COMPARATIVE ANALYSIS OF QUALITY AND ASSOCIATED CHALLENGES OF CONVENTIONAL AND OPEN DISTANCE LEARNING IN NIGERIA: LEARNERS' PERSPECTIVE

ADEWUMI SEGUN IGBINLADE

ABSTRACT

This study investigated the quality of open and distance learning education as well as identified the challenges faced in the implementation and provision of Open Distance Learning Compared with Conventional (face-to-face) Learning among undergraduate nursing students in Nigeria. A sequential, descriptive, mixed study was conducted among 1,380 undergraduate nursing students for quantitative survey, 24 nursing students for focus group interview and 3 key informants were interviewed across four geopolitical zones in Nigeria using Multistage sampling technique. Questionnaire adapted from a model for evaluating e-learning system quality in higher education in developing countries and the Students University Satisfaction Tool-SUST was used to collect quantitative data while focus group and key informant interviews were used to collect qualitative data. Face and content validity of the quality of the instruments was established. Face validity of the instrument was carried out by the researcher's supervisor, while content validity was done by experts in the fields of education and nursing: necessary corrections were made without distorting the intent of the study. The questionnaire was subjected to reliability test using test-retest method was done and a correlation coefficient of 0.846 was obtained which shows that the instrument is highly reliable. Ethical clearances were obtained from National Health Research Ethics Committee of Nigeria and the selected universities; and informed written consents were obtained from all participants before the commencement of the study. Completed questionnaires for quantitative study were coded and uploaded into Statistical Package for Social Sciences version 23. Descriptive statistics was used to describe variables and inferential statistics were used to test for relationship between variables. ANOVA analysis helps to compare mean of the Quality Assessment of Nursing Students and indicated that Dual programme is of higher Quality in terms of Course Design, Course Syllabus, Social Community Support, Administrative Facilities, Institutional Facilities, Teaching / Learning Facilities and System of the programme than the Conventional (Face to Face) and Open and Distance Learning programme: while the key informants rated all types of programme as equally high since all were fully accredited by the NUC. The paper concluded Open and Distance Learning always have challenges in gaining access to academic advisors; due to inadequate number of lecturers and lack of technology expertise; and inadequate equipped nursing laboratories among others, while the Conventional (Face to Face) faces less challenges and Dual learning having the least challenge in those areas. It was recommended that Nigeria Nursing Education System should embrace blended/hybrid learning approach in all its colleges and departments of nursing in the universities.

Key words: Quality; Open and Distance Learning; Challenges; Undergraduates; Nursing Students; National Open University of Nigeria

Introduction and Review of Related Literature

The word education emanated from the Latin word educate, which means "to lead out". It is however difficult to define education. A popularly accepted definition of education in the 20th century by Uwaifo (2015) who defined education as the process of acquiring knowledge, skills, attitudes, interests, abilities, and the cultural norms of society by people so as to transmit the way of life to the coming generations in order to enhance perpetual development of the society. Comparing the traditional face-to-face learning and open distance learning. The traditional classroom context of learning typically occurs in a teacher-directed instructional context with face-to-face interaction in a live synchronous environment. In contrast to this form of instruction, e-learning is an approach that promotes learner-directed learning where teaching and learning are no longer restricted to traditional classrooms (Sujarwo, Sukmawati, Akhiruddin, Ridwan, & Siradjuddin, 2020). As with all types of education, the various e-learning models are built around the central components of the instructional process: presentation of content; interaction with faculty, peers, and resources; practical application; and assessment. Each e-learning model uses technologies in various ways to address some or all of these components (Konstantinidis, Bamidis and Zary, 2021).

Globally, institutions of higher learning are offering electronic learning (e-learning) also referred to as online learning. This is due to the rapid development of internet technology enabling connectivity around the world. In Finland, due to the growing need for distance education, most universities and universities of applied sciences are singling out e-learning as an important area of development (Orava, 2014). The fast-changing learning environment calls for responsiveness to e-learning, and many studies are motivated to establish effective e-learning platform that meet students" needs (Elumalai et.al, 2021). The emergence of e-learning in Nigeria is a response to the global challenge of making education available and affordable for all people who desire education and to meet with global trend in education. The United Nation estimates the July 1, 2021 population of Nigeria as a country at 211,400,708 with about 170 accredited universities, there are more than 1 million young school leavers competing for the limited spaces in the universities on the yearly basis and only a few of these could be admitted into universities. Cybercafé where people go in to access internet facilities was introduced in the early 90s and in major cities of Lagos, Abuja and Port Harcourt. The emergence of Global System for Mobile (GSM) in Nigeria in 2001 also fuelled national awareness about the usefulness of the electronic means of communication. Although, before 2001, Nigerians had been exposed to internet facilities, using desktop computers and laptop computers, only very few influential Nigerians got access to these facilities. E-learning education in Nigeria was popularized by the establishment of the National Open University in Nigeria in 2003 to make education available and affordable to all that desire and qualify for university education in Nigeria (Chukwu & Uhegbu, 2021).

The e-learning modes mostly adopted by a majority of the Nigerian institution are in form of prepared lectures on a CD-ROM that can be played as at when the need arises. However, this is limited by an inadequate number of computer systems for the students, this therefore would make lectures not to be interactive enough as compared with when the lecture is been received in real time over the internet. Most schools cannot maintain their intranet facilities because of its high cost of running combined with inadequate power supply (Chukwu & Uhegbu, 2021). These therefore forced students to go to the public internet cafes where there exist diverse distractions because of people with diverse interest on the net at the same time. There is also the problem of low bandwidth in most of the cafes; thus, the systems operate at a very slow pace thereby obstructing free and smooth

flow of e-learning. Interestingly, most of the Nigerian Universities have started building their ICT centres but the focus is mainly to put up an internet facility alone without considering other components that made up e-learning centre.

Many Nigerian Universities have focused on the introduction of e-learning to meet the changing needs of students and their employers. This move towards a more flexible method of education delivery reflects national and international trends for life-long learning and continuing professional development. Most nurses accessing post qualifying education is employed in a full-time capacity and have to overcome significant work and family commitments when engaging in life-long learning opportunities. These nurses frequently have trouble accessing further education due to increased workload and a reduction in National Health Service (NHS) educational funding (King et.al, 2021). As a result of these pressures many institutions of higher education are experiencing difficulties with recruitment and retention of nursing students on their post qualifying programs.

The challenge, thus, is to evaluate the satisfaction and the quality of nursing blended learning model that takes advantage of the inherent interactive and transactional capacity of the e-learning mode to drive the teaching learning dynamic, taking cognizance of various specific contextual needs and contingencies (e.g., discipline, developmental level, and resources) without denigrating on the richness of the learning content and the attainment of higher-order learning and the students' satisfaction. Educators in nursing are charged to teach nursing students to become competent professionals, with both in-depth knowledge and skills especially in decision making (Naseem et.al, 2020). The e-learning methods have been found to enhance the teaching–learning process in nursing education. Technology is influencing the way students learn within the University setting in Nigeria. Many Universities have focused on the introduction of distance, open and blended

e-learning in an attempt to meet the changing needs of students and their employers. Now, time and space are no longer barriers to education. In what is now popularly known as distributed learning, people use a wide range of computing and communications technology to provide learning opportunities beyond the time and place constraints of the traditional classroom (Yushau & Nannim, 2018).

In essence, it should be the goal of all institutions engaged in both outside distance learning programs and the face-to-face conventional learning programs to develop and implement quality assessment systems that are recognised as at least being equivalent to international standard in terms of their effectiveness and integrity. Therefore, this study is focused on the quality assessment, satisfaction and challenges with undergraduate nursing education program among nursing students; a comparative study between outside distance learning and face-to-face conventional learning in Nigeria Universities. The advent of undergraduate studies in nursing education in Nigeria dated back to 1965 in University of Ibadan in the South West Region and commenced with the conventional, face to face, traditional mode. Enormous needs for access to tertiary education, economies of scale for small countries, the growing trend of ephemeral knowledge and the necessity for lifelong learning, flexibility, versatility and robust outreach and coverage has actually fuelled and will still continue to advance the growth of distance learning programme most especially in nursing education in Nigeria. However, weak quality assurance mechanisms, poor publicity, personnel who are inadequately trained in distance education, limited and unreliable ICT access and controversial content dimensions confront the success of blended learning at the open and distance learning educational programmes (Kirkova-Bogdanova, & Taneva, 2020), especially in resource limited nations in the Sub-Saharan African region, Nigeria inclusive. Furthermore, while major strides in ICT access have been made, there remain significant

institutional, infrastructural, and technical challenges to institutions making effective use of the technologies. Only five countries in Sub-Saharan Africa have quality assurance agencies, where more than 60% of these quality assurance agencies have been created during the last decade and many of them still lack the capacity needed to implement their mandates effectively, necessitating capacity building in quality assurance (Kirkova-Bogdanova, & Taneva, 2020).

Universities developing and using e-learning programmes need to have comprehensive policies that relate to the effective provision for delivery of teaching materials and student support services and satisfaction, whether through its own or through public infrastructure. The policies should address issues of financial, physical and technical resources, staffing and staff development, management, responsibility and accountability (Jusas et.al, 2021). As regards the impressive role and increased acceptance of the open and distance learning in many parts of the world, the quality of higher education via distance education has been called to question (El Firdoussi, 2020). With the advent of the National Open University of Nigeria and the establishment of its Department of Nursing in 2004 which operate Open and Distance Learning education system for nurses in Nigeria, there was the general believe that achieving recognized baccalaureate by a good population of nurses would become evident but the certificate obtained by graduates of nursing from NOUN has faced a lot of challenges ranging from discrimination for appointment and promotion. At present, there are insufficient opportunities in Nigeria for student nurses of National Open University to experience clinical placements where their clinical skills can be developed. A question of whether there are sufficient resources at the NOUN to help learners develop competency in order to recognize the signs of clinical deterioration and rehearse the management of critically-ill patients. These reported concerns that newly-qualified nurses lacked the necessary practice al skills and recommended that the curriculum should therefore be refocused so that nursing students could develop appropriate competencies and become "fit for practice".

Blended e-learning can be seen as a concrete concept, however, in reality it can represent a flexible term that means different things to different people. Blended e-learning educational program are based on the structured involvement of electronic media (Fola-Adebayo, 2019). The danger is that some see it as an easy way of joining together classroom teaching and e-learning, but it is more than this. Whilst e-learning provides easier access to educational programs and allows learners to grow despite busy work schedules, it lacks the opportunity for face-to-face communication.

Web-based instruction encompasses a variety of approaches, such as drill and practice, tutorial, simulation, and basic problem solving (Alsaleh, 2020). It also provides multiple self-assessment opportunities to allow students to explore their understanding. Web-based learning units for nurses have evolved considerably and provided information for most areas of specialty teaching (Patelarou et.al, 2020). Results from several studies have suggested that the learner preferred sensory processing modes: visual, auditory, or motor manipulation. As a result of greater flexibility provided by the internet, web-based materials in many disciplines can now be used for distance learning. For example, a web-based courseware on Diabetes Mellitus has been successfully used to teach pharmaceutical students (Yang et al., 2021).

Improvements of students' knowledge and attitude have also been reported after replacing the traditional lecture by the web-based unit. Nursing students taught by web-based learning can interpret EKG recordings more effectively than those in the traditional lecture format (Habibzadeh et. al., 2019). Learning with technology can be of benefit if the teaching and learning processes are based on sound

educational principles. El-Sabagh, (2021) found that a well-designed e-learning unit with good academic contents and exercises are motivating for learning and yields as good outcomes of a lecture. Ahmed & Khalil (2020) in their study of critical care nursing students' acceptance of unplanned switch to E-Learning found out that students demonstrated a highly total level of acceptance of E Learning sudden shift. Multisensory and interactive web-based learning has been reported as a successful educational tool to communicate educational objectives. Supplementation of a well-designed multimedia web-based learning on vital signs enhanced performance skills in vital sign assessment of the nursing students (Holloway, 2021).

It is of no doubt there has been a series of barriers which inhibits full and effective utilization of e-learning technology. Sehunwe (2016) found in a study which focused on the factors affecting the use of e-learning in nursing education that there are several factors which inhibit the utilization of e-learning by tutors in nursing which includes, lack of faculty skills regarding ICT, lack of support, lack of funds and fear to lose control by nurse educators in learning and teaching process. Ogunode, & Musa (2020) noted that Universities in Nigeria are in crisis as there is less money to spend on teaching, research and community service. Inadequate funding of public universities in Nigeria is a prime causal of other problems that have undermined quality in university education. Nigeria's recent allocation share for education diverges sharply from regional and international norms. For instance, the UNESCO's UIS fact sheet (2016) indicates that the gross preprimary enrolment rate for low- and lower middle income countries is much lower at 18.5%, sub-Saharan Africa, education expenditures averaged 5.1% of GDP and 14.3% of government expenditure. In actual fact, funding allocated for education in Nigeria is low (Opeyemi, 2019). The resultant effects are dearth of library books, shortage of qualified staff, dilapidated buildings, and obsolete equipment, poor laboratory, poor working conditions, enrolment explosion, cultism, poor research culture and general apathy to work or learning.

Objectives

The objectives of the study are to

1. Determine the significance of the three modes of learning, the Quality, Satisfaction and Challenges as perceived by the undergraduate nursing students in Nigeria

2. identify the Challenges to the utilization of the Open Distance Learning and Conventional Learning (face to face) as perceived by undergraduate nursing students in Nigeria.

Research questions

The study is set to provide answers to the following questions:

1. Will there be any significant difference between single and dual mode of learning in terms of the Quality, Satisfaction and Challenges among undergraduate nursing students in Departments of Nursing in Nigeria.

2. What are the Challenges to the utilization of the Open Distance Learning and Conventional Learning (face to face) as perceived by undergraduate nursing students in Nigeria?

Hypotheses

The hypotheses guiding this study are:

1. There is no significant difference between the Challenges to the utilization of the Open Distance Learning and Conventional Learning among Nursing Students in Nigeria.

2. There is no significant difference between single and dual mode of learning in terms of the Quality, Satisfaction and Challenges among undergraduate nursing students in Departments of Nursing in Nigeria.

METHODOLOGY

In this study, a sequential, descriptive, cross-sectional survey to investigate the quality assessment and level of satisfaction with nursing students learning across the settings of the study. Key informants representing the Conventional/face-to-face, Dual/Mixed, and ODL programmes. The study area primarily focuses on the study centres of the National Open University of Nigeria (NOUN) and the Departments of Nursing in Conventional Universities in Nigeria. Five hundred and fifty-three students participated in the study.

Study Population: The target population is "the entire aggregation of the respondents that meet the designated set of criteria" (Burns and Grove, 1997). This includes any group of individuals who have one or more characteristics in common that are of interest to the researcher. The target population for quantitative survey in this study comprised of all undergraduate nursing students, in the selected conventional universities and Department of Nursing of NOUN as found across the study centres in Nigeria. While qualitative data were obtained from smaller groups of students for focus group and Heads of Departments for key informants' interviews.

Table 1: Distribution of Target Population Based on Zones and Learning Modes

Geo-political Zones	Universities	Level		Number of Students
		Conventional (Traditional) Leaning Mode		
North-West	Bayero University Kano	200L (140), 300L (100), 400L (100), 500L (95)		435
North-East	University of Maiduguri	200L (186), 300L (162), 400L (124), 500L (96)		568
South-East	University of Nigeria, Enugu Campus	200L (258), 300L (252), 400L (156), 500L (135)		801
South-West	University of Lagos, Lagos	200L (23), 300L (25), 400L (48), 500L (46)		142
		NOUN Open Distance Leaning Mode		
North-West	Kaduna Study Centre	200L (213), 300L (10), 400L (07), 500L (05)		235
North-East	Maiduguri Study Centre	200L (71), 300L (06), 400L (14), 500L (87)		178
South-East	Enugu Study Centre	200L (245), 300L (27), 400L (02), 500L (12)		291
South-West	Lagos Study Centre	200L (194), 300L (35), 400L (09), 500L (25)		263
		Dual Learning Mode		967
North-West	Ahmadu Bello University, Zaria	Conventional	200L (230), 300L (204), 400L (190), 500L (384)	1008
		ODL	200L (377), 300L (168)	545
South-West	LAUTECH	Conventional	200L (1423), 300L (1227), 400L (835), 500L (747)	4232
		ODL	200L (110), 300L (110), 400L (88), 500L (108)	416
	TOTAL			9114

Sample size determination: The determination of sample size depends on the following factors: the statistical test to be employed, the level of significance (or the size) of the test a (also called the nominal level of significance), the power of the test P = l- β (where β is the probability of a type II error), and the parameters to be compared. Of these factors, the statistical test is the most crucial, since sample sizes are essentially predetermined to secure a certain power of the test at a certain level of significance. The sample size selection method employed for the quantitative survey was the "rule of thumb" which states that at least 10% of the total population is adequate for generalization in a descriptive study (Joseph-Sheu et al 2019). Since electronic means of data collection were used, 15% of the target population (9114) was determined as the sample size for the study. The sample size was 1367 and was rounded up to 1380 considering attrition. For the qualitative focus group and key informants interview a convenience sample of 24 participants selected, where 8 participants represent each mode of learning face to face, mixed and ODL). And a convenience sample of 3 key informants were selected, a person representing each of the learning modes.

Sampling Technique for quantitative survey: Multistage sampling method was used. A total of 1380 nursing students were thus selected for the quantitative survey while a sum of 24 students and 3 key informants participated in the focus group and key informant interview respectively.

Study Instruments: For the quantitative study, an adapted questionnaire from a model for evaluating e-learning system quality in higher education in developing countries (Hadullo, Oboko and Omwenga, 2017) and the Students University Satisfaction Tool-SUST (Shelina Bhamani, 2013) were used to measure the perceptions of students on the Quality and Satisfaction with learning and constraints of implementation of learning program. The instrument combined the existing and new factors to develop a comprehensive e-learning quality evaluation model.

Data Collection Methods: For the quantitative survey, the researcher obtained permission from supervisors and relevant authorities to put questionnaire in google form to reach out to the participants who were already under the global lock-down as a result of Covid-19 Pandemic. The questionnaire was designed with initial consent request from the participants. Ethical Clearances were obtained from the selected university authorities, the heads of the departments through class representatives connected the researcher with the participants via WhatsApp from where raw data were obtained in Google format for electronic data analysis. For the qualitative study, in-depth interviews were used comprising of two instruments; they include: (a) Focus Group Interview Guide and (b) Key Informant Interview Guide. This researcher developed a semi-structured interview guide from the reviewed literature. To maintain consistency, the survey and interview guide questions were constructed as reflections of the research questions and key reviewed literature.

Interview analysis. Using the qualitative descriptive method, data analysis started with data collection and continued concurrently (Colorafi & Evans 2016). Data was first organized by the date and time acquired from the participants. Interview recordings were transcribed verbatim reviewed and compared to the recordings for accuracy.

RESULTS

Table2: Analysis of variance between and within the programs

Dependent Variable	(I) Type of Program	(J) Type of Program	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Quality		Open Distance Learning	.119	.094	.119	.094	.34
	Dual	Conventional	.550*	.096	.550*	.096	.78
		Open Distance Learning	.669*	.063	.669*	.063	.82
	Open Distance Learning	Conventional	-.119	.094	-.119	.094	.10
		Dual	-.669*	.063	-.669	.063	-.52
	Conventional	Dual	-.195*	.054	-.195	.054	-.07
Satisfaction		Open Distance Learning	.325*	.052	.325*	.052	.45
	Dual	Conventional	.195*	.054	.195*	.054	.32
		Open Distance Learning	.520*	.035	.520*	.035	.60
	Open Distance Learning	Conventional	-.325*	.052	-.325*	.052	-.20
		Dual	-.520*	.035	-.520	.035	-.44
	Conventional	Dual	.591*	.059	.591*	.059	.73
Challenges		Open Distance Learning	.304*	.058	.304*	.058	.44
	Dual	Conventional	-.591*	.059	-.591*	.059	-.45
		Open Distance Learning	-.286*	.038	-.286*	.038	-.20
	Open Distance Learning	Conventional	-.304*	.058	-.304*	.058	-.17

Table 2 detailed the results of variance between and within the programs in terms of quality of open and distance learning, conventional (face to face) learning and that of dual learning, participants satisfaction and challenges.

Test of Hypotheses

Ho$_1$: There is no significant difference between the Quality of Open Distance Learning, Conventional (face to face) learning and that of Dual learning among nursing students in Nigeria.

Looking at the Goodness of Fit Pearson, $\chi^2 = 60.007$ (8, N = 1380), p = .000. the study therefore rejects the null hypothesis and accept the alternative hypothesis and concludes that there is significant difference between the quality of open and distance learning, conventional (face to face) learning and that of dual learning. It shows, there is significant difference between the Quality of Open Distance Learning, Conventional (face to face) learning and that of Dual learning among nursing students in Nigeria (Table 3).

Table 3 Test for Significance in Quality of Type of Programme. Goodness-of-Fit

	Chi-square	DF	Sig
Pearson	60.007	8	.000
Deviance	50.650	8	.000

Ho2 There is no significant difference in the level of satisfaction with Open Distance Learning, Conventional (face to face) learning and Dual learning among nursing students in Nigeria.

Looking at the Goodness of Fit Pearson, $\chi 2 = 43.466$ (4, N = 1380), p = .000 the study therefore rejects the null hypothesis and accept the alternative hypothesis and concludes that there is significant difference between the level of satisfaction of Open and Distance, Learning Conventional (face to face) Learning and that of Dual learning. There is significant difference in the level of satisfaction with Open Distance Learning, Conventional (face to face) learning and Dual learning among nursing students in Nigeria (Table 4).

Table 4: Level of Satisfaction with Type of Programme Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	43.466	4	.000
Deviance	45.767	4	.000

Ho$_3$ There is no significant difference between the challenges to the utilization of the Open Distance Learning and the Conventional Learning among Nursing Students in Nigeria.

Looking at the Goodness of Fit Pearson, $\chi^2 = 20.846$ (4, N = 1380), p = .000 the study therefore rejects the null hypothesis and accept the alternative hypothesis and concludes that there is significant difference between the challenges to the Utilization of the Open and Distance Learning, Conventional (face to face) Learning and that of Dual learning. There is significant difference between the challenges to the utilization of the Open Distance Learning, Conventional Learning and Dual learning among Nursing Students in Nigeria.

Table 5: Challenges with Type of Programme Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	20.846	4	.000
Deviance	20.276	4	.000

Table 6. Challenges to the Utilization of the Programmes among Students

ANOVA showing the statistics of the challenges and the result on each mode of learning (between and across groups

		Sum of Squares	df	Mean Square	F	Sig.
Difficulty with access to academic advisors	Between Groups	93.096	2	46.548	28.257	.000
	Within Groups	2268.365	1377	1.647		
	Total	2361.461	1379			
Inadequate number of lecturers.	Between Groups	295.391	2	147.695	102.853	.000
	Within Groups	1977.347	1377	1.436		
	Total	2272.738	1379			
Teachers' lack of technology expertise.	Between Groups	112.790	2	56.395	40.285	.000
	Within Groups	1927.687	1377	1.400		
	Total	2040.478	1379			
Inadequately equipped nursing laboratories.	Between Groups	211.367	2	105.684	69.259	.000
	Within Groups	2101.180	1377	1.526		
	Total	2312.547	1379			
Poor teaching methodologies employed by the faculty	Between Groups	182.263	2	91.132	51.015	.000
	Within Groups	2459.809	1377	1.786		
	Total	2642.072	1379			
Insufficient support from top-level management.	Between Groups	125.678	2	62.839	39.146	.000

Insufficient support from top-level management.	Between Groups	125.678	2	62.839	39.146	.000
	Within Groups	2210.394	1377	1.605		
	Total	2336.072	1379			
Inaccessibility to learning materials.	Between Groups	120.720	2	60.360	39.405	.000
	Within Groups	2109.288	1377	1.532		
	Total	2230.008	1379			
Barriers related to mode of delivery selected for learning.	Between Groups	77.734	2	38.867	105.783	.000
	Within Groups	494.555	1346	.367		
	Total	572.289	1348			
Problems with access to libraries.	Between Groups	96.101	2	48.050	87.570	.000
	Within Groups	750.086	1367	.549		
	Total	846.187	1369			
Problems with access to clinical training facilities.	Between Groups	129.912	2	64.956	115.328	.000
	Within Groups	769.934	1367	.563		
	Total	899.846	1369			
Weak IT skills of faculty members.	Between Groups	99.446	2	49.723	118.105	.000
	Within Groups	548.151	1302	.421		
	Total	647.597	1304			
Lack of fund to purchase personalised learning aids like Android Phones and Computers	Between Groups	52.275	2	26.137	59.427	.000
	Within Groups	605.635	1377	.440		
	Total	657.910	1379			
Lack of teaching material for lecturers.	Between Groups	143.549	2	71.774	61.190	.000
	Within Groups	1615.190	1377	1.173		
	Total	1758.738	1379			

Table 6 indicates that the identified factors were significantly different across the modes of learning in both online and face to face modes (open, dual and conventional). Based on the overall subclass mean of the challenges on the type of the programme, the analysis shows that the conventional and Open and Distance Learning always have challenge, but they have the challenges in different sub-classes. The ODL students reported challenges in gaining access to academic advisors; due to inadequate number of lecturers and lack of technology expertise; and inadequate equipped nursing laboratories among others, while the Conventional (Face to Face) faces challenges in the areas of access to ICT and work overloads Dual having the least challenge in those area. The result obtained from the Focus Group Interview also revealed that the ODL students are faced with many challenges. One of the participants bursts out to say that they have issues with accessing the advisors; she said "we don't know we have lecturers, we often depend on course materials, we pay for it, but we don't often have it. It's like a scam" Other challenges they face include ICT issues and the expertise to cope with it for study and examination' The key informant for ODL corroborated this and explained many efforts that had been directed towards resolving the challenges.

DISCUSSION

This study compared the significance in the quality of conventional and open distance learning and its associated challenges among undergraduate nursing students in the national open university of Nigeria. Findings from the study revealed that both learning mode were accepted to a large extent among the undergraduate Nursing students.

The findings of the study indicate a significant difference in the quality of Open Distance Learning, Conventional (face to face) Learning, and Dual Learning among nursing students in Nigeria. This aligns with the findings of previous studies conducted by

Zaborova and Markova (2016), Sehunwe (2016), and Yushau and Nannim (2018), who explored various aspects of educational environments and ICT utilization in Nigerian universities.

Regarding the challenges faced in utilizing Open Distance Learning and Conventional Learning among nursing students in Nigeria, the analysis reveals that both modes of learning present challenges, but these challenges vary in different sub-categories. Open Distance Learning (ODL) students reported challenges related to accessing academic advisors, inadequate number of lecturers, lack of technology expertise, and inadequate nursing laboratories. On the other hand, Conventional Learning (Face to Face) faced challenges related to accessing ICT resources and work overloads. Dual Learning showed the least challenges in these areas. These findings are consistent with the results of a study conducted by Odunayo, Olugbeko, and Izu (2013), which explored the realities and challenges of e-learning education in Africa.

CONCLUSION AND RECOMMENDATIONS

In this study, the Nursing Students perceived that Open and Distance Learning (ODL) always have challenges in gaining access to academic advisors; to inadequate number of lecturers and lack of technology expertise; and inadequate equipped nursing laboratories among others, while the Conventional (Face to Face) faces less challenges and Dual learning having the least challenge in those areas (Bonyushko and Semchenko 2014). The quality of ODL has been confronted with challenges in terms of the diversity of inputs, processes, the complex supply chain management of ODL and recent paradigm shift into online learning (Zaborova and Markova 2016).

Being positively motivated to take an online course of study, they, nevertheless, face several challenges while learning at a distance. These involve low self-organization, lack of control on the instructor's side, lack of effective

interaction and sense of isolation, which obviously decrease their satisfaction with online learning experience. These findings prove the thesis that to be highly successful and effective distance learning requires considerable attention and commitment on the part of faculty. The role of faculty is manifested in the way the instruction is designed and delivered as well as in the faculty ability to incorporate relevant course content with the emphasis on student support, interaction, and assessment techniques as these are the key issues in effective distance learning. Therefore, instructors are to design educationally effective, high-quality programs, and maximize the ICT interaction potential in virtual learning environment. In conclusion, the dual learning having the least challenges and of higher quality in comparison to the other types of learning system. It was therefore recommended that Nigeria Nursing Education System should embrace blended/hybrid learning approach in all its colleges and departments of nursing in the universities.

REFERENCES

Ahmed M. H., & Khalil I, F. (2020). Critical Care Nursing Students Acceptance of Unplanned Switch to E-Learning during COVID-19 Pandemic. *Egyptian Journal of Health Care*, *11*(3), 928-937.

Alsaleh, N. J. (2020). Teaching Critical Thinking Skills: Literature Review. *Turkish Online Journal of Educational Technology-TOJET*, *19*(1), 21-39.

Bonyushko, N. A. & Semchenko, A. A. (2014)."Society. History. Modernity". Journal of Omsk Scientific Bulletin 3 (129), 31.

Chukwu, S., & uhegbu, a. N. (2021). Decades of advocacy: towards effective utilization of open educational resources (oer) in universities in nigeria: the missing link. *Library Philosophy & Practice*.

Chyung, S. & Vachon, M. (2013). An Investigation of the Profiles of Satisfying and Dissatisfying Factors in E-Learning. Performance Improvement Quarterly, 26(2), 117–140.

Colorafi, K. J., & Evans, B. (2016). Qualitative descriptive methods in health science research. *HERD: Health Environments Research & Design Journal*, *9*(4), 16-25.

El Firdoussi, S., Lachgar, M., Kabaili, H., Rochdi, A., Goujdami, D., & El Firdoussi, L. (2020). Assessing distance learning in higher education during the COVID-19 pandemic. Education Research International, 2020, 1-13.

Elumalai, K. V., Sankar, J. P., Kalaichelvi, R., John, J. A., Menon, N., Alqahtani, M. S. M., & Abumelha, M. A. (2021). Factors affecting the quality of e-learning during the COVID-19 pandemic from the perspective of higher education students. *COVID-19 and Education: Learning and Teaching in a Pandemic-Constrained Environment*, *189*.

El-Sabagh, H. A. (2021). Adaptive e-learning environment based on learning styles and its impact on development students' engagement. *International Journal of Educational Technology in Higher Education*, *18*(1), 1-24.

Fola-Adebayo, T. J. (2019). Perceptions of undergraduates on the relationship between exposure to blended learning and online critical literacy skills. Reading & Writing-Journal of the Reading Association of South Africa, 10(1), 1-9.

Habibzadeh, H., Rahmani, A., Rahimi, B., Rezai, S. A., Aghakhani, N., & Hosseinzadegan, F. (2019). Comparative study of virtual and traditional teaching methods on the interpretation of cardiac dysrhythmia in nursing students. *Journal of education and health promotion*, *8*.

Holloway, D. (2021). *Using Virtual Environments to Improve Clinical*

Competence of Nursing Students' Medication Administration Practice (Doctoral dissertation, University of the Sunshine Coast, Queensland).

Igbinlade, A. S. (2023). A Comparison of Quality of Nursing Programme in Open Distance Learning with Conventional Face-to-Face University Learning: Undergraduate's Students' Perspective. LAUTECH JOURNAL OF NURSING 12 (ISSN 2659-1405), 86-102

Jusas, V., Butkiene, R., Venčkauskas, A., Burbaite, R., Gudoniene, D., Grigaliūnas, Š., & Andone, D. (2021). Models for administration to ensure the successful transition to distance learning during the pandemic. Sustainability, 13(9), 4751.

Kirkova-Bogdanova, A., & Taneva, D. (2020). ICT Usage and E-Courses Development by Faculty Staff in Healthcare Majors at Medical University–Plovdiv. *TEM Journal*, *9*(2), 731.

King, R., Taylor, B., Talpur, A., Jackson, C., Manley, K., Ashby, N., ... & Robertson, S. (2021). Factors that optimise the impact of continuing professional development in nursing: A rapid evidence review. *Nurse education today*, *98*, 104652.

Konstantinidis, S. T., Bamidis, P. D., & Zary, N. (2021). Introduction to digital innovation in healthcare education and training. In *Digital Innovations in Healthcare Education and Training* (pp. 3-15). Academic Press.

Naseem, A., Ali, K. Q., Juma, A., Sajwani, A., Khan, B. A., Sayani, S., & Abidi, S. S. R. (2020). Factors enabling and hindering an eLearning programme for nurses and midwives in Afghanistan. *Scholarship of Teaching and Learning in the South*, *4*(2), 80-99.

Odunayo, S., Olugbeko, & Izu, G.O. (2013). The Reality and Challenges of E-Learning Education in Africa: The Nigeria Experience. International Journal of Humanities and Management Sciences 1(3), 205-209.

Ogunode, N. J., & Musa, A. (2020). Higher education in Nigeria: Challenges and the ways forward. *Electronic Research Journal of Behavioural Sciences*, *3*.

Opeyemi, D. A., Ayodele, V., Alufa, O., Anderson, E., Strachan, R., & Emembolu, I. (2019l). Barriers and identified solutions to the integration of digital technologies in the classroom: A case study of teachers in Nigeria. In *2019 IEEE Global Engineering Education Conference (EDUCON)* (pp. 953-958). IEEE.

Orava, A. (2014). E-learning and teaching in Finland: Experiences in 3D Virtual Environments in Language Teaching. Tampere: Tampere University of Technology, Finland

Patelarou, A. E., Mechili, E. A., Ruzafa-Martinez, M., Dolezel, J., Gotlib, J., Skela-Savič, B., & Patelarou, E. (2020). Educational interventions for teaching evidence-based practice to undergraduate nursing students: a scoping review. *International journal of environmental research and public health*, *17*(17), 6351.

Sehunwe, M. (2016). Factors affecting the use of e-learning in nursing education: A literature Review. *Texila International Journal of Nursing Volume 2, Issue 2, Dec2016.*

Sujarwo, S., Sukmawati, S., Akhiruddin, A., Ridwan, R., & Siradjuddin, S. S. S. (2020). An analysis of university students' perspective on online learning in the midst of covid-19 pandemic. *Jurnal pendidikan dan pengajaran*, *53*(2), 125-137.

UNESCO. (2016). The World needs almost 69 million new teachers to reach the 2030

education goals. UIS Fact Sheet, October 2016, No.39. http://unesdoc.unesco.org/images/0024/002461/246124e.pdf

Uwaifo Oyelere, R. (2015). 'A Flop or a Success?' An Evaluation of the Welfare Impacts of the 6-3-3-4 Education System in Nigeria.

Yang, L., Zheng, S., Xu, X., Sun, Y., Wang, X., & Li, J. (2021). Medical Data Mining Course Development in Postgraduate Medical Education: Web-Based Survey and Case Study. *JMIR Medical Education*, *7*(4), e24027.

Yushau, B. & Nannim, F.A. (2018). ICT Facilities and their Utilization for Educational Purpose in Nigerian Universities: A Review of Literature from 2004 to 2018. *ATBU, Journal of Science, Technology & Education (JOSTE); Vol. 6 (1): ISSN: 2277-001.*

Zaborova, E. N., & Markova, T. L. (2016). Students as social actors of virtual educational environment. Actual Issues of Sociology of Culture, Education, Youth and Management: Materials of the All-Russian Scientific Conference with international participation. 392–397, Yekaterinburg, Russia.

LADOKE AKINTOLA UNIVERSITY OF
TECHNOLOGY OGBOMOSO

EXCELLENCE   INTEGRITY   SERVICE