Students' Perceptions towards Online Learning in the Upper East Region

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ABSTRACT: *Online learning has become the most dominant mode of instruction adopted by facilitators due to the outbreak of Covid-19 pandemic. Instructors adopted this mode of instruction in order to engage students in academic activities while they stay in their comfort zones. This study therefore investigated students' perceptions towards online learning. Two research questions were formulated to guide the study. Purposive sampling technique was adopted in sampling participants for the study. Data was analysed using inferential statistics (ANOVA) and descriptive statistics (mean, standard deviation and percentage). The interview data was also analysed using thematic analysis. The finding from the study proved that online learning has several benefits and challenges. The findings from the study proved that online learning helps students to learn at their own pace and also share information among each other and facilitators easily. It was also found that online learning saves money and students time since they do not need to travel to the study centers. The study also proved that poor internet connectivity is a serious challenge of online learning. Lack of computer skills and ICT logistics also affect student's participation in online learning. There was statistically significant difference between the mean perceptions of students on benefits and challenges of online learning. Based on the findings of the study, it was recommended that Ghana Education Service should provide students with laptops, android phones and tablets to enhance their effective participation in online learning. It was also recommended that tertiary institutions offering online courses should organize seminars for students on online learning and also provide students with internet bundles to help them participate effectively in online learning.*

KEYWORDS: Online learning, students' perceptions, Covid-19 pandemic

INTRODUCTION

The widespread of the coronavirus known as Covid-19 hindered education throughout the world. The World Health Organization (WHO) established Covid-19 prevention measures, which every nation adopted in an effort to slow the virus's rapid spread. These actions include; keeping a distance from others, isolating oneself, refraining from hugs and handshakes, constantly washing one's hands, avoiding crowds, and other preventive measures. Due to these actions, the Ghanaian government decided to outlaw all types of gatherings, including conferences, churches, funerals, sporting events, political rallies, public demonstrations and nightclubs. To stop the virus from spreading, all schools in Ghana, from pre-kindergarten to university, were closed in February 2020.

The present Covid-19 significantly impacted all human activity mobility, including educational activity mobility (Faizaturrohmah, Sukarni, & Ngafif, 2022). Teaching and learning activities were moved from the traditional face-to-face classroom setting to a digital setting by the Covid-19 outbreak (Santis, Bellini, Sannicandro, & Minerva, 2020).

With the rapid development of information and communication technology, many colleges and universities have offered online courses as a viable alternative to traditional face-to-face instruction. Online education, according to Harasim (1989) is a new domain of learning that combines distance education with the practice of face-to-face instruction utilizing computer-mediated communication. As for Volery (2000) online learning delivery is a form of distributed learning enabled by the Internet. Today, new technologies, such as the Internet, streaming video, and google meet now make higher education more accessible and affordable for many students, and for those who would have been unable to pursue higher education in a traditional in-class setting (Bianco, Car-Chellman, & Alison, 2000).

Generally, online education has the following key features according to Ascough (2002)   a) it provides a learning experience that is different from the traditional classroom, as the learners do not participate in person in a physical classroom. (b) Communication is via computer and World Wide Web, (c) social dynamic of the learning environment is changed, and (d) discrimination and prejudice relating to individuals' appearance, composure, and attitude are minimized.

Most tertiary institution in Ghana shifted from the traditional face-to-face mode of instruction to online learning due to Covid-19 pandemic. Online learning has numerous benefits for facilitators and students. Online learning is less expensive and also convenient for students to access education at anywhere and anytime. Online learning supports students in learning individually and collaboratively by utilizing various forms of online learning platforms (Anwar & Wahid, 2021). Online learning promotes independent learning and reduces dependences of students towards teacher's support (Kumi-Yeboah, Dogbey, & Yuang, 2017).

Despites these numerous advantages, educational institutions, teachers and students faces numerous challenges in implementing online education. Since online learning is new in educational institutions, most schools find it difficult to implement it effectively. Instructors and students are finding it very challenging to involve in online learning. This is as a result of inadequate training for students and facilitators on online learning. Majority of tertiary institutions still faces virtual learning problems (Talidong & Toquero, 2020). Most tertiary institutions lack the necessary logistics required for online learning. Students who are located in rural areas where internet connectivity is poor faces serious challenges in attending online classes. According to Tanjung and Utomo (2021), students' negative perceptions of online learning include; difficulty in optimally participating in online learning due to high demand of internet bundles, low internet coverage and frequent power outage.

Statement of the problem

Online teaching and learning were introduced in the Ghanaian educational institution during the outbreak of the novel coronavirus popularly known as Covid-19. Online instruction was initiated with the aim of engaging students in teaching and learning process while they stay at home. Workshops, seminars, webinars and conferences were organized for all facilitators on online teaching and learning to enable them deliver effectively to students. Although, facilitators were given training on e-teaching and learning, little or no proper training was given to the students and this negatively affected them academically. Most students come from places where internet connectivity is very poor. Others also come from communities where power outage is very frequent which hinder their effective participation in online classes. Students from poor families also find it difficult to purchase devices needed for effective participation in online classes. There are studies that investigated students' perception on online teaching and learning but most of these studies were explored in developed and technologically advanced nations. Thomas, Thakkar and Ghanekar (2021) explored students' perception towards online teaching, learning and evaluation during the Covid-19 pandemic in India and found that students prefer classroom teaching above online learning. Susilana, Hutagulung and Sutisna (2020) investigated students' perception towards online learning in higher education in Indonesia during Covid-19 pandemic and found that students find it difficult to learn online. Also, Tanjung and Utomo (2021) examined students' perception on online teaching amidst Covid-19 pandemic in Indonesia and found that students have both positive and negative perceptions towards online learning mode. All these studies were conducted in different countries. No published study investigated students' perceptions towards online teaching and learning in the Northern part of Ghana most especially tertiary students in the Upper East Region of Ghana. It is against this background that the researchers deemed it necessary to investigate tertiary students' perceptions towards online learning.

Specific Research Objectives

The specific objectives of the study were to examine:

I.   Benefits of online learning.
II.   Challenges of Online learning.

Research Questions

The following research questions were addressed in the study:

I.   What are the benefits of online learning?
II.   What are the challenges of online learning?

REVIEW OF RELATED LITERATURE

Online teaching and learning

The outbreak of covid-19 has paved way for educational institutions to shift from the traditional face-to-face teaching and learning to online instruction. Currently, many tertiary institutions have introduced online educational programmes for students to stay at their comfort zones and participate. Many researchers gave various definition to online learning. Online learning is the process of accessing teaching and learning via information and communication technologies. By utilizing information, communication, and technology, online learning is a process that is aided and encouraged. Online learning is high-tech learning in which a class can be created everywhere by using internet (Kucirkova, Petr, & Hana, 2012). When knowledge is transmitted through the use of electronic technology, it is referred to as "online learning" or "E-learning" (Thomas, Thakkar, & Ghanekar, 2021). Online learning is also known as blended learning, web-based learning, e-learning, computer-mediated learning and open learning (Dhawan, 2020). Online learning is learning that takes place online or through a computer connected to the internet in a synchronous classroom where students engage with the teacher and are not restricted by their geographical location.

Online learning is a type of distance learning in which the primary medium is the internet rather than face-to-face interactions between students in a traditional classroom environment (Stern, 2018; Jamil & Hamre, 2018). Online learning is a method of instruction that makes material accessible to students regardless of time, place, or proximity (Blake, 2011; Tarone, 2015). Online learning can also be explained as a learning activity that can be carryout using technological devices such as mobile phones, computer and tablet connected with internet. Online learning is a tool that enhances teaching and learning activities by making them more innovative and student-centered (Mayuri, Krishna, Ravichandran, & Rashmi, 2022). Generally, online learning is a distant learning which involve the use of computers, mobile phones and tablets with communication tools/apps such as zoom, WhatsApp and google meet with proper internet connectivity.

Online learning can be delivered synchronously or asynchronously (Anwar & Wahid, 2021). While asynchronous online learning is a type of online learning that is more flexible and allows students to access their course/content materials whenever they need to through electronic mails, video, message boards, video or audio recording, synchronous online learning is when students and their facilitator are present at a specific time using zoom conferencing technology, video conferencing technology, or google meet (Alam, Waqar, Zaman, Shehzadi, & Mehmood, 2012).

In the synchronous form of online instruction, students participate in live lectures, communicate with their facilitators, and receive immediate feedback. Some of the media used in asynchronous learning methods are WhatsApp groups, learning websites, and learning method systems (Rubyansyah, Permana, & Permatawati, 2022). Other media used in synchronous online learning include Google Meeting and Zoom Conference Meeting.

Benefits of Online Learning

Online learning has a lot of positive effects as far as teaching and learning is concern. Online learning is a low cost and more convenient for students to access learning at any location and time without thinking of geographical proximity. Students have the option to learn at their own pace through online courses (Hurlbut, 2018). Additionally, it provides up-to-date information and can be used with other elements to strengthen learners' comprehension, including group chats, discussion boards, quizzes, audio and video explanations (Cantoni, Cellario, & Porta, 2004). Miller (2019) lists the following advantages of online learning: increased student participation, learner-centered learning approach, wider and in-depth discussion among students and facilitator, improved virtual communication and collaboration, improved flexibility and self-paced learning, broader global perspective, sharpened critical skills and development of new technical skills. Online learning encourages greater student interaction, supports a learner-centered teaching methodology, and fosters more extensive and in-depth discussions between the students and the facilitator.

Online learning provides opportunity for students to incorporate technology in their lessons in order to improve students' conceptual understanding and academic achievement. To ensure that students are satisfied, online learning offers high-quality engagement that can happen whenever and wherever is convenient (Landrum, Bannister, Garza, & Rhame, 2021). Online learning help to prevent the spread of virus and help students gain digital literacy through learning various application (Rahmayanti, Suwastini, Dantes, & Kultsum, 2022). The main advantages of online learning include flexibility, time and money saved by avoiding travel expenses, and the possibility for students to learn at their own pace (Dost, Hossain, Shehab, Abdelwahed, & Al-Nusair, 2020). Other benefits of online learning include the ability for students to submit anonymous questions and answers, which may encourage more participation from people who would not ordinarily attend a live lecture (Kay & Pasarica, 2019). Additionally, online instruction offers free access to questions and answers as well as rapid feedback for students (Tolentino, Cruz, & Ablaza, 2022).

Challenges of Online learning

Despite the numerous beneficial effects of online teaching and learning, there are also challenges that students encounter during online teaching and learning process. Harefa and Sihombing (2022) found that students communication with facilitators is often hindered by unstable network and their ability to use technology is still limited resulting in delay in joining online lessons. Students in remote areas where internet connectivity is poor may find it difficult to participate in online lessons. There are several drawbacks of online learning which include; cheating, copy and paste, low network and high demand for internet bundles (Tanjung &

Utomo, 2021). Other challenges of online learning include lack of technical support, lack of face-to-face interaction, missing school life and lack of digital tools such as computers, mobile phones and tablets. Online learning does not help in the acquisition of hand-on skills. It gives little opportunity for practical activities. Online courses are poor at promoting the development of motor skills and physical activity (Chan, et al., 2021). Online learning has several problems or disadvantages including social isolation, lack of technological skills, knowledge and internet problems (Khan, Vivek, Nabi, Khojah, & Tahir, 2020). Heavy investment to buy laptops, mobile phones, tablets, computers and internet bundles also affect students' participation in online learning. Lack of time management and little freedom are challenges of online learning (Sah, 2021).

Dube (2020) identified several challenges impeding online learning. These challenges include poor internet connectivity, shortage of online learning tools, lack of computer skills and expensive internet data. Online learning lacks physical interaction and pen and paper work. Pen and paper work help students to improve on their handwriting skills. Family distraction, limited time availability and poor internet connectivity affect students' participation in online lessons. One reason for which online learning have been criticized is the lack of proper training for facilitators and students (Pelgrum, 2001). This inadequate training for facilitators contributes to the discomfort of teachers towards online teaching, computer anxiety and fear of technology especially among older generation (Bhati, Mercer, Rankin, & Thomas, 2009). Students often feel isolated during online lessons which lower their sense of belongness. In online lessons, teachers find it challenging to assess the actual level of learning of their pupils (Sharma, Bala, Aggarwal, & Agnihotri, 2022).

Students Perception
Accessing students' perception involves identifying the processes through which individuals acquire information, interpret, organize or make sense of their environment (Tolentino, Cruz, & Ablaza, 2022). Perception is an individual interpretation of something (Amir, Fediyanto, Rudyanto, Nur, & Tortop, 2020). Perception is the brain's capacity to transform incoming stimuli into the sense (Sugihartono, 2007). Perception is the experience of things, events, and connections that is gained through the continual gathering and interpretation of information (Rakhmat, 2000). Perception is a cognitive process that helps students to interpret and comprehend their environment (Kinicki & Kreitner, 2003). Perception is the process by which individuals choose, arrange, interpret, and retrieve information from their environment and then act upon it (Schermerhorn, Hunt, & Osborn, 2005). Perception is the process of organizing, recognizing and understanding the environment which comprise of signs, symbols and objects. Factors that affect students' perceptions are perceived objects, sensory devices, nerves and centers of nerve structures and attention. Students' perceptions give positive impact on the quality of interaction and communication in teaching and learning activities (Yanti & Balikpapan, 2021). Students' perception of online learning can provide an understanding of the

success of learners in their online learning (Harahap & Ratmanida, 2021). Perception is often conveyed in the form of ideas or action based on experience.
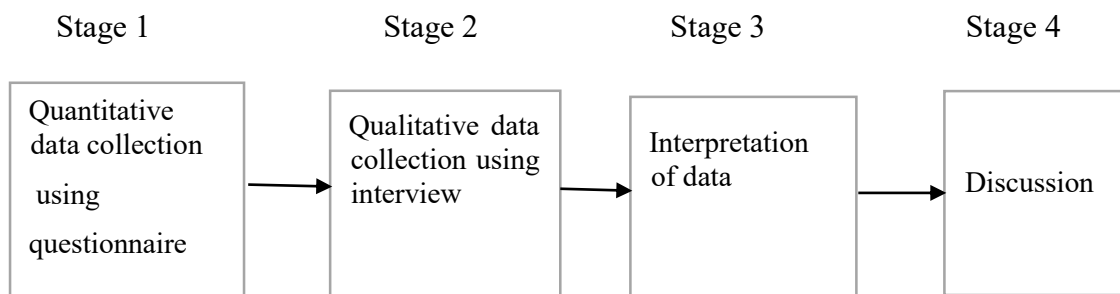
METHODOLOGY

Research Approach
This study adopted a mixed method approach. Mixed method approach involves collecting qualitative and quantitative data (Creswell, 2014). Mixed method approach involves a combination of quantitative and qualitative approaches based on the purpose of the study and nature of research questions with the goal of gaining better comprehension of the subject (Taherdoost, 2022). The adoption of this method helped the researchers gained better understanding of students' perceptions towards online learning.

Research Design
The study adopted sequential explanatory mixed method design. This design involves collection and analysis of quantitative data followed by collection and analysis of qualitative data. The researchers collected quantitative data from the participants through questionnaire and analysed and later collected qualitative data from the participants through structured interview which was done through face-to-face interaction.

Figure 1

Research Design

Stage 1	Stage 2	Stage 3	Stage 4
Quantitative data collection using questionnaire	Qualitative data collection using interview	Interpretation of data	Discussion

Sequential Explanatory Mixed Method Design

Study Area
The study was conducted in the Upper East Region of Ghana. This region was chosen because students undertaking online lessons, courses and programmes in the region were more accessible to the researchers.

Population
The population of the study consisted of all tertiary students taking online lessons, courses and programmes at the tertiary level in the Upper East Region.

Sampling Technique and Sample Size
Purposive sampling technique was adopted for selecting participants for the study. Purposive sampling technique is a sampling strategy in which the researcher depends on his/her judgement

when selecting participants from a population to participate in a study (Pandey & Pandey, 2015). The sample size of the study consisted of 150 undergraduate and postgraduate students from the tertiary institutions in the Upper East Region.

Demographic Profile of Respondents

Descriptive statistics was conducted to have an in-depth information about the background of the participants.

Table 1: Demographic profile of Respondents

Demographic variable	Category	Frequency	Percentage (%)
Sex	Male	92	61.3
	Female	58	38.7
	Total	**150**	**100**
Age	18-25	93	62
	26-30	30	20
	31-35	23	15.3
	36 and above	4	2.7
	Total	**150**	**100**
Academic level	Undergraduate (UG)	117	78
	Postgraduate (PG)	33	22
	Total	**150**	**100**

Source: field data, 2023

The table above indicates the demographic profile of participants in the study. 61.3% of the participants were males and 38.7% were also females. In terms of age, 62% were in the age group of 18-25, 20% were in the age range of 26-30, 15.3% also fall within 31-35 and 2.7% were in the age range of 36 and above. In terms of academic level, 78% were undergraduates and 22% were also postgraduate students.

Research instruments

Self-developed Likert scale questionnaire was used to collect quantitative data from the participants. The questionnaire consisted of two sections. The first section of the questionnaire was respondents' demographic details. In the second section, respondents were asked to rate their perceptions towards online learning on benefits and challenges of online learning using a scale of 1 to 5 (1=strongly disagree, 2= disagree, 3= not sure, 4= agree and 5=strongly agree). Interview was also conducted through face-to-face interactions with the participants. This helped the researchers obtained qualitative data from the respondents. The interview which was conducted through face-to-face interactions enabled the researchers substantiate the quantitative findings of the study. This also assisted them to have a better understanding of the phenomenon.

Reliability of the instruments

To ensure face and content validity of the instruments used for data collection, the researchers gave a drafted copy of the instruments to four lecturers who handles online courses for peer review. After the review, the researchers took their suggestions into consideration by making the necessary corrections. The researchers finally gave a drafted copy of the instruments to two professors for final validation.

The reliability of the items was also determined using Cronbach alpha coefficient reliability. The reliability of the items on benefits and challenges of online learning were found to be 0.78 and 0.83 respectively. This proved that the instruments were highly reliable.

Data analysis

The quantitative data were analysed using Statistical Package of Social Sciences (SPSS) version 28 to find the means and standard deviations. Thematic analysis was also used in analysing the qualitative data. The qualitative data were analysed to identify themes and patterns from the phenomenon and commonly repeated statements were identified. The qualitative data were grouped into themes and statements made by the participants during the face-to-face interaction were added. To ensure unbiased and trustworthy of the data, triangulation was used to validate the data by paying attentions to specific perceptions.

RESULTS AND DISCUSSION

The quantitative and qualitative data analyses are presented below based on the research questions.

Research Question one: What are the benefits of online learning?

Table 2: Students Perceptions on Benefits of Online Learning (N=150)

S/N	Benefits of online learning	Response			
	Items	Mean ($\bar{x}$)	SD	Rank	Decision
1	Online learning provides students with opportunity to learn at their own pace	3.52	1.18	10	Low perception
2	Online learning is more affordable and saves time	3.73	1.17	8	Low perception
3	Online learning helps learners to receive timely/immediate feedback from facilitators	3.85	0.8	6	Low perception
4	Online learning makes learning easier for students	3.63	1.02	9	Low perception
5	Online learning fosters more interaction among students	3.77	1.14	7	Low perception
6	Students have access to assignment and exams at anywhere and anytime	4.35	0.74	1	High perception
7	Students have the chance to continue working while pursuing their education	4.09	0.3	3	High perception

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8	Students have access to wide range of courses and programmes	3.9	0.92	4	High perception
9	Online learning gives opportunity to students to participate in classes/lessons at any time and from any location	3.89	0.71	5	High perception
10	Sharing of information is very fast and easier in online learning	4.19	0.4	2	High perception
	Grand mean and standard deviation	**3.89**	**0.84**		

Source: field data, 2023

Key: 5=Strongly Agree (SA), 4=Agree (A), 3=Uncertain (UC), 2=Disagree (DA), 1=Strongly Disagree (SD), Mean (M) and Standard Deviation (SD).

Table 2 indicates students' response on benefits of online learning. The participants indicated their level of agreement on each item. The overall mean (grand mean) and standard deviation (M=3.89, SD= 0.84) proved that the respondents agreed that the items are benefits of online learning. The items were further rank based on the item with the highest mean to the item with least mean. Students have access to assignment and exams at anytime and anywhere was ranked highest (M=4.35, SD= 0.74). 48.7% of the participants responded strongly agree, 45.3% responded agree, 2.7% responded not sure, 2% responded disagree and 1.3% responded strongly disagree. Sharing of information is very fast and easier ranked second (M=4.19, SD=0.40). 19.3% of the sample size responded strongly agree and 80.7% also responded agree. Students have the chance to continue working while pursuing their education ranked third (M=4.09, SD=0.3). 8.7% of the participants responded strongly agree and 91.3% also responded agree. Students have wide range of access to courses and programmes in online learning was ranked 4th (M=3.90, SD=0.92). 16.7% of the subjects responded strongly agree, 72% responded agree, 2% were not sure, 3.3% disagreed and 6% also responded strongly disagree. Online learning gives opportunity to students to participate in classes/lessons at any time and from any location ranked 5th (M=3.89, SD=0.71). 10.7% of the participants responded strongly agree, 74.7% responded agree, 9.3% responded not sure, 3.3% responded disagree and 2% responded strongly disagree. Online learning helps learners to receive immediate/timely feedback from facilitators ranked 6th with mean, 3.85 and standard deviation, 0.8. 12% of the respondents responded strongly agree, 69.3% responded agree, 12% were not sure, 4.7% responded disagree and 2% also responded strongly disagree. Online learning fosters more interaction among students was ranked 7th (M=3.77, SD=1.14). 22% of the subjects responded strongly agree, 57.3% responded agree, 4.7% were not sure, 7.3% responded disagree and 8.7% responded strongly disagree. Online learning saves time and money was also ranked 8th (M=3.73, SD=1.17). 24% of the participants responded strongly agree, 52.7% responded agree, 3.3% were not sure, 12.7% responded disagree and 7.3% responded strongly disagree. Online learning makes learning easier for students ranked 9th (M=3.63, SD=1.02). 11.3% of the respondents responded strongly agree, 64.7% responded agree, 4% responded not sure, 15% responded disagree and 4.7% also responded strongly disagree. Online learning provides students with opportunity to learn at their own pace ranked least (M=3.52, SD=1.18). 13.3% of the participants responded strongly agree, 58% responded agree, 7.3% were not sure, 10% responded disagree and 11.3% also responded strongly disagree.

From table 2, the grand mean is 3.89 with standard deviation 0.84. With respect to the benefits of online learning, the responses of the participants indicated that they have both high and low perceptions but high perception was dominant based on the overall mean ($\bar{x}$) and individual means ($\bar{x}$). The participants have high perceptions that they have access to assignments and exams at anywhere and anytime through online learning and sharing of information is very fast and easier in online learning. They also shown a high perception that students have the chance to continue working while pursuing their education.

Participants also have low perceptions that online learning makes learning easier. The subjects also exhibited a low perception that online learning is more affordable and saves time

HO₁: There is no significant difference between the mean perceptions of students on the benefits of online learning

Table 3: ANOVA Results of Students' Perceptions on Benefits of Online Learning

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	88.08	9	9.78	12.42	0.000	1.88
Within Groups	1173.98	1490	0.78			
Total	1262.07	1499				

Level of significant =0.05; p-value (0.000) <0.05; Highly significant

Table 3 shows the difference between the mean perceptions of students on benefits of online learning using ANOVA. From table 3, the F-value was 12.42 and p-value was 0.000. At 0.05 level of significant, the p-value (0.000) is less than 0.05 and hence the null hypothesis was rejected. This proved that there was statistically significant difference between the mean perceptions of students on the benefits of online learning.

Research Question 2: What are the challenges of online learning?

Table 4: Students Perceptions on Challenges of Online Learning (N=150)

S/N	Challenges of online learning	Response			
	Items	Mean ($\bar{x}$)	SD	Rank	Decision
1	Poor internet connectivity	4.15	0.36	2	High perception
2	Unstable power/electricity supply	4.11	0.31	3	High perception
3	Inadequate practice or hand-on based learning	4 .19	0.38	1	High perception
4	Prevention of cheating or examination malpractice is difficult	3.99	0.44	7	High perception
5	Lack of computer skills/ICT skills	4.04	0.17	4	High perception
6	Online learning creates a sense of isolation	3.46	0.91	9	Low perception
7	Inadequate ICT facilities	4.01	0.10	6	High perception
8	Limited access to resources and technological support	3.97	0.63	8	High perception
9	Distraction from family members affects students' academic performance in online learning	4.02	0.73	5	High perception
10	Online learning may create health issues since students will have to sit for hours in front of a computer screen	3.30	1.20	10	Low perception
	Grand mean and standard deviation	**3.92**	**0.52**		

Source: field data, 2023

Key: 5=Strongly Agree (SA), 4=Agree (A), 3=Uncertain (UC), 2=Disagree (DA),
1=Strongly Disagree (SD), Mean (M) and Standard Deviation (SD).

The data in table 4 contains students' response on challenges of online learning. Among the items on challenges of online learning, inadequate practice or hand-on based learning was ranked highest (M=4.19, SD=0.38). 19.3% of the subjects responded strongly agree and 80.7% also responded agree. Poor internet connectivity was ranked second (M=4.15, SD=0.36). 15.3% of the respondents responded strongly agree and 84.7% also responded agree. Unstable power/electricity supply was also ranked third (M=4.11, SD=0.31). 11.3% of the subjects responded strongly agree and 88.7% also responded agree. Lack of computer/ICT skills ranked 4th (M=4.04, SD= 0.17). 4% of the respondents responded strongly agree and 96% also responded agree. Distraction from family members affects students' academic performance in online learning ranked 5th (M=4.02, SD=0.73). 18% of the participants responded strongly agree, 74.7% responded agree, 1.3% responded not sure, 4% responded disagree and 2% also responded strongly disagree. Inadequate ICT facilities ranked 6th (M=4.01, SD= 0.10). 1.3% of the subjects responded strongly agree and 98.7% responded agree. Prevention of cheating or examination malpractice is difficult in online learning ranked 7th (M= 3.99, SD= 0.63). 9.3% of the participants responded strongly agree, 80% responded agree and 10.7% responded not sure. Limited access to technological support ranked 8th (M= 3.97, SD= 0.63). 12% responded

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strongly agree, 78.7% responded agree, 5.3% were not sure, 2.7% responded disagree and 1.3% also responded strongly disagree. Online learning creates a sense isolation ranked 9th (M= 3.46, SD= 0.91). 2.7% of the participants responded strongly agree, 61.3% responded agree, 20.7% responded not sure, 10% responded disagree and 5.3% responded strongly disagree. Online learning creates health issues since students have to sit for hours in front of a computer screen ranked least (M =3.30, SD= 1.20). 19.3% of the participants responded strongly agree, 28% responded agree, 25.3% responded not sure, 19.3% responded disagree and 8% responded strongly disagree. The overall mean and standard deviation (3.92, SD= 0.52) proved that the students agreed that the items listed are challenges of online learning.

From table 4, the grand mean is 3.92 and the standard deviation is 0.52. The table contains statements on challenges of online learning. The subjects have high perception that inadequate practice or hand-on based learning is a challenge in online learning. They also perceived that poor internet connectivity, unstable power supply, lack of computer skills and inadequate ICT facilities are challenges of online learning. They also have a low perception that online learning may create health issues since students will have to sit for hours in front of a computer screen. Participants also have low perception that online learning creates a sense of isolation.

HO₂: There is no significant difference between the mean perceptions of students on the challenges of online learning

Table 5 ANOVA Results of students' Perceptions on Challenges of Online Learning

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	120.59	9	13.39	34.77	0.000	1.88
Within Groups	574.19	1490	0.38			
Total	694.79	1499				

Level of significant =0.05; p-value (0.000) <0.05; Highly significant

Table 5 shows the difference between the mean perceptions of students on challenges of online learning using ANOVA. The F value was 34.77 and the p-value was also 0.000 at 0.05 level of significant. From the above table, p-value (0.000) < 0.05 hence the null hypothesis which stated that there is no significant difference between the mean perceptions of students on the challenges of online learning was rejected.

INTERVIEW RESULTS

In our quest to deeply understand participants' perceptions towards online learning, two questions were asked to obtain more information from the respondents through interview using face-to-face interaction.

The first question was how long have you participated in online learning?

This question was posed by the researchers to help them know the duration for which the students participated in online learning.

Two or more year's participation in online learning

"I participated in online learning for two years during my first degree and I am currently taking three courses through online in the first semester of my postgraduate studies" [P1]

"I participated in online learning for two years only during my first degree" [P3]

"I took part in online learning for two years during my first degree, I am still participating   in online learning in my second degree" [P6]

One academic year participation in online learning

"*I participated in online learning for one full year" [P9]*

"I took part in online learning the whole academic year" [P2]

"I participated in online learning for a year" [P11]

One academic semester participation in online learning

"I took part in online learning for one semester" [P13]

"This year the whole semester I took my courses online" [P15]

"I participated in online learning for only the second semester" [p17]

The second question was what challenges did you encounter during your participation in online learning?

 The participated further highlighted the challenges shown in table 4. They stated that poor internet connectivity and network access are challenges that hindered their effective participations in online learning. These are the comments participants stated:

"During my online learning I faced many challenges but the most frequent one was poor internet connectivity" [P1]

"I encountered submission assignments challenges during my participation in online learning. This was as a result of bad network" [P6]

"Poor internet connectivity was one the main challenges in encountered during my participation in online learning" [P10]

Another challenge that the participants encountered during their participation in online learning was unstable power supply. Below are the views of the participants on unstable power supply:

"I encountered power outage which negatively affected my participation in online learning" [P3]

> *"The epileptic power was one of the challenges in encountered during online learning"* [p14]

> *"The power supply in my community is not stable which affected me during online learning"* [p11]

Furthermore, another challenge participants faced during online learning is lack of practical skills. The teaching and learning are done theoretically which do not help learners to develop practical or hand-on skills. Some comments made by the participants:

> *"We did not do any practical during online learning"* [p7]

> *"Lack of practical activities in online learning affect us negatively especially in chemistry, physics and Biology"* [p12]

> *"Lack of practical activities is a major challenge I encountered during my participation in online learning"* [p15]

> *''We did not participate in any practical session during my participation in online and this affect us especially we those doing science courses"* [p4]

Moreover, lack of computer/ICT skills was another problem participants encountered during their participation in online learning. Some comments that illustrate the participants views include:

> *"The challenge I encountered during my participation was lack of ICT skills"* [p5]

> *"I do not have much knowledge on ICT so I do find it difficult to do certain things during online learning"* [P8]

> *"Some lecturers do not have the necessary skills when it comes to online teaching"* [19]

> *"I often find it difficult to do assignments and exams online and submit"* [P21]

DISCUSSION

This study was undertaken to examine students' perception towards online learning at the tertiary level in the Upper East Region of Ghana. The findings of the study proved that one of the perceptions of students on benefits of online learning is that students have easy access to assignment and exams at anywhere and anytime. This finding collaborates with the finding of Platt, Raile and Yu (2014) that online leaning is more flexible and convenient than traditional face-to-face learning. The findings also showed that sharing of information is very fast and easier in online learning. Sharing of information among students and facilitators is very easier. Digital platforms such as WhatsApp, zoom, email, google meet are used in sharing information. This finding is in line with Edumadze and Barfi (2017) who reported that there is ease sharing of ideas with colleagues and facilitators in e-learning. The finding also collaborates with the finding of Sharma et al; (2022) that online classes are more interactive.

Also, the findings indicated that students have the opportunity to continue working while pursuing their education. Since students are not confined at educational institutions and attend

lectures face-to-face, they can work and still attend their lectures at their comfort zones and at their own pace. The findings proved that students have a wide range of courses and programmes in online learning. They can also receive large content from their facilitators through online learning. The study also found that online learning gives students the chance to participate in many courses and programmes. This finding agrees with Ozfidan, Fayez and Ismail (2021) who reported that online learning gives learners a wide range of content.

The findings also showed that online learning helps students to receive timely/immediate feedback from their facilitators. Teachers can provide feedback to students in relation to their performance after assessing them. The finding also proved that online learning saves money and time. Online learning is more economical than the traditional face to face teaching and learning since students stay at their comfort zones and participate. Leaners do not need to spend money and travel from their homes to study centers and participate in lectures. This finding is in line with Smaranda (2021) who reported that online learning saves time. The finding also agrees with Abbadi, Hefny and El-Shafy (2022)who reported that online learning provides students with flexible time and space. The findings of the study also proved that there is no statistically significant difference between the mean perceptions of students on benefits of online learning.

The findings of the study also proved that one of the perceptions of students on challenges of online learning is inadequate hand-on activities/practice-based learning. Practical activities in online learning are highly inadequate especially in science related courses or subjects like Chemistry, Physics and Biology. This finding is in line with the finding of Chan et al, (2021) who found that online learning is poor in promoting the development of hand-on skills. The finding also showed that one of the perceptions of students on challenges of online learning is unstable power/electricity supply. Students from remote areas where there is lack of electricity or unstable power supply will find it difficult to participate effectively in online learning.

Another finding of the study on challenges of online learning is poor internet connectivity. Most community especially the rural areas experience poor internet connectivity and hence online learning will be a challenge for learners in those areas. This finding agrees with Saurabh et al, (2021) who reported that network accessibility and connectivity is distraction during online learning. This finding is also in support of Chisiu (2020) who reported that the difficult aspect of online learning is poor internet connectivity. Also, another finding of the study on challenges of online learning is lack of computer /ICT skills. This is not a challenge to only students but both students and facilitators. Most students and teachers lack the necessary skills needed for effective participation in online learning. This finding agrees with the finding of Mayuri et al; (2022) that lack of computer skills is a disadvantage of online learning.

Another challenge perceived by students on online learning is lack of ICT facilities. ICT facilities such as computer lab, mobile phones, tablets and computers are needed in online learning. Online learning will be affected negatively if these are lacking. This finding confirms the finding of Dost et al, (2020) who reported that lack of ICT devices is a barrier to online learning. It was also found that there was statistically significant difference between the mean

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perceptions of students on challenges of online learning and hence the null hypothesis which stated there is no significant difference between the mean perceptions of students on challenges of online learning was rejected.

Educational implications, theory and practice

The findings from the study will be useful to Ghana Education Service (GES), Ministry of Education (MOE) and Ghana Tertiary Education Commission (GTEC). The findings will help tertiary institutions offering online programmes make modification of online teaching strategies in order for it to be more effective. It will also give insight on the perceptions of students towards online learning. The challenges of online learning discussed in this study will help schools in Ghana, Africa and across the globe find ways of overcoming such challenges in order to make online learning more effective. The study will be useful to students pursuing online courses and online courses facilitators. It will help learners and facilitators prepare well on how to participate in online lesson effectively.

The results from the study on benefits of online learning will also help institutions that depend solely on traditional face to face teaching to include online learning in their lessons, courses and programmes. The results of the study will also serve as a reference material to tertiary institutions, researchers, curriculum developers, online facilitators and students interested in online learning. This study will help institutions prepare students very well by giving them technological support before enrolling them into online courses.

Contributions of the study

This study makes vital contribution to existing body of knowledge in literature in many area. The unique focuses on online learning within the African continent, specifically within tertiary institutions in the Upper East Region, Ghana. This contributes significantly to existing body of knowledge in literature, offering insights into tertiary student's perception towards online learning. Moreover, the study provides a comprehensive understanding on benefits and challenges of online learning. The study delves deep into benefits and barriers of online learning through an administered questionnaire and face-to-face interaction with the participants, offering more information on students' perceptions towards online learning. This also offers valuable insights for researchers, students, facilitators and institutions offering online programmes. In addition, the study fills a research gap by specifically exploring tertiary students, both undergraduate and postgraduate student's perceptions towards online learning within higher educational institutions contribution to the limited body of knowledge on online learning in the Upper East Region of Ghana. This geographical focus gives a vital contribution, highlighting more on the benefits and challenges associated with online learning in the Region.

Limitations and future directions

There limitations in this study that needs to be addressed. First of all, the findings of the study are based a specific sample of undergraduate and postgraduate students from tertiary institutions in the Upper East Region East only, so the results cannot be generalized to the entire country.

Future study should increase the simple size and also include students from different institutions across the country. By so doing, we will be able to have a deeper understanding of students' perceptions towards online learning and the results can be generalized. The current study did not capture ways of overcoming the challenges. Future studies may consider exploring ways of overcoming the challenges of online learning. Future studies may also consider examining the impact of online teaching and learning on students' academic performance in a particular concept by comparing online teaching and learning with the traditional face-to-face mode of instruction.

CONCLUSION

The study investigated students' perceptions towards online learning at the tertiary level in the Upper East Region, Ghana. The findings from the study showed that online learning has positive effects and challenges. The students indicated their perceptions on benefits and challenges of online learning. On benefits of online learning, the study found that online learning helps in fast sharing of information. It was also found that online learning saves time and money of students. The study also found that online learning gives learners the opportunity to learn at their own pace. The study also found that online learning helps students to receive timely feedback from their course instructors.

Also, on challenges of online learning, the study found that poor internet connectivity is a serious barrier of online learning. The study found that lack of computer skills affects student's participation in online learning. It was also found that online learning does not helps students to develop hand-on skills. The study found that cheating or examination malpractice is difficult to eliminate in online learning. The study also found that unstable power/electricity supply affect online learning negatively.

Recommendations

The researchers came up with the following recommendations based on the findings of the study.

➢ Educational institutions offering online courses and programmes should organize seminars, webinars and conferences for their facilitators and students on online learning.
➢ All tertiary institutions in Ghana, Africa and the world at large should include online courses and programmes in their academic programmes to enable students from distant locations have access to education.
➢ Ghana Education Service, Ministry of Education and Non-Governmental Organizations interested in education should support students with tablets, android phones and computers to enable them participate effectively in online learning.
➢ Tertiary institutions offering online courses and programmes should provide students with internet bundles to help students participate in online learning properly.

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