahmad (2020) examined the level of student preparation for face-to-face Teaching and Learning (T&L) process using Google Classroom mobile learning. In the Langkawi Vocational College in Kedah, there are now 39 Diploma students enrolled in the program for the 2020 academic year. The analysis revealed that all three study constructs had very high average scores, with a mean of 4.29. The results of the t-test study revealed that there was no gender difference in the degree of Google Classroom preparation among the Culinary Diploma students. The results also demonstrated that during the COVID-19 epidemic, students were not restricted from using Google Classroom m-learning in their T&L process at home.

In their 2020 study, Chung, Subramaniam, and Dass looked at university students' preparation for online learning. Their study sought to determine whether demographic factors have any impact on learners' readiness to learn, experiences with online learning, and intention to use online learning going forward. It also looked at the difficulties people encounter and their preferred online learning strategies. The responses were generally ready for online learning, according to data gathered from 399 students in two separate online learning courses in Malaysia. Female students and degree students, on the other hand, are more satisfied with online learning and report better learning experiences than male and diploma students. Their study discovered that females are more prepared than males, and degree students are more prepared than diploma students.

Statement of Problem

The restriction of movements and social distancing imposed by the COVID-19 pandemic has exposed the unpreparedness of Nigeria educational system in adopting online learning. This restriction made the Federal Government of Nigeria to make it mandatory to adopt online learning platforms. Some of the platforms adopted were the Google classroom and Zoom video conferencing app. However, this directive was implemented by schools without a proper assessment of students' readiness to use online learning platforms. This became a problem because students' readiness is a crucial factor for successful online learning. Hence, this study assessed undergraduate students' readiness for the use of Google classroom and zoom video conferencing app during the Covid-19 lockdown in universities in Rivers State.

Purpose and Objectives of the study

The study has as its purpose, determining the readiness of 300-level undergraduate students for the utilization of online learning platforms during the covid-19 lockdown in Rivers State.

The study seeks to:

1. establish the extent to which 300-level undergraduate students in the Faculty of Education are ready for the utilization of zoom video conferencing app for online learning in three Universities in Rivers State
2. determine the readiness extent of 300-level undergraduate students for the use of Google classroom during the COVID-19 lockdown in three Universities in Rivers State.

Research Questions and Hypotheses

The following research questions and their corresponding hypotheses guided the study:

1. *Research Question:* What difference exists in the readiness level of 300-level undergraduate students for the use of zoom video conferencing as an online learning platform in the three universities in Rivers State?

Hypothesis: There is no significant difference in the extent to which 300-level undergraduate students differ in their readiness for the use of zoom video conferencing app as an online learning platform across the three universities in Rivers State.

2. *Research Question:* What is the difference in the extent of readiness of undergraduate students for utilizing Google classroom in universities in Rivers State?

Hypothesis: Significant differences do not exist on the readiness extent of student's for the use of Google classroom in Post COVID-19 era across the three universities in Rivers State.

Methodology

The study adopted a descriptive survey research design with a sample size of six hundred and twenty seven (627) 300-level undergraduate students of the Faculty of Education in three Universities in Rivers State. A questionnaire with items that assessed the extent of readiness of the undergraduate students for utilizing zoom video conferencing app and Google classroom as online learning platforms was designed by the authors and validated by experts in measurement and evaluation. The first section of the questionnaire gathered demographic information of respondents while the second section comprised two clusters; representing the two objectives of the study. The first cluster measured readiness extent of students' use of Zoom video conferencing app and the second cluster measured the readiness extent of students on the use of Google classroom. The response of these clusters were rated on a five-point scale as Very High Extent (VHE) - 5, High Extent (HE) - 4, Moderate (ME) - 3, Low Extent (LE) - 2 and Very Low Extent (VLE) - 1, with a mean criterion of 3.00. The internal consistency of the instrument was determined using test retest method. The initial and retest scores were correlated using Pearson Product Moment Correlation with a reliability coefficient of 0.730. The study questions were answered using mean and standard deviation, and the null hypotheses were tested using analysis of variance (ANOVA) at the 0.05 level of significance.

Results

Research Question one: What difference exists in the readiness level of 300-level undergraduate students for the use of zoom video conferencing as an online learning platform in the three universities in Rivers State?

Hypothesis one: There is no significant difference in the extent to which 300-level undergraduate students differ in their readiness for the use of zoom video conferencing app as an online learning platform across the three universities in Rivers State.

Table 1: Undergraduate Students' readiness for the use of Zoom platform during the covid-19 lockdown in Rivers State.

S/N	Item	Respondents (n = 627)					Mean	SD	Remark
		VHE	HE	M	LE	VLE			
1	I can download Zoom platform.	294	147	131	40	15	4.061	1.071	HE
2	I can schedule and start a Zoom meeting.	242	179	123	63	20	3.893	1.123	ME
3	I can join a meeting using Zoom meeting identity number and code.	268	155	120	67	17	3.941	1.135	ME
4	I can share videos, pictures and document using share screen feature.	222	169	149	69	18	3.810	1.121	ME
5	I can Mute/Unmute my audio.	262	145	138	63	18	3.911	1.138	ME
6	I can view participants using the participant feature.	239	162	132	77	17	3.844	1.142	ME
7	I can chat with everyone and individually.	191	188	152	68	28	3.711	1.141	ME
8	I can use the waiting room, leave and end meeting.	209	158	161	77	22	3.726	1.151	ME
Grand Mean							3.86		

Criterion mean = 3.00(mean < 3.00=low level, =3.00=moderate, mean > 3.00 = high level)

Table 2: Summary of Analysis of variance (ANOVA) on readiness of students for the use of Zoom platform

RDEZATOT					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2219.370	2	1109.685	19.699	.000
Within Groups	35152.037	624	56.333		
Total	37371.407	626			

Table 1 presents the responses obtained from undergraduate students on their readiness for the use of Zoom video conferencing application during the COVID-19 lockdown. With a grand mean of 3.86 which is above to the criterion mean of 3.00, we can conclude that students' readiness to utilize zoom application is to a high extent.

Table 2 reveals that the sums of squares are 2219.370 and 35152.037 while the mean squares are 1109.685 and 56.333. With degrees of freedom of 2 and 624, the F ratio value of 19.699 shows that there was a significant difference in students' readiness for the use of Zoom video conferencing app across the three universities in Rivers State, ($df_2, 624 = 19.699, P < 0.05$). Thus the null hypothesis was rejected at 0.05 level of significance. Since the result is significant, a post hoc test was conducted to determine the direction of the difference. Table 3 presents the results of the post hoc test.

Table 3: Summary of POST HOC Analysis on readiness extent of students in the use of Zoom platform in COVID-19 era across the three universities in Rivers State.

Dependent Variable: RDEZATOT						
Scheffe						
(I) UNIVERSITY	(J) UNIVERSITY	Mean (I-J)	Difference	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound
SCHOOL (A)	SCHOOL(C)	4.5397*	.7263	.000	2.758	6.322
	SCHOOL(B)	1.3882	.7225	.159	-.385	3.161
SCHOOL(C)	SCHOOL(A)	-4.5397*	.7263	.000	-6.322	-2.758
	SCHOOL(B)	-3.1515*	.7990	.000	-5.112	-1.191
SCHOOL(B)	SCHOOL(A)	-1.3882	.7225	.159	-3.161	.385
	SCHOOL(C)	3.1515*	.7990	.000	1.191	5.112

*. The mean difference is significant at the 0.05 level.

Method-wise; the response of school (A) students shows a significant difference on school (C) = 4.5397, with significant value less than 0.05 ($P < 0.05$). While the response of school (A) students shows an insignificant difference on school (B) = 1.3882 with significant value greater than 0.05 ($P > 0.05$). Also, response of school (C) students shows a significant difference on school (A) = -4.5397, with significant value less than 0.05 ($P < 0.05$), while the response of school (C) students shows a significant difference on school (B) = -3.1515 with significant value less than 0.05 ($P < 0.05$). Furthermore, response of school (B) students shows an insignificant difference on; school (A) = -1.3882, with significant values greater than 0.05 ($P > 0.05$); while the response of school (B) students shows a significant difference on school (C) = 3.1515 with significant value less than 0.05 ($P < 0.05$).

Research Question Two: What is the difference in the extent of readiness of undergraduate students for utilizing Google classroom in universities in Rivers State?

Hypothesis Two: Significant differences do not exist on the readiness extent of students' for the use of Google classroom during the lockdown across the three universities in Rivers State.

Table 4: Mean and standard deviation on the difference in the extent of readiness of student's for the use of Google classroom in post covid-19 era in Universities in Rivers State.

S/N	Item	Respondents (n = 627)							
		VHL	HL	M	LL	VLL	Mean	SD	Remark
9	I can sign into Google classroom using my email address.	245	141	120	84	37	3.754	1.261	ME
10	I can schedule and start a Google classroom.	190	175	136	83	43	3.616	1.233	ME
11	I can join Google classroom using my class identity number/code.	211	153	125	91	47	3.622	1.285	ME
12	I can add content to assignments, such as video, pdfs, Google Docs or Google Forms survey.	177	171	146	91	42	3.558	1.227	ME
13	I can view assignments, announcements and other resources on a class resource page.	210	150	131	91	45	3.620	1.276	ME
14	I can use Google Calendar to track assignment due dates.	186	134	162	101	44	3.506	1.261	ME
15	I can set Classroom themes with school colors or logo.	152	154	161	106	54	3.389	1.257	ME
16	I can write and submit my assignment, test and exam.	197	118	158	104	50	3.491	1.301	ME
	Grand Mean						3.57		

Criterion mean = 3.00(mean < 3.00=low level, =3.00=moderate, mean > 3.00 = high level)

Table 5: Summary of Analysis of variance (ANOVA) on the readiness extent of student's for the use of Google classroom in the universities in Rivers State.

RDEGCTOT					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2857.762	2	1428.881	18.558	.000
Within Groups	48044.978	624	76.995		
Total	50902.740	626			

Table 4 presents the responses obtained from the readiness extent of students for the use of Google classroom during the COVID-19 lock down. With a grand mean of 3.57 which is above the criterion mean of 3.00, it can be seen that students' readiness level for the use of Google classroom is to a high extent.

Table 5 reveals that the sum of squares are 2857.762 and 48044.978 while the mean squares are 1428.881 and 76.995. With degrees of freedom of 2 and 624, the F ratio value of 18.558 shows that there was a significant difference in the readiness extent of students' for the use of Google classroom during

the lockdown across the three universities in Rivers State, ($df_2, 624 = 18.558, P < 0.05$). The second null hypothesis was rejected at 0.05 level of significance. A post hoc test was conducted to determine the direction of the difference as shown in table 6.

Table 6: Summary of POST HOC Analysis on the readiness extent of student's for the use of Google classroom in the universities in Rivers State.

Dependent Variable: RDEGCTOT						
Scheffe						
(I) UNIVERSITY	(J) UNIVERSITY	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
SCHOOL (A)	SCHOOL(C)	5.1730*	.8491	.000	3.090	7.256
	SCHOOL(B)	2.0168	.8447	.059	-.056	4.089
SCHOOL(C)	SCHOOL(A)	-5.1730*	.8491	.000	-7.256	-3.090
	SCHOOL(B)	-3.1562*	.9341	.003	-5.448	-.864
SCHOOL(B)	SCHOOL(A)	-2.0168	.8447	.059	-4.089	.056
	SCHOOL(C)	3.1562*	.9341	.003	.864	5.448

*. The mean difference is significant at the 0.05 level.

Method-wise; the response of school (A) students shows a significant difference on school (C) = 5.17030, with significant value less than 0.05 ($P < 0.05$); while the response of school (A) students shows an insignificant difference on school (B) = 2.0168 with significant value greater than 0.05 ($P > 0.05$). Also, response of school (C) students shows a significant difference on school (A) = -5.1730, with significant value less than 0.05 ($P < 0.05$); while the response of school (C) students shows a significant difference on school (B) = -3.1562 with significant value less than 0.05 ($P < 0.05$). Furthermore, response of school (B) students shows an insignificant difference on school (A) = -2.0168, with significant values greater than 0.05 ($P > 0.05$); while the response of school (B) students shows a significant difference on school (C) = 3.1562 with significant value less than 0.05 ($P < 0.05$).

Discussion of findings

The study assessed the readiness of 300-level undergraduate students' on the use of zoom video conferencing app and Google classroom as online learning apps during the covid-19 lockdown in three universities in Rivers State. Table 1 indicated that the readiness extent of students for the use of Zoom application is high. Furthermore, the result of table 2 showed that there is a significant difference in readiness extent of students for the use of zoom during the covid-19 lockdown across the three universities in Rivers State.

The result is in agreement with Sihombing, Pakpahan and Situmorang (2020) who showed that junior high school teachers are ready to implement online learning platforms, such as short message service, WhatsApp group, Zoom, phone, or live chat, in spite of not being optimal and dealing with various obstacles. These findings are in agreement with the study conducted by Rahayu (2020) who reported that students who used zoom agreed that they could communicate at ease before the lesson starts, participate in question and answer during the study process, and work collaboratively through the breakout rooms. Through the whiteboard/shared screen feature in zoom conference, students described that they were able to give feedback to each other. Moreover, they mostly agreed that materials to the lesson could be accessed and understood in e-learning. However, with all the positive feedback on the three factors, they agreed that the traditional face-to-face still gives easier and better access from the factors of communication and materials compared to the e-learning.

Also, this study agreed with Aminin and Leliana (2021) who showed that most students were ready to study via WhatsApp Group application, Google Classroom, and Zoom online. Furthermore, Gunawan, Kristiawan and Risdianto (2021) agreed that it is easier for lecturers and students to interact synchronously in the learning process by applying the zoom meeting application to learning during the pandemic.

However, this study is in disagreement with Banji, Frempong and Okyere (2021) who revealed that more than half (62.9%) of students used for their study were not ready for the use of e-learning platforms even though 91.6% of the participants had basic computer skills before the pandemic, and 36.5% had prior experience with the use of E-learning platforms before COVID-19 Pandemic. Kamaruzaman, Sulaiman and Nor (2021) revealed that undergraduate students were ready towards the use of online learning in terms of their motivation ($M = 3.77$), facilities ($M = 3.93$) and technology capabilities ($M = 3.92$). Also, Fadilla, Yuliana and Rezeki (2022) indicated that students' readiness toward E-learning had a score of 69%, which means they were ready for E-learning but needed slight improvement. In contrast, Amalia, Anggoro and Eka (2021) revealed that students and their parents are unprepared for e-learning.

Table 4 indicated that the readiness extent of students for the use of Google classroom during the COVID-19 lockdown was at a high level. Furthermore, the result of table 4 shows that there is a significant difference in the readiness extent of students for the use of Google classroom across the three universities in Rivers State. The result is in agreement with Sey (2021) who reported that Cambodian undergraduate students have moderate e-readiness in using Google Classroom for academic purposes despite a significant concern over the recognition of qualifications earned through online learning using Google Classroom and the limited support from the government in the utilization of Google Classroom in education.

Also, this study agreed with Ahmad, Hamzah and Hassan, (nd) who reported that respondents used in their study had a very high level of readiness in using Google Classroom m-learning based on the three construct studied namely knowledge, attitude and motivation. However, there was no significant difference in the level of readiness in using Google Classroom by gender among the Culinary Diploma students. Furthermore, the study agreed with

Chung, Subramaniam and Dass (2020) who investigated that most respondents preferred online learning via pre-recorded lectures uploaded to Google Classroom and YouTube. However, more than half of the respondents indicated that if given a choice, they do not want to continue with online learning in the future. In a study by Rasouli, Rahbania and Attaran (2016), Art students were in a moderate level of readiness for applying E-learning. A significant relationship between the readiness of undergraduate students, graduate students, and post-graduate students to apply E-learning was noted, but there was no significant relationship between students' readiness and gender; university and subject.

Olayemi, Adamu and Olayemi (2021) revealed that majority of the respondents in their study indicated high level of ICTs skills and competencies needed for online learning. Also, Allam and Hassan (2020) reported that undergraduate students have high level readiness for online distance learning. Furthermore, Mohalik and Sahoo (2020) revealed that student teachers have e-readiness with digital devices (99%) and financial support (80%), but are lacking in good Internet connectivity, adequate electricity supply and personal space at home. Ngampornchai and Adams (2016) disagreed with the findings of this study as they reported that students have a slightly positive perception toward e-learning. They use mobile technologies extensively and have experience using social media.

Conclusion

The use of digital technological tools for student interaction in an online environment by professors and students is made possible by online learning platforms. The learning resources are more readily available to students because the platform encourages active learning. Education stakeholders must ensure that students are ready to use Zoom and Google Classroom platform in light of the identified educational benefits that can be obtained from doing so. Also, due to the current global pandemic (COVID-19), travel restrictions, and social isolation, zoom and Google Classroom online learning tools help students and teachers interact, collaborate, create assignments, evaluate students, and submit resources. Students may also do the same on the topics they are unclear about. The benefit of using Zoom and Google Classroom as online learning platforms is that it allows for the achievement of quality in the teaching and learning process at all educational levels throughout any pandemic period.

Recommendations

1. Institutions should provide free internet service to students to enable them assess zoom and Google classroom when needed.
2. Students should be adequately exposed to zoom and Google classroom by their instructors.

References

- Ahmad, M. F., Hamzah, N., Hassan, A., Ahmad, M. F., Hamzah, N., Hassan, W., Shukri, S., & Razali, H. (n.d.). Google classroom m-learning readiness for culinary college diploma students of langkawi vocational college in facing covid-19 pandemic digital view project journal of critical reviews google classroom m-learning readiness for culinary college diploma students of langkawi vocational college in facing covid-19 pandemic. Retrieved from <https://www.researchgate.net/publication/345214412>
- Akpunonu, H. N., & Fomsi, E. F. (2021). Perception of Undergraduate Students towards the Use of Google Classroom Application for Online Learning in the 21st Century. *British Journal of Education*, 9(8), 20-34.
- Allam, S.N.S., & Hassan, M.S. (2020). Investigated on online Distance Learning Readiness during Covid-19 Outbreak among Undergraduate Students. DOI: 10.6007/IJARBS/v10-i5/7236. <https://www.researchgate.net/publication/341820259>
- Amalia, R. R., Anggoro, S., & Eka, K. I. Identification of Teachers and Students' Readiness to E-Learning Implementation. *Journal of Teaching and Learning in Elementary Education (Jtlee)*, 4(2), 170-179.
- Aminin, Z., & Leliana, A. (2021). Students' perceptions on their readiness to study online: a case study of one university in Surabaya. *Project (Professional Journal of English Education)*, 4(2), 303-310.
- Banji, G. T., Frempong, M., Okyere, S., & Raji, A. S. (2021). University students' readiness for e-learning during the covid-19 pandemic: an assessment of the university of health and allied sciences, ho in Ghana. *Library Philosophy and Practice*, 1-24.
- Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online learning readiness among university students in Malaysia amidst Covid-19. *Asian Journal of University Education*, 16(2), 45-58. <https://doi.org/10.24191/AJUE.V16I2.10294>
- Fadilla, F., Yuliana, Y. G. S., & Rezeki, Y. S. (2022). Exploring Students' Online Learning Readiness during Covid-19 Pandemic: A Case of an English Class in an Indonesian Junior High School. *Pedagogy: Journal of English Language Teaching*, 9(2), 189-202.
- Gunawan, G., Kristiawan, M., Risdianto, E., & Monicha, R. E. (2021). Application of the Zoom Meeting Application in Online Learning During the Pandemic. *Education Quarterly Reviews*, 4(2).
- Iderima, E.C., & Awotua-Efebo, E.B. (2020). Readiness of undergraduate students for distributed learning in selected higher educational institutions in southern Nigeria. *International Journal of Education, Learning and Development*, 8(4), 94-110
- Kamaruzaman, F. M., Sulaiman, N. A., & Nor, N. A. (2021). A Study on Perception of Students' Readiness towards Online Learning During Covid-19 Pandemic

- [Mohalik, R., &Sahoo, S. \(2020\).E-Readiness and Perception of Student Teachers' Towards Online Learning in the Midst of COVID-19 Pandemic.](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3666914)https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3666914
- Ngampornchai, A. & Adams, J. (2016).Students' acceptance and readiness for E-learning in NortheasternThailand.[International Journal of Educational Technology in Higher Education](https://educationaltechnologyjournal.springeropen.com/). <https://educationaltechnologyjournal.springeropen.com/>
- Ogunji, C. V., Onwe, J. O., Ngwa, E. S., David, E., Olaolu, M., &Cresantus, B. (2022). Higher education and the new normal: implications for sustainable post covid-19 era in Nigerian tertiary institutions. *Cogent Education*, 9(1), 2125206.
- Olayemi, O.M., Adamu, H., &Olayemi, K.J. (2021). Perception and Readiness of Students' Towards Online Learning in Nigeria During Covid-19 Pandemic.
https://www.researchgate.net/publication/350006386_Perception_and_Readiness_of_Students'_Towards_Online_Learning_in_Nigeria_During_Covid-19_Pandemic
- Oyarinde, O. N., &Komolafe, O. G. (2020). Impact of Google Classroom as an online learning delivery during COVID-19 Pandemic: The case of a secondary school in Nigeria. *Journal of Education, Society and Behavioural Science*, 33(9), 53-61.
- Rahayu, D. (2020). Students' E-Learning Experience through a Synchronous Zoom Web Conference System.*Journal of ELT Research: The Academic Journal of Studies in English Language Teaching and Learning*, 68-79
- Rasouli, A., Rahbani, Z., &Attaran, M. (2016).Students' Readiness for E-learning Application in Higher Education.Malaysian Online Journal of Educational Technology.V(4)3. <https://files.eric.ed.gov/fulltext/EJ1106478.pdf>
- Sey, K. (2021) E-readiness of Cambodian Undergraduate Students in Using Google Classroom.
- Sihombing, H., Pakpahan, B. A., &Situmorang, M. (2020). Analyzing the Readiness of Junior High School Educators In the Online Learning Implementation During Covid-19: An Interview Study. In *Proceeding of International Conference of Education in the New Normal Era* (Vol. 1, No. 1, pp. 20-25).
- Syakur, A. (2020). The Effectiveness of English Learning Media through Google Classroom in Higher Education.*Britain International of Linguistics Arts and Education (BioLAE) Journal*, 2(1), 475-483.