INVESTIGATION INTO PERFORMANCE-EXPECTANCY, EFFORT-EXPECTANCY AND ACCEPTANCE TO USE GOOGLE CLASSROOM FOR INSTRUCTION AMONG COLLEGE OF EDUCATION LECTURERS IN NIGER STATE

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ABSTRACT

The study investigated college of education lecturers' performance-expectancy, effort-expectancy, and acceptance to use Google Classroom for classroom instruction. In Niger State, Nigeria. A descriptive survey research design was employed for the study and the population for the study was 1183 college of education lecturers from the two colleges o education in Niger State. Research advisor (2006) was used to obtain a sample size of 148 and purposive sampling was used to select the respondents. Data were obtained using a questionnaire with two major sections, section two has 23 items which were subdivided into three sections titled "instrument for investigating lecturers' performance-expectancy, effort-expectancy, and acceptance to use Google classroom in colleges of education in Niger state" which was validated by 2 experts in Educational Technology. The instrument was trial tested on 20 colleges of education lecturers. Cronbach Alpha statistical formula was used to establish the reliability coefficient of 0.85, 0.83 and 0.78. From the findings, college of education lecturers' performance-expectancy, effort-expectancy, and acceptance to use Google Classroom for the educational purpose was positive. In addition, there was no significant difference between male and female college of education lecturers' performance-expectancy, effort-expectancy, and ·acceptance to use Google Classroom for classroom instruction in Niger State. Among other recommendations raised was that: College of education lecturers should integrate Google Classroom in their educational activities.

KEYWORDS

Performance-expectancy, effort-expectancy, acceptance to use, Google Classroom.

Introduction

The concept of education has undergone a major shift, in the 21ˢᵗ century to a more learning-centred model. The need for individualization and student interaction in the classroom is at its loudest. Earlier, teachers played the role of knowledge providers, but now their role has expanded. There is a lot of emphasis on integrating technology in the classroom through innovative teaching strategies that focus on enabling students to achieve the desired learning objectives (Hwang, Lai, & Wang, 2015). Technology in the classroom facilitates increasing student engagement which is critical to obtain the desired learning objectives.

The attainment of these objectives is the purpose of any educational program. The era of 21st century is often regarded as an era of technology. Technology, today, plays a very important role in our life. It is seen as a basis of growth of any economy. An economy which is poor in technology can never grow in today's scenario. This is because technology makes our work much easier and less time consuming. The impact of technology can be felt in every possible field one such field is Education.

Educational technology such as Google Classroom require minimal infrastructure for its successful integration. An internet connection and smart phone or compute system is usually enough. For example, a virtual classroom set up by the teacher to explain the concepts of algebra to students. Advocates and critics of using fully online technologies have found a middle ground through Blended (or hybrid) learning (Hinkelman, 2018). The terms blended learning, mixed-mode learning, and hybrid learning are used interchangeably (Zhao & Breslow, 2013). Blended learning allows a smooth transition from a shift in teaching methodology, for teachers and learners. It is important that the goal should not just be to integrate technology in the classroom; instead, pedagogical objectives should determine the different modes of instructions (O'Byrne & Kristine, 2015).

According to the latest study as to how exactly technology has impacted education; it was revealed that the use of modern equipment technology and tools, the learning and interactivity of students increases. They also find it much more interactive, as well as full of interesting areas, when aided by technology. The transfer of knowledge becomes very easy and convenient, as well as effective. What this means is, that our minds now tend to work faster when assisted with the use of modern technology, be it any part of life, here we talk about education. The reliance and dependence of such an innovation, that simply makes life an easy, smooth journey is completely unavoidable these days even in schools, universities and colleges.

Statement of the Problem

With the objective of increasing classroom effectiveness, teachers face a major problem of making student experience independent, interactive and personalized. The adoption of electronic learning and other forms of educational technology has been also slow. E-learning has not been fully embraced in our educational institutions which make a developing personalized and highly interactive classes still a dream. This low level of adoption has led to the creation of blended learning programs. Blended learning combines the benefit of online learning and the advantages of a conventional classroom situation. Google Classroom can be used as a blended learning tool to elevate classroom productivity without limiting the role or need of the classroom teacher. The lack of research on Google classroom, specifically in the context of developing countries, has also prompted the need to further investigate the effectiveness of the tool.

By investigating the performance-expectancy, effort-expectancy and acceptance of lecturers towards using Google Classroom in Colleges of Education using Niger State, we can fill a void that currently exists with using this tool.

Purpose of the Study

The purpose of the study is to explore lecturers' perception on the effectiveness and usability of Google Classroom for teaching in colleges of education in Niger state. This research is to provide an in-depth study of Google Classroom as it seeks to improve or expand access to teacher development and support the changing roles of teachers and students in Colleges of education in Nigeria. For example, how online classroom discussions can facilitate communication from student to teachers; how teachers can use technologies such as mobile phones to deliver the lessons to the students in audio, visual or audio-visual formats; and how it can be effective in teacher-training and Continuing Teacher Professional Development (CTPD).

The following objectives were formulated to guide the conduct of the study:

1. To determine the performance-expectancy of using Google Classroom for instruction among Colleges of education lecturers in Niger State.
2. To examine the effort-expectancy of using Google Classroom for instruction among Colleges of education lecturers in Niger State.
3. To determine the acceptance to use Google Classroom for instruction among Colleges of education lecturers in Niger State.
4. To determine the influence of gender on the performance-expectancy of using Google Classroom For instruction among Colleges of education lecturers.

Research Questions

The following research questions were raised to guide the study:

i.   Is there any performance-expectancy of using Google Classroom for instruction among Colleges of education lecturers in Niger State?

ii.   What is the effort-expectancy of using Google Classroom for instruction among Colleges of education lecturers in Niger State?

iii.   What is the acceptance to use Google Classroom for instruction among Colleges of education lecturers in Niger State?

iv.   What is the influence of gender on performance-expectancy of using Google Classroom for instruction in College of education in Niger State?

v.   What is the influence of gender on effort-expectancy of using Google Classroom for instruction in College of education in Niger State?

vi.   What is the acceptance to use Google Classroom for instruction among college of education lecturers based on gender?

Research Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

- There is no significant difference between male and female lecturers on the performance-expectancy of using Google Classroom for instruction among lecturers of Colleges of Education Minna and Federal College of Education Kontagora.
- There is no significant difference between male and female lecturers on the effort-expectancy of using Google Classroom in Colleges of Education.
- There is no significant difference in the mean ratings of male and female lecturers on the acceptance to use Google Classroom in College of Education in Niger State.

Significance of the study

Technology is an integral part of the young generation. The widespread use of technology has generated interested in many researchers and academicians to explore the ways teachers can use that technology prowess to enhance the learning of students. This research will enable students to increase level of communication between teachers and students. It will also enable students learn more effectively and enable them to complete assignment quickly. Teachers can create learning experiences that are tailor made to suit every student's needs. It enables in organizing their class tasks such as assignments, lesson notes and sources for further readings. It also provides an extra avenue where teachers can reach their students for further learning. Curriculum planners will recognize the importance to both and teachers and students. It will also show the flexibility of Google Classroom and how it can be easily integrated into the curriculum. The curriculum planners will see that Google Classroom does not disrupt the conventional class dynamic; rather it helps the curriculum achieve its specific objectives. Educational Administrators will discover how they can integrate Google Classroom in their institutions. They will understand the cost implication and how it can help create better teachers and students thereby improving the teaching-learning situation.

Methodology

This study employed descriptive-survey research design. Survey research design is used because research questions adapted for this study were answered from facts gathered through opinions of lecturers on the usage of Google Classroom. The variables of this study are performance-expectancy, effort-expectancy, acceptance to use and Google Classroom. The population for this study comprised of lecturers of the Colleges of Education in Niger state. It is made up of 236 female and 945 male lecturers across all the colleges of education in the state. Purposive sampling technique was used to select the respondents across the institutions. Research Advisors' Model (2006) sample size table was used to determine the sample size for the study based on the population of the lecturers in the schools of science and vocational education from the selected colleges of education.

The Research Instrument

The instrument for data collection will be 'Instrument for Investigating Lecturers' Performance-expectancy, Effort-expectancy and Acceptance to use Google Classroom (IILPEAGC)'. IATUEGC consist of 46 items with

4- point rating scale of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1) on answering research question 1, 2 and 3. The decision mean used for study was 2.50 the instrument was developed by the researcher using information obtained from literatures reviewed.

This instrument will be divided into two parts. Part I will be designed to collect information about the lecturers' personal data. Part II will be subdivided into section A, B and C. Section A has 14 items and is designed to seek information from respondents on the performance-expectancy of Google Classroom, Section B has 6 items and is designed to seek information on the effort-expectancy of using Google Classroom and Section C containing 5 items seeks to discover the acceptance to use Google Classroom in Colleges of Education in Niger State.

Results and Findings

Demographic characteristics of respondents

Table 1: Showing distribution of respondents on the basis of Sex, Age, Religion and Marital Status.

Gender	Frequency	Percentage
Male	112	75.68%
Female	36	24.32%
Total	148	100%
FCE Kontagora	71	47.97%
COE Minna	77	52.03%
Total	148	100%

Table 1: shows that 112 of the respondents were male while 36 of the respondents are female with 75.68% and 24.32% of the population respectively. Also, 71 of the respondents are from Federal College of Education Kontagora while 77 are from College of Education Minna making 47.97% and 52.03% respectively.

Table 2: Shows the responses regarding performance-expectancy of Using Google Classroom for Instruction among Colleges of Education Lecturers in Niger State.

S/N	Statements	Mean	SD	Ranking
1.	Google Classroom enable me to share relevant learning resources with my students.	3.07	0.792	6th
2.	I can teach more efficiently with the using Google Classroom.	3.01	0.721	2nd

3.	I can integrate my classroom courses into Google Classroom easily.	3.13	0.824	8th
4.	I update learning content easily using Google Classroom.	3.22	0.875	9th
5.	I can easily develop other formats of my lesson such as pdf or images using Google Classroom.	3.03	0.901	4th
6.	I can give out assignments to my students easily using Google Classroom.	3.07	0.894	6th
7.	Implementation of literature search and information retrievals are easy with Google Classroom.	3.03	0.901	4th
8.	I interact with my students easily using Google Classroom.	3.22	0.735	9th
9.	Google Classroom allows me to easily combine online teaching with face-to-face classroom instructions.	3.26	0.771	11th
10.	The electronic information resources that can be accessed motivate my students in the classroom.	3.01	0.993	2nd
11.	I am convinced that Google Classroom will add value to my students' learning activities.	2.98	0.890	1st

Research Question 2: What is the effort-expectancy of using Google Classroom for instruction among Colleges of education lecturers in Niger State?

Table 3: College of Education Lecturers' Effort-expectancy.

S/N	Statements	Mean	SD	Ranking
1.	The use of Google Classroom for teaching is not characterized with stress.	3.36	0.534	5th
2.	I do not require much technical expertise to effectively use Google Classroom for teaching.	3.46	0.610	6th
3.	I can access electronic information resources anywhere and anytime through Google	3.09	0.918	3rd

	Classroom.			
4.	The use of Google Classroom for teaching reduces time and effort associated with conventional learning system.	2.99	0.911	1st
5.	Constraints of smart phones terminals such as small screens, low battery life and inconvenient input do not make it difficult to use smart phones for teaching.	3.07	0.981	2nd
6.	The use of Google Classroom for teaching isnot frustrating.	3.28	0.857	4th

Table 3: shows college of education lecturers on the effort-expectancy of using Google Classroom for teaching. It could be noted that the respondents were of the opinion that I do not require much technical expertise to effectively use Google Classroom for teaching and the use of Google Classroom for teaching is not characterized with stress with a mean score of 3.46 and 3.36 respectively. Moreover, it was revealed that the use of Google Classroom for teaching reduces time and effort associated with conventional learning system and I can access electronic information resources anywhere and anytime through Google Classroom with a mean score of 2.99 and 3.09 respectively. It was also discovered that the use of Google Classroom for teaching is not frustrating with a mean score of 3.28 and constraints of smart phones terminals such as small screens, low battery life and inconvenient input do not make it difficult to use smart phones for teaching has a mean score of 3.07. Using 2.50 as the benchmark, the lowest mean score of 2.99 for the use of Google Classroom for teaching reduces time and effort associated with conventional learning system shows that the respondents have positive effort-expectancy on the use of Google Classroom for teaching in colleges of education in Niger State.

Hypotheses Testing

Hypothesis One: There is no significant difference between male and female lecturers on the performance-expectancy of using Google Classroom for instruction among lecturers of Colleges of Education Minna and Federal College of Education Kontagora.

Table 4: t-test of male and female respondents regarding performance-expectancy.

Group	No	Mean (x)	SD	Df	t-cal	P-value	Sign level
Male	112	2.85	0.97	146	0.51	0.63	0.05
Female	36	2.75	1.02				

The table confirmed the t-test of male and female college of education lecturers' performance-expectancy towards Google Classroom. The table indicates that the stated null hypothesis was accepted. This was

because t(2.856) = 0.51, p-value of 0.613 greater than 0.05 level of significance. By implication, the stated null hypothesis was established thus; there was no significant difference between male and female lecturers on the performance-expectancy of sing Google Classroom for instruction in colleges of education in Niger state.

Hypothesis Two: There is no significant difference between male and female lecturers on the effort-expectancy of using Google Classroom in Colleges of Education in Niger state.

Table 5: t-test analysis of male and female lecturers regarding effort-expectancy of using Google Classroom.

Group	No	Mean (x)	SD	Df	t-cal	P-value	Sign level
Male	112	2.91	0.94	146	0.17	0.896	0.05
Female	36	2.89	0.98				

Table 5 confirmed the t-test of male and female college of education lecturers' effort-expectancy towards Google Classroom. The table indicates that the stated null hypothesis was accepted. This was because t(2.915) = 0.17, p-value of 0.869 greater than 0.05 level of significance. By implication, the stated null hypothesis was established thus; there was no significant difference between male and female lecturers on the effort-expectancy of using Google Classroom for instruction in colleges of education in Niger state.

Hypothesis Three: There is no significant difference in the mean ratings of male and female lecturers on the acceptance to use Google Classroom in College of Education in Niger State.

Table 6: t-test analysis of male and female lecturers on the acceptance to use Google Classroom in education.

Group	No	Mean (x)	SD	Df	t-cal	P-value	Sign level
Male	112	3.02	0.91	146	0.41	0.685	0.05
Female	36	2.94	0.96				

Table 6 confirmed the t-test of male and female college of education lecturers' acceptance to use Google Classroom. The table indicates that the stated null hypothesis was accepted. This was because t(3.022) = 0.41, p-value of 0.685 greater than 0.05 level of significance. By implication, the stated null hypothesis was established thus; there was no significant difference between male and female lecturers on the acceptance to use Google Classroom for instruction in colleges of education in Niger state.

Discussion of Results

The college of education lecturers' performance-expectancy towards using Google Classroom for instruction was examined using research question one. The result mean of the scores and grand men score established that college of education lecturers responded positively on the performance-expectancy of Google Classroom for instruction.

The findings agree with the findings of Govender and Moonsamy (2018) whose findings revealed that performance-expectancy of learning management system was positive among their subjects and findings of Raman, Yahya, Khalid and Rizuan (2014) who reported that the performance-expectancy of learning

management system of their respondents were positive. Finally, Jakkaew and Hemrungrote (2017) revealed that Google Classroom for instruction in higher institutions is useful and an easy-to-use tool which is a positive response among their respondents.

Thus, it was established in this study that college of education lecturers' performance-expectancy on the use of Google Classroom for instruction in Niger State was positive.

Based on the mean values of the results of the college of education lecturers' effort-expectancy of Google Classroom for instruction, the respondents' effort-expectancy was positive on research question two. The grand mean score showed effort-expectancy to be positive. This revealed the tool will be easy to use for teaching. This finding agreed with the findings of Onaolapo and Oyewole (2018) who stressed that the effort-expectancy of learning management system was positive among postgraduate students in Oyo State, this finding is also in line with the finding Samaila, Abdulfattah and Amir (2017) who reported positively to learning management systems such as Google Classroom. These findings also corroborate with the findings of Maina and Nzuki (2015) who revealed that electronic learning management systems ease of usage influenced their adoption in institutions of higher learning in Nairobi.

Therefore, it was established in this study that college of education lecturers' effort-expectancy towards the use of Google Classroom for instruction in Niger State was positive.

College of education lecturers' acceptance to use Google Classroom for instruction in Niger State was examined by research question three. The result of the mean score established that college of education lecturers responded positively towards the acceptance to use Google classroom for classroom instruction.

These findings corroborate with the findings of Al-Maroof and Al-Emran (2018) who reported that students' acceptance to use Google Classroom for learning was positive. Wijaya (2015) who reported that lecturers' acceptance to use Google Classroom for instruction is positive. This also agreed with the findings of Jakkaew and Hemrungrote (2017) revealed that facilitating conditions and behavioural intentions determine students' acceptance to use Google Classroom.

Thus, it was established that college of education lecturers' acceptance to use Google Classroom for instruction in Niger State is positive.

The influence of college of education lecturers' gender on the performance-expectancy, effort-expectancy and acceptance to use Google Classroom for instruction was examined by research question 4 to 6 and hypotheses 1 to 3. The results of the t-test established no significant difference between male and female college of education lecturers' performance-expectancy, effort-expectancy and acceptance to use Google Classroom for instruction.

This findings corresponds with the findings of Raman, Khalid, Yahya and Rizuan (2014) who revealed that there was no significant difference between male and female respondents on performance-expectancy, effort-expectancy and acceptance to use of learning management systems for learning, this also agrees with the findings of Moonsamy and Govender (2018) who reported that there was no significant difference between male and female respondents on the performance-expectancy, effort-expectancy and acceptance to use Google Classroom for teaching, this findings also concurred with the findings of Maina and Nzuku (2015) who confirmed that there was similarity in the responses of male and female respondents on the use of learning management systems such as Google Classroom. These findings also corroborates with the findings of Samaila, Abdulfattah and Amir (2017) who asserted that there was no significant difference

between male and female respondents on the performance-expectancy, effort-expectancy and acceptance to use learning management systems for educational purposes.

However, it was established in this study that there was no significant difference between male and female college of education lecturers on the performance-expectancy, effort-expectancy and acceptance to use Google Classroom for educational purposes in Niger State.

Conclusion

The result obtained from data gathered and analysed in this study indicated that college of education lecturers' performance-expectancy of Google Classroom for instruction was positive. It also showed that college of education lecturers positively perceived the acceptance to use Google Classroom for educational purposes.

The findings in the research also established that college of education lecturers responded positively towards the effort-expectancy of Google Classroom for teaching. However, there was no significant difference between male and female college of education lecturers on their performance-expectancy of Google Classroom for instruction. The study also revealed that there was no significant difference between male and female college of education lecturers on their acceptance to use Google Classroom for instruction. This means Google Classroom will be accepted to use by college of education lecturers.

Recommendations

Based on the findings of this study, the following recommendations were made:

- College of education lecturers should integrate Google Classroom in their educational activities.
- College of education lecturers should improve classroom interaction with their students through the use of Google Classroom.
- Stakeholders in education should not consider gender as a major criterion in the integration of Google Classroom into higher institutions.
- Government should develop ICT policies that would encourage lecturers to integrate Google Classroom easily in their class activities.
- Curriculum planners should introduce the use of flexible learning management system such as Google Classroom in the teacher education curriculum.
- College of education lecturers should endeavour to adopt a learner centred approach to their classroom activities; and
- Researchers in education should further develop keener interest on researching into Google Classroom. Such empirical researches would help in establishing their findings with clearly stated recommendations. This would greatly contribute to the existing body of knowledge.

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