



Special Issue
Research Article

Ghanaian Language Students' Acceptance of E-Learning amid the COVID-19 Pandemic

Ernest Nyamekye^{*}, Abigail Osei-Owusu, Daniel Baffour-Koduah^{*}, Love Kafui Mensah

Department of Arts Education, University of Cape Coast, Cape Coast, Ghana
E-mail: ernest.nyamekye@ucc.edu.gh

Received: 27 September 2022; **Revised:** 16 November 2022; **Accepted:** 17 November 2022

Abstract: This study examined Ghanaian language students' acceptance of e-learning using the Unified Theory of Acceptance and Use of Technology (UTAUT). A cross-sectional survey design was adopted for this research. Data for the research were gathered with an adapted UTAUT questionnaire. A total of 204 Ghanaian language students filled out the questionnaire. The gathered data were analyzed by computing the Means and Standard Deviation of the Likert Scale items. Also, a Multivariate Analysis of Variance (MANOVA) was run to test the hypotheses set to guide the study. The results of the study indicate a low acceptance of e-learning among Ghanaian language students. Also, the MANOVA results indicate no significant difference between students' e-learning acceptance based on gender. The difference in students' acceptance of e-learning was, however, found in their academic year in school; thus, as final-year students show a higher behavioural intention to study through e-learning, first, second and third years resisted e-learning.

Keywords: e-learning, COVID-19, Ghanaian language, UTAUT, e-learning acceptance, behavioral intentions, University of Cape Coast

1. Introduction

1.1 Background

The outbreak of the COVID-19 pandemic has affected all facets of human life, including education. UNESCO (2020) posits that over 1.2 billion learners have been affected by the unanticipated closure of schools. In March 2020, the President of Ghana, Nana Addo Dankwa Akufo-Addo, publicly announced the closure of all schools in his quest to curtail the spread of the COVID-19 pandemic. Though the situation is undoubtedly a challenge to education, it could also be considered an incident that has revolutionized education in Ghana. The reason is that the outbreak of the COVID-19 pandemic has caused a paradigm shift in the Ghanaian educational system. It has at least created the opportunity for all educational institutions to shift from the traditional mode of lesson delivery to online teaching and learning in Ghana.

In an attempt to lessen the educational challenges caused by the pandemic in Ghana, the Ministry of Education and other educational institutions in Ghana called for the need to keep education in shape using online learning (Bariham et

al., 2021). According to Dome and Armah-Attoh (2020, p. 1).

...while schools are shut down as a result of the COVID-19 pandemic, the Ministry of Education (MoE) through the Ghana Education Service (GES) introduced virtual learning platforms. Televised (Ghana Learning TV) and online (icampus) programs, along with a radio reading program, are to provide students with the opportunity to continue studying their core subjects - mathematics, English, science, and social studies - as well as selected electives.

Despite this growing need for the use of e-learning to ensure the continuation of education, prior studies in Africa have shown that e-learning has always been faced with lots of challenges. For instance, Unwin's (2008) survey on e-learning in Africa (Kenya, South Africa, Ethiopia, Nigeria, and Uganda) revealed that though there is much enthusiasm for e-learning in the aforementioned countries, its development is still at the infant stage. Similar issues have been pointed out in the Ghanaian context. Edumadze et al. (2017) found, in a study that assessed the preparedness of Distance Education students towards online learning, that students had little experience in accessing e-learning tools; as such, most of them were unwilling to embrace e-learning. Also, Aboagye et al. (2021) affirm this in their research which found that at the tertiary level of education in Ghana, the implementation of the e-learning initiative has been problematic due to certain associated challenges such as low quality of instructional resources, inadequate training before its implementation, among others. This, therefore, raises the issue of technology acceptance among students, specifically students studying Ghanaian languages at the university level.

1.2 The problem

To mitigate the challenges caused by the COVID-19 pandemic, various educational institutions in Ghana shifted abruptly from the traditional method of education to e-learning. Nonetheless, in most African countries, especially Ghana, technology-assisted learning has always faced challenges; no wonder researchers posit that instructors and learners situated in the African context have always resisted technology-mediated forms of education due to the diverse challenges associated with its use.

In particular, one of the academic disciplines whose stakeholders could be severely affected by the sudden transition from the traditional face-to-face method of education to e-learning in Ghana is the Ghanaian language subject area. Research on technology-assisted teaching and learning in Ghanaian language courses suggests that it is a strange experience for both teachers and learners (Nyamekye et al., 2021). These researchers' investigation into teachers' perception of technology-assisted learning in the Ghanaian language subject area suggests that teachers perceive technology-assisted instruction as incompatible with Ghanaian language education; as such, they rarely use technology to aid the teaching and learning of Ghanaian languages. Hence, the abrupt introduction of e-learning by the University of Cape Coast calls for a formative evaluation of Ghanaian language students' acceptance of e-learning. Thus, the motivation of this current investigation hinges on the fact that the introduction of e-learning was sudden and unanticipated, and thus it is not known whether or not Ghanaian language students were adequately prepared to engage in e-learning. Moreso, little research has been conducted to ascertain students' acceptance of e-learning practised at the University of Cape Coast. In this regard, this current study adopts the UTAUT as a theoretical basis to examine students' acceptance of e-learning practised at the University of Cape Coast during the COVID-19 pandemic.

1.3 The unified theory of acceptance and use of technology

Over the years, copious research has been conducted on the acceptance of information technology in general (Venkatesh et al., 2007; Venkatesh et al., 2016). Most importantly, institutions, including educational institutions, have researched the extent to which their members appreciate the adoption of Information and Communication Technology (ICT) to expedite the performance of their tasks (Sarker et al., 2005; Sarker & Valacich, 2010). These researches are always grounded on the premise that technology use is a prerequisite to the effective achievement of the desired outcome. This means that knowledge and effective use of technology tends to improve productivity in a given organization.

According to Venkatesh et al. (2016), several models have been proposed as a framework for measuring the acceptance of technology in performing specific tasks in various organizations. Among some of these models that have been used to predict the acceptance and use behaviour of people is the Technology Acceptance Model (TAM). This

model was later extended by Venkatesh et al. (2003). They factored in other models to form the Unified Theory of Acceptance and Use of Technology (UTAUT).

The UTAUT framework has it that the Behavioural Intentions to use technology in accomplishing a given task is contingent on the interaction between “four key factors: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC), and four moderators: Age, Gender, Experience, And Voluntariness of Use. The interaction between these factors predicts the Behavioural Intention to use a technology and actual technology use, primarily in organizational contexts” (Venkatesh et al., 2016, p. 329). Thomas et al. (2013, p. 73) defined the core variables in the models as follows:

- Performance Expectancy: The degree to which the individuals believe that the use of the technologies will result in performance gains. This may also be viewed as the perceived usefulness of the technologies.
- Effort Expectancy: The ease of use of the technologies.
- Social Influence: The extent to which the individuals believe that important others believe that they should use the technologies.
- Facilitating Conditions: The perceived extent to which the organizational and technical infrastructure required for the support of the technologies exist.

The interaction between these variables has been represented by the conceptual framework exemplified in Figure 1 below.

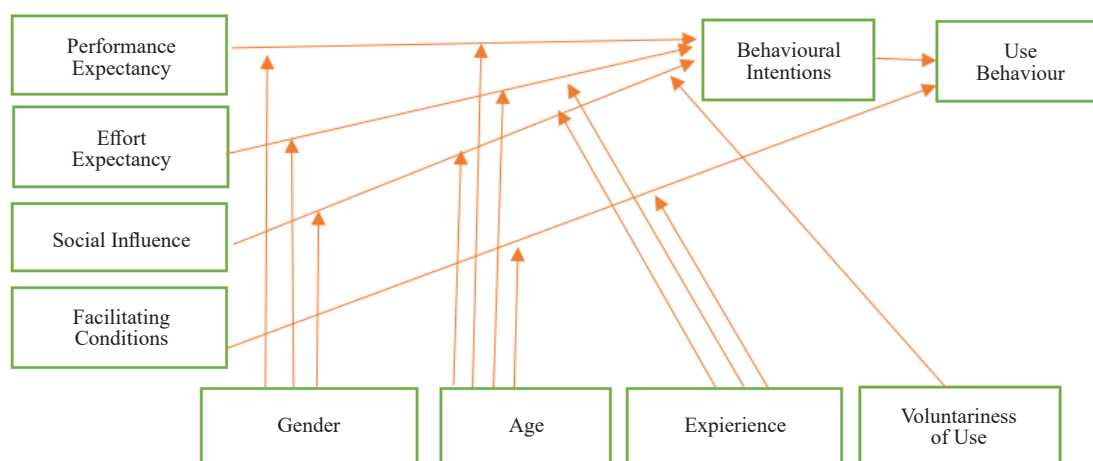


Figure 1. The UTAUT model (Venkatesh et al. 2003)

The diagrammatic representation of the model above explicates how PE, EE, and SI influence one’s Behavioral Intention (BI) to use technology as a means of accelerating a task. The BI, and FC influence the actual Use Behavior (UB). In simple terms, one’s intention to use technology in accomplishing a task might be stimulated by how much they wish to perform a task with technology, their perception of how they could use technology to improve their performance, and how others influence them to use technology in accomplishing a given task. These motives in collaboration with FC (such as the availability of resources) would in turn influence the actual use of technology.

The model further explains that the gender and age of users moderate one’s performance expectancy, while effort expectancy is also moderated by gender, age, and experience of the user. Also, social factors are moderated by voluntariness of use, gender, age, and experience of the user of a given technology. Facilitating conditions, on the other hand, could only be moderated by age and experience (Venkatesh et al., 2003).

By using this theory as an analytical framework for this current study, special attention is focused on how Ghanaian language students generally perceived the implementation of the e-learning programme at the University of Cape Coast during the national lockdown. Specifically, the analysis sheds light on how the various variables in the UTAUT model interacted with each other and how it predicted their actual behavioural intentions to use e-learning for further studies.

This framework was considered appropriate given the fact the researcher intended to measure how gender, age, and experience could predict the core variable (BI) in the UTAUT model. Based on this framework, the study specifically examines:

- i. students' experiences with e-learning at the University of Cape Coast,
- ii. gender differences based on PE, EE, SI, FC, and BI,
- iii. the difference in PE, EE, SI, FC, and BI based on students' academic year in the university.

1.4 Research questions/hypothesis

- i. What are students' experiences of e-learning at the University of Cape Coast?
- ii. H_1 There is no statistically significant difference in PE, EE, SI, FC, and BI based on gender.
- iii. H_1 There is no statistically significant difference in PE, EE, SI, FC, and BI based academic levels.

1.5 Significance of the study

This study is of great benefit to the concerned management of the University of Cape Coast. It, foremost, highlights some of the challenges students faced in using e-learning during the COVID-19 lockdown. It brings to light the need to be proactive in ensuring technology training for students and lecturers. This would, hence, lessen unforeseen challenges that may arise in engaging students in e-learning.

2. Previous studies

Research on e-learning and technology acceptance in education, in general, is copious in both developed and developing countries, and Ghana is never an exception. As discussed in Section 1, most of these studies were conducted prior to the outbreak of the pandemic while others were done amid the pandemic. This section looks at studies on students' perception of e-learning as well as studies on technology acceptance in developed and developing countries.

2.1 Studies on students' perceptions and challenges associated with e-learning

From a wider perspective, Unwin (2008) conducted a survey on the state of affairs of e-learning in some African countries (Kenya, South Africa, Ethiopia, Nigeria, and Uganda). Though the study found a positive perception and willingness to use e-learning to improve education, other responses from the survey indicate that e-learning in most African countries is loaded with several challenges. Most of these challenges were students' and teachers' resistance to change; they seem to be obsessed with the notion that the conventional method of education is the most effective method of making learning successful.

In an attempt to assess the readiness of students toward distance education through online learning at the University of Cape Coast, Edumadze et al. (2017) revealed that though students had the requisite computer knowledge, they showed little experience in the use of Learning Management System (LMS), and thus a majority of the students involved in the study revealed their unwillingness to engage in online learning. Subsequently, Forson and Vuopala (2019) embarked on descriptive survey research that elicited data from a sample of 306 first-year College of Distance Education students of the University of Cape Coast. By using descriptive and inferential statistics, the findings revealed in this study are that students had positive attitudes toward online education, though they had not been introduced to that means of education before. In this regard, these researchers recommended that the management of distance education should prioritize the introduction and smooth implementation of the online education programme for students.

After the outbreak of the pandemic, several studies were conducted to assess teacher preparedness toward e-learning at various levels of education in Ghana. Bariham et al. (2021) examined the preparedness of social studies teachers in various Ghanaian Senior High Schools (SHS). This research discovered, among other things, that some schools were equipped with ICT resources to aid the implementation of e-learning, yet there was a lack of strong internet access to make teaching online a success. Moreover, most teachers lack the technical knowledge to ensure the successful implementation of e-learning. As a result, it was recommended that appropriate in-service training be provided

to teachers on how to engage students through e-learning. Dome and Armah-Attoh (2020), also substantiate the aforementioned challenges in their survey that assessed the challenges associated with e-learning amid the COVID-19 pandemic. Among other things, the study revealed that “lack of access to devices, the Internet, and reliable electricity, especially in rural and poor households, points to difficulties that many students would have in participating in MoE/ GES e-learning programs” (p.2).

At the tertiary level of education, Aboagye et al. (2021) examined the challenges that students reported they were facing with engaging in e-learning. Data for this study were gathered with Google Forms. The researchers used the Principal Component Factor Analysis (PCFA) to determine the factors perceived to be a difficulty students were facing in receiving instruction through online learning. The study revealed that students were unwilling to continue studies online as a result of issues like a lack of necessary teaching and learning materials they would otherwise get in a face-to-face learning environment, the high cost of internet bundles, and social issues like ineffective communication with peers and lecturers.

In light of these studies, it could be concluded that at various levels of education, the e-learning programme has faced challenges. However, the findings of most of these studies cannot be overgeneralized, considering the fact that there seems to be little research on the extent to which students within specific subject areas accept e-learning, especially at the university level, hence the need for further exploration on e-learning acceptance of students’ studying Ghanaian languages at the university.

2.2 Studies on e-learning acceptance

In terms of technology acceptance in various organisations, especially in education, various theoretical models have been used as a basis for assessment. Popularly, the TAM and UTAUT appear to be the widely used frameworks. The review in this section particularly focuses on studies conducted with these other models of technology acceptance.

Using the TAM as a theoretical framework in examining the determinants of E-Learning acceptance in the context of Tunisia with a sample of 200 employees, Rym et al. (2013) confirm that “perceived usefulness, perceived ease of use, mastery of New Information and Communication Technologies (NICT)” were found as variables that predicted e-learning acceptance. Conversely, Keller et al. (2007) explored the implementation of online learning in Sweden and Lithuania within the UTAUT framework. After analyzing data gathered from 67 master’s students in these countries, it was found that Lithuanian students showed a relatively higher level of e-learning acceptance than Nordic students in the Swedish context. Furthermore, the study revealed that the rate of use, time spent on use, and computer proficiency positively affected Swedish students’ acceptance of e-learning. Among Lithuanian students, it was found that prior knowledge of the use of computers positively affected their acceptance. In terms of performance expectancy, the findings showed that Lithuanian male students exhibited a lower degree of perceived usefulness compared to female students.

In Liberia, Vululleh (2018) examined the factors related to the acceptance and use of e-learning with TAM as the theoretical framework. This study adopted a descriptive survey design; through this design, data were gathered from 269 secondary and post-secondary students through an online survey. Through a Structural Equation Modeling (SEM) analysis, the study revealed that the behavioural intentions and actual use of e-learning were informed by perceived usefulness, ease of use, life quality, and social influence. With the same theoretical framework, Alhumaid et al. (2020) examined the acceptance of technology among 30 lecturers in Rawalpindi, Pakistan. Through a multiple regression analysis, a positive relationship between technology acceptance and e-learning during the COVID-19 pandemic was revealed; thus they showcased their perception of the usefulness of e-learning and how it could positively impact learning. Nonetheless, the implementation of e-learning within this context was thwarted by challenges such as students’ indifferent attitude toward online. This indicates that students, on the other hand, tend to showcase a low interest in learning online.

In another relevant study, Ali et al. (2021) researched the impact of e-learning acceptance on the performance of students with the theory of Media System Dependency. This study took into consideration 300 students at Islamabad public universities in Pakistan. The study found a moderately significant difference in e-learning acceptance based on gender; thus, male students had a moderately higher level of acceptance than female students. More so, the correlation analysis conducted in this study showed that while male students correlated with e-learning, female students, on the other hand, correlated with conventional teaching approaches. Aside from these findings, it was further revealed that generally, e-learning positively impacted students’ academic performance.

Furthermore, there are related studies in Africa that seem to suggest that e-learning acceptance has been influenced by facilitating conditions. Adewole-Odeshi (2014) posits, based on a study that applied TAM as a theoretical foundation to investigate Nigerian students' perception of e-learning, that e-learning acceptance was influenced by resource availability and power supply.

3. Research methods

3.1 Research design

A cross-sectional survey was employed as the research design for this study. This is a research design wherein data are collected from respondents at a particular point in time. It allows "...researchers to measure characteristics, opinions or behaviour of a population by studying a small sample from that group [sic] generalizing back to the population, which is the group under scrutiny" (Baran, 1999, p. 350). The appropriateness of this research design for this current study is that several respondents could be involved in collecting data for the study.

3.2 Research participants

The research was conducted among Ghanaian language students at the University of Cape Coast; the choice was informed by the fact that the researcher observed instances where Ghanaian language students complained about the uncertainties associated with learning online amid the COVID-19 pandemic. The study took into consideration undergraduate students at the university. Regular students, sandwich students, and distance education students were considered in the study. In all, 240 Ghanaian language students were able to respond to the online form. Out of the total, 48 were first-year students, 66 were second-year students, 90 were third-year students, and 36 of them were final-year students.

3.3 Data collection procedure and instruments

As a result of the COVID-19 restrictions, the Google form was used as the main data collection instrument for the study. The Google Form was categorized into two distinct sections. The first section elicited demographic data, while the second section was 5-point Likert scale items ranging from Strongly Disagree to Strongly Agree. These items were adapted from UTAUT constructs including *Performance Expectancy*, *Effort Expectancy*, *Social Influence*, *Facilitating Conditions*, and *Behavioral Intentions*.

3.4 Reliability of data

To test for the internal consistency of the adapted constructs, Cronbach's Alpha of the UTAUT constructs was computed for the 10 initial respondents. As a general rule of thumb, a reliability coefficient of 0.7 and above is considered appropriate to conclude that there was internal consistency for items under a given construct (Fraenkel & Wallen, 2000). The results of Cronbach's Alpha for Performance Expectancy (0.81), Effort Expectancy (0.83), Social Influence (0.74), Facilitating Conditions (0.76), and Behavioral Intentions (0.74) were appropriate and therefore reliable for collecting further data.

3.5 Data analysis technique

The Statistical Package for Social Sciences (SPSS) was used to process and analyze the data. Concerning research question one, the Means (M) and Standard Deviation (SD) of all the items were computed to ascertain the respondents' agreement. The research hypothesis ii and iii were analyzed using a one-way Multivariate Analysis of Variance (MANOVA).

4. Results and discussions

4.1 Demographic characteristics of respondents

Table 1 summarizes the demographic characteristics of the respondents who were involved in the study. It gives an overview of the total number of students who responded to the survey.

Table 1. Demographic characteristics

		Level				Total
		1 st year	2 nd year	3 rd year	Final year	
Gender	Male	30	32	78	24	164
	Female	18	34	12	12	76
Total		48	66	90	36	240

Source: Field data 2021

As seen above, a total of 240 students were able to respond to the survey. Out of the total number of students, 48 were first-year students, 66 were second-year students, 90 were third-year students, and the remaining 36 were final-year students. In terms of gender, a majority (164) of the respondents were males while 76 of the students were females.

4.2 Research question 1: What are students' experiences of e-learning at the University of Cape Coast?

The objective of the research question was to examine how students perceive instruction through e-learning. To achieve this, the means and standard deviations of the UTAUT constructs were computed. Data were based on students' performance expectancy, effort expectancy, social influence, facilitating conditions, and their behavioural intentions to use e-learning.

4.2.1 Performance expectancy

Table 2. Students' perceived performance expectancy of e-learning

Item	M	SD
I find e-learning useful in my education.	3.06	1.17
E-learning improves my educational performance.	2.33	1.22
E-learning increases the possibilities of communicating with other students.	2.55	1.20
E-learning increases the possibilities of communicating with teachers/tutors.	2.08	1.05
E-learning fits my style of learning.	2.31	1.14
E-learning fits my program of study.	2.26	1.03

Mean score of 1.00-2.99 (Disagreement), 3.00-4.99 (Agreement)

Table 2 gives an insight into students' experiences of how useful e-learning is to the study of the Ghanaian language. It could be seen that students perceive e-learning as useful to their education (M = 3.06, SD = 1.17). However,

the standard deviation creates the impression that responses to that item were not homogeneous. They also tend to show disagreement as to whether the e-learning they had experienced could improve their educational performance ($M = 2.33$, $SD = 1.22$). Also, it could be inferred that students frown on e-learning because it could not make interaction with their colleagues ($M = 2.55$, $SD = 1.20$) and lecturers more effective ($M = 2.08$, $SD = 1.05$). Moreover, they felt that e-learning was not compatible with their programme of study ($M = 2.26$, $SD = 1.03$) as well as their learning styles ($M = 2.26$, $SD = 1.03$); this goes a long way to creating the impression that generally, Ghanaian language students' did not see the usefulness e-learning during the COVID-19 pandemic. These findings align with Nyamekye et al. (2021) who found that teachers perceive technology-assisted education to be incompatible with Ghanaian language teaching and learning.

4.2.2 Effort expectancy

Table 3. Students' perceived effort expectancy of e-learning

Item	M	SD
I find e-learning easy to use.	2.53	1.05
E-learning is never frustrating.	2.26	0.96
It is easy to learn and understand through e-learning	2.15	1.04
My interaction with lecturers has been very effective through e-learning.	2.15	0.96
With e-learning, I can learn what I want, and decide how I want to learn it.	2.46	.97
It is easy to remember how to perform tasks through e-learning.	2.54	1.13
E-learning does not require a lot of mental effort.	2.66	1.11

Mean score of 1.00-2.99 (Disagreement), 3.00-4.99 (Agreement)

Table 3 captures students' views of how easy it was to engage in lessons through the e-learning platform. Students' responses in this respect seem to suggest that from their experiences, they were faced with difficulties in learning online; this may be true considering the fact the mean score of the items *I find e-learning easy to use* ($M = 2.53$, $SD = 1.05$), and *E-learning is never frustrating* ($M = 2.26$, $SD = 0.96$) falls below the threshold of acceptance and thus, it could be inferred that learning online has been a difficult experience to students. That being said, their views suggest that learning and understanding through e-learning are very defective because the mean and standard deviation of the item *is easy to learn and understand through e-learning* ($M = 2.15$, $SD = 1.04$) is relatively low, and in such regard, it could be said that students find it quite difficult to learn through that means. Moreover, they believe that e-learning impedes the effectiveness of student-lecturer interactions ($M = 2.15$, $SD = 0.96$). Also, the mean and standard deviation of the items *with e-learning, I can learn what I want, and decide how I want to learn* ($M = 2.46$, $SD = 0.97$), *It is easy to remember how to perform tasks through e-learning* ($M = 2.54$, $SD = 1.13$), and *e-learning does not require a lot of mental effort* ($M = 2.66$, $SD = 1.11$) is a clear indication that students faced difficulties in having lectures through the e-learning platform.

4.2.3 Social influence

Social influence as a construct in the UTAUT framework has to do with the extent to which a student's immediate environment or their social surroundings influence their engagement level in technology use. The four items in Table 4 measured the extent to which others influenced students to effectively use e-learning as a means of learning. Based on the responses, it could be inferred that students had a low social influence on their use of e-learning as an instructional medium during the COVID-19 lockdown. The items *my parents feel proud of me when I am having my classes through e-learning* ($M = 2.87$, $SD = 1.12$), *the university, in general, has encouraged us to make effective use of e-learning*

($M = 2.96, SD = 1.14$), 'lecturers/tutors encourage my engagement in e-learning ($M = 2.63, SD = 1.08$)', and 'other students encouraged my engagement in e-learning ($M = 2.65, 1.15$)' show disagreement students among. However, the corresponding standard deviations of all the items show the heterogeneity of the respondents' views; this suggests that some of the students were influenced socially.

Table 4. Students' perception of social influence during e-learning

Item	M	SD
Lecturers/tutors encourage my engagement in e-learning	2.63	1.08
Other students encourage my engagement in e-learning.	2.65	1.15
The university in general has encouraged us to make effective use of e-learning.	2.96	1.14
My parents feel proud of me when I am having my classes through e-learning.	2.87	1.12

Mean score of 1.00-2.99 (Disagreement), 3.00-4.99 (Agreement)

4.2.4 Facilitating conditions

Table 5. Students' ratings on facilitating conditions

Item	M	SD
I had the necessary training on how to effectively use LMS.	2.77	1.22
E-learning is compatible with the computer devices and programs available to me.	2.49	1.23
There were administrators who regularly provide support when problems occur during e-learning.	2.15	1.06
My mobile network makes e-learning easier for me.	2.47	1.11
The university pays for all the expenses involved in e-learning.	2.46	1.16

Mean score of 1.00-2.99 (Disagreement), 3.00-4.99 (Agreement)

Another important factor students expressed their views on was facilitating conditions. This factor shows the extent to which necessary support such as resource availability influenced students' acceptance of e-learning. As outlined in Table 5, the means and standard deviations of the items that measured students' acceptance in this regard, show that students had limited support for receiving instruction through e-learning. Student's response to the item *I had the necessary training on how to effectively use LMS* ($M = 2.77, SD = 1.22$) indicates that students had limited training necessary to enhance their usage of e-learning before its introduction. Also, their response to the item *E-learning is compatible with the computer devices and programs available to me* ($M = 2.49, SD = 1.23$) is not high enough to suggest that they have the necessary computer devices and software to facilitate interaction online. Additionally, the mean (2.15) and standard deviation (1.06) create the impression that students did not have the necessary administrative support to deal with unexpected system malfunctioning. Similar to the challenges reported in previous studies, students expressed concerns about limited network access since the item *my mobile network makes e-learning easier for me* ($M = 2.47, SD = 1.11$) also had a low mean score. The problems outlined in this current study align with Adewole-Odeshi's (2014) research which revealed that resource availability and stability of electricity supply hampered e-learning.

4.2.5 Behavioral intentions

Table 6. Students' perceived intention to receive instruction through e-learning

Item	M	SD
I wish e-learning is institutionalized as a major means of teaching.	2.79	1.11
I prefer e-learning to face-to-face teaching methods.	2.87	1.12
I intend to learn through e-learning in the near future.	2.75	0.91
Mean of means	2.80	0.95

Mean score of 1.00-2.99 (Disagreement), 3.00-4.99 (Agreement)

As outlined in Table 6, the mean (2.80) and its corresponding standard deviation (0.95) show that students do not intend to use e-learning for future studies. Specifically, their response to the items under behavioural intents creates the impression that they prefer the traditional method (face-to-face) of teaching and learning to virtual learning; as such, they showed low interest in conventionalizing e-learning in the university. These findings align with the previous research (Edumadze et al., 2017) which indicates that University of Cape Coast students appear to show a lack of readiness toward online learning. Also, this finding seems to substantiate Unwin's (2008) position that students in the African context exhibit low interest in learning through online means. The findings revealed in this study go a long way to show students' obsession with the conventional method of education, especially in most African countries.

4.3 Hypothesis one: There is no statistically significant difference in PE, EE, SI, FC, and BI based on gender

The objective of this research hypothesis was to examine gender differences in students' acceptance of e-learning based on the UTAUT constructs (performance expectancy, effort expectancy, social influence, and behavioural intentions to use e-learning for further studies). To achieve this, a MANOVA was used to determine the difference. The MANOVA results showed a significant gender difference in the UTAUT constructs since the statistics of Pillai's Trace = 0.17, $F(234) = 9.4$, $p = 0.00$, partial $\eta^2 = 0.169$ indicate that there were gender differences in students' e-learning acceptance for all the constructs. Table 7 is a post hoc analysis indicating where the exact differences between the various e-learning acceptance constructs lie.

Table 7. Multiple comparison for gender difference in e-learning acceptance

Dependent variable	Df	F	Sig.	Gender	Mean	SD	Partial eta squared
Performance expectancy	1	38.48	0.000	Male	2.29	0.49	0.139
				Female	2.77	0.67	
Effort expectancy	1	0.340	0.560	Male	2.38	0.44	0.001
				Female	2.35	0.38	
Social influence	1	0.539	0.463	Male	2.81	1.0	0.002
				Female	2.71	0.75	
Behavioral intentions	1	3.526	0.062	Male	2.73	0.98	0.015
				Female	2.97	0.87	
Facilitating conditions	1	8.483	0.004	Male	2.61	0.90	0.034
				Female	2.96	0.75	

From the multiple comparisons, there was a difference in gender in terms of performance expectancy; thus, the mean of female students ($M = 2.77$, $SD = 0.67$) was significantly higher than male students ($M = 2.29$, $SD = 0.49$), indicating that female Ghanaian language students perceive e-learning to be useful as compared with the perception of male students. Similarly, in terms of facilitating conditions, the mean of females (2.81) was higher than the mean of male students (2.71), which also indicates that female students had more technical support as compared to male students. Nonetheless, there is no significant gender difference in effort expectancy, social influence, and actual behavioural intentions to use e-learning for further studies. This supports the findings of Ali et al. (2021) that gender difference in e-learning acceptance is moderate. It, however, contradicts the findings of Rym et al. (2013) that male students had a higher sense of perceived usefulness of e-learning than female students.

4.4 Research hypothesis 2: H_1 there is no statistically significant difference in PE, EE, SI, FC, and BI based on students' academic level

The objective of this research hypothesis was to examine whether or not there would be any difference in performance expectancy, effort expectancy, the extent of social influence, facilitating conditions, and students' actual behavioural intentions, based on the student's level in the university. To achieve this set objective, a one-way MANOVA was run to examine whether a significant difference would exist between students' levels across all the e-learning acceptance constructs. The test statistics are illustrated in Table 8.

Table 8. Multivariate tests^a

	Effect	Value	F	Hypothesis df	Error df	Sig.
Level	Pillai's trace	0.988	22.966	15.000	702.000	0.000
	Wilks' lambda	0.218	31.430	15.000	640.851	0.000
	Hotelling's trace	2.673	41.098	15.000	692.000	0.000
	Roy's largest root	2.298	107.531 ^c	5.000	234.000	0.000

From Table 8, the multivariate results, Pillai's Trace = 0.988, $F(702) = 22.97$, $p = 0.000$, partial $\eta^2 = 0.329$, indicate a statistically significant difference in the students' e-learning acceptance based on their academic level in the university. Based on this, a separate ANOVA was used to determine where the differences lie across all the variables of interest.

The post hoc comparison (see Appendix A) matrix indicates that for performance expectancy, the difference lies between the second ($M = 2.33$, $SD = 0.81$) and third-year students ($M = 2.25$, $SD = 0.54$) at $p = 0.00$, and between the second and first years ($M = 2.33$, $SD = 0.39$) at $p = 0.012$. Nonetheless, no significant difference was found in the second and final years. Also, a significant difference was found between the final ($M = 2.54$, $SD = 0.15$) and third years, at $p = 0.020$; however, there was no difference when the final-year students are compared with the second and first years.

For effort expectancy, the univariate analysis indicates that the final-year students' mean was significantly higher than the first years, second years, and third years at $p = 0.00$ for all the year groups. However, there was no difference between the rest of the year groups compared with each other. This indicates that relatively, the final years ($M = 2.87$, $SD = 0.33$) perceive themselves as more experienced and competent in terms of using e-learning compared to other year groups.

Concerning social influence, the results indicated that the mean for the final years ($M = 3.94$, $SD = 0.59$) is significantly higher than the first years ($M = 2.50$, $SD = 0.73$), the second years ($M = 2.00$, $SD = 0.61$), and the third years ($M = 2.83$, $SD = 0.76$) all at $p = 0.00$. Also, third-year students had a relatively higher rating for social influence as a determinant of e-learning acceptance than second years, while the first years also had a significantly higher rating than the second years at $p = 0.00$. In the nutshell, it could be inferred that the final-year students were more influenced socially than the rest of the year groups.

For facilitating conditions, there was no significant difference between first, second, and third-year students compared with each other; nonetheless, the mean of the final-year students ($M = 3.68$, $SD = 0.50$) was significantly higher than the first-year students ($M = 2.58$, $SD = 0.74$), second-year students ($M = 2.42$, $SD = 0.80$), and third-year students ($M = 2.48$, $SD = 0.77$) all at $p = 0.00$.

With regards to student Behavioural Intentions to use e-learning as a conventional method of education at the university, the results showed no significant difference in the means of the first to third years. Nonetheless, the final years indicated a higher acceptance than the remaining year groups since the mean of the final-year students ($M = 3.75$, $SD = 0.69$), was higher than the first-year students ($M = 2.78$, $SD = 0.69$), second-year students ($M = 2.38$, $SD = 0.86$), and the third-year students ($M = 2.62$, $SD = 0.93$).

5. Discussion of results

Integration of ICTs into teaching and learning in the African context has always been a struggle among teachers and students. These struggles, as discussed in the literature, could be attributed to several factors, such as low competence in the operation of digital gadgets (Aduwa-Ogiegbaen, 2009), malfunctioning of software and devices (Yalley, 2022), resistance to change (Hamlaoui, 2021), and inadequacy of ICT resources to facilitate effective technology-mediated instruction (Hennessy et al., 2010). Coupled with these factors, it appears that technology-mediated forms of teaching have not been fully embraced by many educators as well as students in most Ghanaian educational institutions. The current study contributes to this argument as it has been shown that despite the effective role of ICT in improving student's academic output, Ghanaian language students tend to frown upon using technological means to improve learning amid the COVID-19 pandemic.

In line with the available literature on ICT-mediated forms of teaching (Hamlaoui, 2021; Yalley, 2022), university students seem to reject the use of the virtual learning medium because they tend to be less confident of how effectively they can engage in the teaching and learning process using virtual means. This revelation appears to reflect the view that teachers as well as students always feel the reluctance to incorporate technologies in their teaching and learning due to factors such as low competence (Hennessy et al., 2010; Nyamekye et al., 2021).

Apart from students' and educators' perceptions of the limited usefulness and effectiveness of using ICTs to facilitate teaching and learning, there seems to be a general perception that it is quite difficult to use ICTs to accomplish a given task. As mentioned earlier, the perceived difficulty in the usage of ICTs in the performance of activities is associated with a variety of factors. The current study indicated that students, generally, do not perceive teaching and learning through the online learning mode as an easy experience. Earlier studies on students' engagement in online learning prior to and during the COVID-19 pandemic lend weight to the notion that in the Ghanaian context, the online learning platform has never been viewed as an effortless means of facilitating education. Agormedah et al. (2020), for instance, indicated that in Ghanaian higher educational institutions, students showed no readiness to have lessons through online learning because they had not received any formal orientation or training concerning how to function effectively in the online learning platform. Other issues like the persistent malfunctioning of internet connectivity and concerns about the inadequacy of working digital resources were raised by students. Numerous related studies also substantiate the fact that having online instruction has been viewed by Ghanaian students as an academic hurdle (Forson & Vuopala, 2019; Henaku, 2020; Ogbonnaya et al., 2020; Adarkwah, 2021). It is, therefore, not surprising that students in this current study revealed that the online learning platform used as a means of facilitating education during the era of the pandemic was challenging to them. They complained about not getting enough resources to aid learning. Likewise, their social environment did not also influence their engagement in online learning. In other words, they were not encouraged by their colleagues as well as their lecturers to cultivate the habit of learning through online mode.

Studies have indicated that when conditions surrounding the implementation of technology-mediated instruction are not favorable to the learners, there is a likelihood that students will show no interest in using technology in the future. Perceived usefulness and perceived ease of use of ICT have always been associated with students' and teachers' intention to use ICT in teaching and learning (Chuan-Chuan Lin & Lu, 2000; Guriting & Oly Ndubisi, 2006). That is to say, when technologies do not provide a pleasurable experience to students, they may not wish to use them in any of their activities. The results of the current study seem to present a clear picture of this hypothesis. Analysis of students'

BI shows that they do not show any willingness to engage in online learning in the near future. This could be an attribute of the perceived difficulty they faced in engaging in lessons through the online learning platform amid the COVID-19 pandemic.

6. Recommendation

Considering the issues discussed in the study, it could be inferred that Ghanaian language students do not perceive e-learning as convenient for their education. As a result, it is recommended that technology education be prioritized for students to develop their enthusiasm for any technology-mediated instruction. More so, the university must prioritize the provision of adequate and all the necessary resources needed to make technology mediate instruction an interesting methodology. Finally, it is recommended that to avoid instances of abrupt adoption of e-learning, the university must gradually conventionalize e-learning to make it a part of the teaching and learning culture of the university.

Conflicts of interest

There is no conflicting interest between the authors.

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Appendix A

Table A. Post hoc analysis

Dependent variable	(I) Level	(J) Level	Mean difference (I-J)	Std. error	Sig.	
PE		year 3	0.44618*	0.09202	0.000	
	year 2	year 1	0.36364*	0.11765	0.012	
		year 4	0.14935	0.10771	0.509	
		year 2	-0.44618*	0.09202	0.000	
	year 3	year 1	-0.08254	0.11197	0.882	
		year 4	-0.29683*	0.10148	0.020	
		year 2	-0.36364*	0.11765	0.012	
	year 1	year 3	0.08254	0.11197	0.882	
		year 4	-0.21429	0.12519	0.320	
		year 2	-0.14935	0.10771	0.509	
	year 4	year 3	0.29683*	0.10148	0.020	
		year 1	0.21429	0.12519	0.320	
	EE		year 3	0.12222	0.05549	0.125
		year 2	year 1	0.16667	0.07094	0.090
		year 4	-0.53819*	0.06495	0.000	
		year 2	-0.12222	0.05549	0.125	
year 3		year 1	0.04444	0.06752	0.913	
		year 4	-0.66042*	0.06120	0.000	
		year 2	-0.16667	0.07094	0.090	
year 1		year 3	-0.04444	0.06752	0.913	
		year 4	-0.70486*	0.07549	0.000	
		year 2	0.53819*	0.06495	0.000	
year 4		year 3	0.66042*	0.06120	0.000	
		year 1	0.70486*	0.07549	0.000	

		year 3	-0.82576*	0.11123	0.000
	year 2	year 1	-0.49242*	0.14221	0.004
		year 4	-1.92992*	0.13020	0.000
		year 2	0.82576*	0.11123	0.000
	year 3	year 1	0.33333	0.13536	0.069
		year 4	-1.10417*	0.12268	0.000
SI		year 2	0.49242*	0.14221	0.004
	year 1	year 3	-0.33333	0.13536	0.069
		year 4	-1.43750*	0.15133	0.000
		year 2	1.92992*	0.13020	0.000
	year 4	year 3	1.10417*	0.12268	0.000
		year 1	1.43750*	0.15133	0.000
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		year 3	-0.23838	0.13250	0.276
	year 2	year 1	-0.39394	0.16940	0.095
		year 4	-1.36616*	0.15510	0.000
		year 2	0.23838	0.13250	0.276
	year 3	year 1	-0.15556	0.16124	0.770
		year 4	-1.12778*	0.14613	0.000
BI		year 2	0.39394	0.16940	0.095
	year 1	year 3	0.15556	0.16124	0.770
		year 4	-0.97222*	0.18027	0.000
		year 2	1.36616*	0.15510	0.000
	year 4	year 3	1.12778*	0.14613	0.000
		year 1	0.97222*	0.18027	0.000
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		year 3	-0.05909	0.11843	0.959
	year 2	year 1	-0.15909	0.15141	0.720
		year 4	-1.26326*	0.13863	0.000
		year 2	0.05909	0.11843	0.959
	year 3	year 1	-0.10000	0.14411	0.899
		year 4	-1.20417*	0.13061	0.000
		year 2	0.15909	0.15141	0.720
	year 1	year 3	0.10000	0.14411	0.899
		year 4	-1.10417*	0.16112	0.000
		year 2	1.26326*	0.13863	0.000
	year 4	year 3	1.20417*	0.13061	0.000
		year 1	1.10417*	0.16112	0.000

*. The mean difference is significant at the 00.05 leve