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Accessibility of Google Classroom by Undergraduates for Learning

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A B S T R A C T S

Availability that lacks accessibility is nothing different from unavailability. The aftermath of COVID19 had forced most schools to employ several learning technologies with Google classroom inclusive. This study thus investigates undergraduate access to Google classroom for learning. This study employs the survey method and 250 undergraduates were purposively sampled. The findings established that undergraduate students have adequate access to google classroom for learning vocational and entrepreneurship courses and there was significant relationship between undergraduate access and utilization of google classroom for learning. The study concluded that access to Google classroom was directly proportional to its utilization. It was however recommended that lecturers should use the Google classroom to facilitate their instructional process.

A R T I C L E   I N F O

1. INTRODUCTION

The adoption of e-learning has led to the changing demands of learning to be more flexible, for the extension of educational services to national and international levels, and for more cost-effective delivery of education. Learning materials from various sources are easily accessible and this make it easy for students to plan and implement learning (Sandi, 2012). The benefits of e-learning are not only felt by students, lecturers use it to share learning materials, assignments, and information related to learning in accordance with the area of expertise taught (Negara, 2018). Another advantage gained by lecturers is that, it allows them to evaluate every activity that has been done by students in monitoring activities in order to solve problems and make learning more effective and efficient. Several e-learning applications are being deployed for educational purposes and one of them is google classroom which is the focus of this study.

According to Nwana (2012), e-learning in education is the wholesome integration of modern telecommunication equipment, particularly the internet into the education system. This further indicated the main purpose of e-learning is to transform the old methods and approaches of curriculum implementation in order to bring about certain changes in the behavior of the learners and the extent to which the changes take place. Obodoegbulam and Ogbonnaya in Ezeugbo and Asiegbu (2011) enumerated e-learning facilities needed for effective teaching to include computer , internet , e-mail, satellite , multi-media , network , telephone , wireless technology , mobile phone and CD-ROM. E learning can be classified in diverse ways, there have been some classifications based on the extent of their engagement in education. Some classifications are also based on the timing of interaction.

The success of the use of google classroom also depends on the learner's personal characteristics, in previous studies, scholars opined that personal features such as attitude, perception may influence an individual's use of the technology. In a study conducted by Negara (2018), 70% of the students believed that the use of google classroom can improve their productivity while the rest believed otherwise . In the same study students believed that google classroom is easy to use . Also the influence of gender on the use of google classroom cannot be overlooked. Different results have been provided by diffeent scholars on the influence of gender on the use of an instructional resources such as google classroom . Islahi (2019) found out that there is no significance difference in individual 's use of information technology in relation to their gender while Yushau and Nannim (2020) reported that there is a significant difference in male and females use of ICT facilities . It is normal to have different results as people 's opinion varies from place to place due to difference in cultural background, political laws etc.

Vocational education is an instrument necessary for uplifting and promoting a sustainable development. It involves the necessary skill that would be needed for economic growth. Invariably, in Nigeria today, vocational education is yet to be accorded with the required attention and this is due to poor policy implementation (Oyetunde *et al.,* 2016). According to Otuaga (2012) advancement and sustainable development is a very vital issue in a global world . He further stated that vocational education is focused on acquisition of individual skills and capability for occupation . Vocational education has been an integral part of national development strategies in many societies because of the impact on human resource development, productivity and economic growth (Oguejiofor & Ezeabasili, 2014).

The scholars further stated that vocational education entails the enrichment of the capabilities that influence the effective psychomotor or cognitive domains of individual in readiness for entry into the world of work in order to satisfy their intrinsic and extrinsic values,

work, and aspirations such that local and national needs would be met. Indeed, vocational education in Nigeria must emphasize entrepreneurship awareness for it to be relevant in achieving economic growth of any nation (Oyetunde *et al.,* 2016). Vocational education combines human and material resources for the promotion of sustainable occupational development and this can also be linked to entrepreneurship education. This study will therefore investigate the accessibility of google classroom to undergraduates in University of Ilorin.

1.1. Statement of the Problem

Education has moved on from the past time where classes are held directly (face to face) in a teacher centered environment to a more enhanced and virtual environment where learning can take place without the teacher and students having to be in the same geographical location. The teacher or instructor can simply send learning contents, the students then access it and give feedback to the teacher on the learning contents. Apart from this, students can also access learning content anywhere without having to be in physical contact with the students. Online learning further gained popularity globally during the ongoing Covid 19 pandemic which led to the closure of schools through out the world.

Educators had to adapt online learning on a full scale to ensure continuity of learning. Children are not allowed to go to schools and educational institutions, this is to ensure that their lives and families are not endangered. The global crisis caused by the outbreak of the COVID-19 did not only cause conventional teaching and learning to be delayed, but also made teacher assignments more challenging when they needed to adapt to the new norms that required the teaching and learning process to be implemented online. This study thus investigated undergraduates' accessibility of google classroom for learning vocational and entrepreneurship courses.

1.2. Purpose of the Study

This study:
1. Examined undergraduates' access to google classroom for learning vocational and entrepreneurship courses.
2. Investigate the relationship between undergraduate access and utilization of google classroom for learning.

1.3. Research Questions

1. Do students have access to google classroom for learning vocational and entrepreneurship courses?
2. What relationship exist between undergraduate access and utilization of google classroom for learning vocational and entrepreneurship courses?

1.4. Research Hypotheses

The following null hypothesis was tested in the study:
Ho$_1$: There is no significant relationship between undergraduate access and utilization of google classroom for learning vocational and entrepreneurship courses.

1.5. Literature Review on Access and Utilization of Google Classroom by Undergraduates for Learning

The COVID 19 pandemic affected universities and schools at large worldwide in the early 2020. Schools were closed as curfews and lockdowns were imposed in respect to each

nation's legislation. The modes and methods of education had to fold up offline as face to face interaction between stakeholders were highly forbidden, teaching and learning took off online and different online platforms were adopted by educators for educational purposes. Online platforms used by the researcher's institution includes Edmodo, Canvass, Google meet, Moodle and also Google classroom which will be the focus of this study. Although Google classroom has been used previously by schools before the pandemic but not at this scale and magnitude.

Google Classroom is a free application designed to assist students and teachers connect, work together, organize and create assignments, it enables learning to be paperless. Google Classroom is considered one of the best platforms to improve lecturer workflow. This application provides a set of advanced features that make it the ideal tool for use with students (Negara, 2018). As a Digital Tool, Google Classroom is accessible only to users with Google Apps for Education (GAFE). This is a free collaborative set of tools, these tools include web tools like Google Docs, Google Drive, Gmail, and more. All users will GAFE account, have access to these web tools. Google Classroom can be used at any grade (basic, post basic and tertiary) levels, but this depends on the teachers' and students' competence.

Google Classroom can therefore be defined as a Digital Tool that enable students to attend classes online. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. Teachers work together with their students without meeting face to face. Google Classroom enables teachers to create an online classroom area in which they can manage all the documents that their students need. Documents are stored on Google Drive and can be edited in Drive's apps, such as Google Docs, Sheets, and so on (Okmawati, 2020). Teachers can post materials for their students through this medium, they can also make announcements and create assignments and quizzes for students to complete, submit and save online either in a web browser or on Google Classroom App (Hussaini *et al.,* 2020). Digital Tools stresses on learners continuing learning activities through digital tools, which include desktop computers, notebook computers, tablet computers, and smart phones (Keane, 2012). These tools allow learning to take place without teachers and students meeting face to face.

Effective education should therefore go beyond mere literacy and ability to read and write. It should incorporate ability to do and apply that is, it should equip the learners with some form of technical know-how. The number of unemployed graduates in Nigeria suggests that most of them do not possess relevant, saleable, employable or even entrepreneurial skills that are needed in the society. This partly explains why the nation has remained economically dependent till date. This is because most nations who are economic giants today, started by equipping their citizens with the right type of education which will enable them use both their heads and hands (Olanipekun *et al.,* 2015). The type of education that equips its recipients with such abilities to think is generally described to work as vocational education and entrepreneurship education which is aimed at equipping individuals to use their heads and hands in order to survive in a world that is essentially work-oriented.

With the use of google classroom, teachers can create an online classroom, invite students to the class then create and distribute assignments. Students and teachers can also have conversations about the assignments and teachers can track the student's progress (Belaya, 2018). This helps to facilitate the interaction of a professor or teacher with a student or students in the virtual world. Also when a teacher post teaching materials, assign tasks for students, the teachers can upload students' grades so that they can immediately see the scores obtained in the course. Google Classroom also minimizes the costs incurred due to the use of more affordable stationery and other materials and can minimize time-released

energy. In short, the time and energy spent by Google Classroom users will be lesser than the usual. The google classroom platform proved to be a solution to complete the teaching-learning process while schools were still closed. It allows students to be independent, engaged and motivated because most of young learners tend to use technology in their daily life.

Akinola (2012) opined that the need for vocational and entrepreneurship education cannot be overstressed in Nigeria because unemployment, poverty and the corresponding social problems are on the increase. Nigeria adopted entrepreneurship education to accelerate economic growth and development. This reflect in Nigeria's national policy on education which states that education is the most important instrument for propelling change, as no fundamental change can occur in any society except through educational revolution that impact on the intellects.

The google classroom is not only beneficial during pandemics, it can also be deployed in a regular and normal classroom situation to aid teaching and learning. Results from various studies have backed up this fact as scholars (Mafa, 2018; Shaharanee *et al.*, 2016) posited that google classroom is fascinating in educating and learning, students taught indicated satisfaction towards the learning activities in Google classroom. Furthermore, conducted a study to determine the requirements for the development of learning that is exciting, active, autonomous and effective. The results of the study show that integrated learning design based on Google classroom is needed to improve student digital literacy.

Rahmad *et al.*, (2019) stated that Google Classroom application is interesting by considering that this media allows various alternative learning resources for students outside of the material that has been given by the lecturer through the use of information technology and can be used to support the lack of traditional learning, the availability of wifis in school allows free use of the google classroom by all parties in the campus, it can be lecturers, students or staff, google classroom is also easy to use as laptops, computers, and Android-based mobile devices that are mostly owned by students and lecturers is used for its operation. The above considerations show that there is technical support available to bridge the implementation of learning by applying the Google Classroom application media, while the alternative means to learning provided by google classroom is expected to be one of the means of triggering students' learning independence and critical thinking.

Additionally, due to the growing number of undergraduates, especially in Faculty of Education, managing students records is easy with google classroom, students records about their assessments conducted online is easily accessed and can always be retrieved, issues of missing grades can be sorted easily by referring to the students account (Hussaini *et al.*, 2020). With online quizzes and assignments, students are not limited to what they are taught, they can explore other resources about the particular topic through online mediums, hence having a deeper understanding of the topic discussed in the class. Google classroom can easily track students that miss assessments or students that submit their assessments late, so teachers can explore using Google classroom as an additional means of communicating with their students to complement the face to face teaching and learning.

2. METHOD

This is a descriptive research designed to examine Undergraduates' access to Google classroom for learning Vocational and Entrepreneurship in University of Ilorin. The research used questionnaire to elicit information from respondents. Survey research employs questionnaire in this regard to gather necessary and meaningful information from the respondents. The population for this study comprised all students of University of Ilorin,

Kwara state. Simple random sampling technique were used to select 250 respondents. The research instrument for this study was a researcher-designed. The questionnaire will consist of two sections that is, A and B. Section A consist of various questions on the respondents' demographic data that include faculty, gender, level and age. Section B comprised of structured questions which is in scale response mode. The questionnaire will be based on using four point acting scale. The formats of response are: Strongly Agree (SA), Agree (A), Strongly Disagree (SD), Disagree (D).

The instrument was validated by four experts in educational technology Their comments observation and corrections were used to produce the final draft of the questionnaire. The data collected for the study were analysed using frequency counts, percentages, mean scores. Multiple regression was used to test Hypothesis one at 0.05 level of significance.

3. DATA ANALYSIS AND RESULTS

This chapter presents the analysis on the undergraduates' accessibility of Google Classroom for learning vocational and entrepreneurship courses in University of Ilorin, Nigeria and the interpretation of the data through the analysis of the questionnaire items after the administration of the research instrument were done. The chapter presents the description of the research subjects, statistical analyses and results based on research questions and research hypotheses stated earlier in chapter one. The demographic information of the respondents and the results of the analyses are also presented both in tables and figures.

A total of 250 undergraduate students from University of Ilorin, Ilorin, Nigeria, comprising of 120 male students and 130 female students made up the sample for this study. The 250 respondents were given the research instrument with the items, and eventually were available and responses from 250 undergraduate students were properly filled and returned amounting to 100% response rate. The sample size for this research was sufficient and representative.

3.1. Results

Research Question One:
Do students have access to google classroom for learning vocational and entrepreneurship courses?

In other to establish the google classroom for learning vocational and entrepreneurship courses which undergraduate students have access to, mean and standard deviation were used.

The result on undergraduate' access to google classroom for learning vocational and entrepreneurship courses were revealed in **Table 1**. In indicated that most of the undergraduate students can accessed Google Classroom from any computer via Google Chrome or from any mobile device regardless of platform and it is harder to find older messages as more and more posts to the stream are made, which can necessitate a lot of scrolling for students with grand mean scores of 3.68 and 3.38 respectively. Furthermore, most respondents claimed it is easy to access given assignment on the google classroom platform. The grand mean score of 3.45 which was greater than the benchmark of 2.50 established that undergraduate students have adequate access to google classroom for learning vocational and entrepreneurship courses.

Hypothesis One
There is no significant relationship between undergraduate access and utilization of google classroom for learning vocational and entrepreneurship courses

In other to ascertain the significance relationship between undergraduate access and utilization of google classroom for learning vocational and entrepreneurship courses, linear regression statistical tool was employed.

From the results in **Table 2**, the adjusted R square (.354) has good fit. This revealed that the constructed multiple regression model of the independent variable of accessibility account for 36% variance in the dependent variable utilization. The results on the analysis of variance (ANOVA) for the model are as shown in **Table 3**.

The result on the analysis of variance (ANOVA) on independent variable of utilization was reviewed and presented in **Table 3**. The result showed that $F (1, 249) = 137.50$, $p<0.05$. This indicated a statistically significant relationship since the p-value is less than 0.05. The result is as shown in **Table 4**.

The standardized coefficient in **Table 4** revealed that the independent variable, accessibility has strong positive influence on the utilization of google classroom for learning vocational and entrepreneurial courses because the Beta (*B*=0.6, 0.00) shows statistically relationship value was less than 0.05 alpha value.

Table 1. Undergraduates' access to google classroom for learning vocational and entrepreneurship courses.

S/N	ITEMS	Mean	SD
1	Google Classroom can be accessed from any computer via Google Chrome or from any mobile device regardless of platform	3.68	0.483
2	It is harder to find older messages as more and more posts to the stream are made, which can necessitate a lot of scrolling for students.	3.38	0.661
3	It is easy to access given assignment on the google classroom platform	3.61	0.550
4	Individual track results and number of times each student contribute to the lesson content is easily accessible using google classroom	3.44	0.544
5	Students can easily access and give feedback to learning content posted by the instructor	3.43	0.564
6	Google classroom provides a seamless way for special students (blind) to access their materials and assignments electronically using their assistive technology of choice	3.27	0.650
7.	Google classroom features such as visual aids, closed captioning and real time collaboration help overcome barriers to learning for all students.	3.36	0.627
8.	Students can access classroom anytime and anywhere	3.44	0.651
	Grand Mean on Accessibility to GC by for Learning	**3.45**	

Table 2. Model summary on regression of the variables.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.597[a]	0.357	0.354	0.26355

a. Predictors: (Constant), Accessibility of Google Classroom by Undergraduates for Learning

Table 3. ANOVA on the independent variables of utilization.

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	9.551	1	9.551	137.504	0.000[b]
1	Residual	17.226	248	0.069		
	Total	26.778	249			

a. Dependent Variable: For What Purpose Do Undergraduates Utilize Google Classroom

b. Predictors: (Constant), Accessibility of Google Classroom by Undergraduates for Learning

Table 4. Coefficient of independent variables on utilization.

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.111	0.197		5.650	0.000
	Accessibility of Google Classroom by Undergraduates for Learning	0.665	0.057	0.597	11.726	0.000

a. Dependent Variable: For What Purpose Do Undergraduates Utilize Google Classroom

4. DISCUSSIONS

This study investigated accessibility of google classroom by undergraduates for learning. The result from the study indicated that Undergraduate students have adequate access to google classroom for learning vocational and entrepreneurship courses. Google classroom is a free applcation that is accesble to all users only to users with Google Apps for Education (GAFE), users also have access to free collaborative set of tools which include web tools like Google Docs, Google Drive, Gmail, and more.

This study also showed that there was significant relationship between undergraduate access and utilization of google classroom for learning vocational and entrepreneurship courses. The less accessible the use of google classroom for learning is, the lesser undergraduates makes use of it for learning.

5. CONCLUSION

The results gathered at the end of this research work shows that when google classroom is easily accessible to undergraduate students, this could increase their adoption and utilozation for learning which could in turn offer various benefits to both the lecturers and the students as teachers can easily upload lesson contents and students can easily access them and give prompt and timely feedback.

6. RECOMMENDATIONS

Based on the results drawn from this research, the recommendations below have been made:
1. Policy makers'/ curriculum developers must be well-informed and see the importance of such integration in the school curriculum because it may affect everyone beyond the classroom environment.
2. Government should endeavor to provide the necessary assistance to school in terms of funds and necessary facilities such as electricity and ICT resources to foster the integration of google classroom in schools.

7. AUTHORS' NOTE

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

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