An Investigation into Learners' Satisfaction in an Online Learning Environment

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Abstract

The study aimed to ascertain if learners are satisfied with the school online program at the Obafemi Awolowo University, Nigeria. The university is a dual-mode institution, combining distance education with the conventional face-to-face delivery model. The Centre for Distance Learning (CDL) is a unit in the university with a mandate to provide open and flexible education available "anywhere anytime beyond borders". This study examined the level of satisfaction of 200 and 300 levels of online nursing students, on the indices of online presence, factors considered critical to success, learning materials, and learning activities. A survey-based data collection procedure was employed, using an adapted questionnaire to gather relevant information. The indicators for level of satisfaction are categorized as highly satisfied, moderately satisfied, and not satisfied. The data obtained were coded and analyzed with the SPSS software with frequency distribution, percentage distribution and mean statistics applied for analysis. In this study, the lowest mean value indicated the most preferred and highly satisfying e-learning program. The frequency and percentage distribution of each of the e-learning programs were also examined across different student levels. A proportional data analysis using frequency and percentage distribution technique was employed to compare the level of satisfaction of each component of e-learning programs across different program levels among learners. The results showed learners were satisfied with the open and distance learning program ($\bar{x}$ = 2.046). The breakdown of all the variables investigated online presence and online community ($\bar{x}$ = 2.174); factors for online success ($\bar{x}$ = 1.89); learning materials ($\bar{x}$ = 1.798); frequency of learning activities ($\bar{x}$ = 1.963) shows the degree of satisfaction across the variables. However, the aspect of prompt feedback shows disapproval ratings among the respondents. In conclusion, the study shows the aspects of the program where the learners are highly satisfied, moderately satisfied and not satisfied at all. This provides information for further programme development especially in the aspect of prompt feedback where learners were dissatisfied.

Keywords: learner satisfaction, online learning environment, e-learning program, online presence, online community

Introduction

Migrating to online education is no longer an uncertain option, but the norm in 21st century higher education, accentuated by the evolution of ICT and COVID-19 pandemic. Factors behind the drive energizing the adoption have been well reported through a plethora of research. These forces are not limited to the relevance and utility derived from online learning, but adoption has been attributed to the limit of the conventional, traditional education system (Buzkurt, 2015).

Nonetheless, uneasiness and apprehension still pervade among the stakeholders. Instructors trained in a face-to-face paradigm, with a long period of instructional delivery in traditional face-to-face instructional delivery mode could be a justifiable cause for their concerns. It is natural for novel ideas to face initial resistance given the tendency to preserve comfort zones. Robust studies have investigated significant differences between face-to-face and online delivery models. Arguably, the focus needs to shift from significant no difference to assessing factors that improve online learning, of which learners satisfaction is meaningful and critical.

Learners' satisfaction is of utmost concern in face-to-face and online delivery. However, satisfaction in face-to-face delivery is taken for granted and often assumed. This cannot be the case in an online environment, where for many learners, online learning "may be alien" or even "threatening" (Peacock et al., 2020) and characterized by a high sense of isolation (Illeris, 2014). One study also supported the sense of belonging in campus-based programs, where self-motivation and self-confidence is reportedly high (Peacock et al. 2020). The study linked a sense of belonging to satisfaction, which at face value, are assumed to be related. This notion of relatedness may not only be vague but could be deceptive owing to various perceptions and orientations – what brings satisfaction to a group may bring rejection to others.

With respect to online learning programs, discourse in learning satisfaction reportedly focus more on undergraduate programs (Andoh et al., 2020), and on variables such as quality, accessibility of learning materials, and demographic factors (Azarcon et al., 2014; Farahmandian et al., 2013; Fosu & Poku, 2014; Keelson, 2011; Malik et al., 2010; Mansor et al., 2012).

In Obafemi Awolowo University online program, the transition to online learning has been approached with caution. Guided by the National Universities Commission (NUC), only a few programs were migrated online: Nursing Science, Accounting, Economics, and lately, Agricultural Extension. Learning materials were provided in multimedia formats, including video, PowerPoint, and text documents, all domiciled in the university's Learning Management System eZone (https://ezone.oaucdl.edu.ng). While these materials were online in the LMS, offline versions were also provided. By this arrangement, time spent on the LMS is considerably limited to responding to forum discussion, answering quizzes, and submitting assignments.

The Centre for Distance Learning (CDL) is an administrative structure of the university dedicated to administering open and distance learning. At the Centre, there are structures to support the smooth running of the programs, namely program units for administrative support, academic unit for tutoring and quality assurance committee for program evaluation and development. It is the statutory function of the quality assurance unit to periodically assess the various components of the program, with the goal of providing summative indices for development. This raises the question: How satisfied are learners with degree of online presence, factors of success in eLearning, learning materials and learning activities?

In a study on students' satisfaction with eLearning and its usefulness for teaching by Bahramnezhad et al. (2016), three factors influencing satisfaction were identified: factors related to learners, factors related to instructors and factors related to the management and technical support. The researchers adopted a review of literature approach and searched through the databases of Medicine, Elsevier, ProQuest, Google, Google Scholar, SID and Magiran. A total number of 123 related articles were found between 2003 – 2013, but only 16 articles met the inclusion criteria of how e-learning promotes students' satisfaction.

Harandi (2015) investigated the strength of the relationship between e-learning and students' motivation. The research was conducted at Tehran Mzahre University, employing a survey form of data collection. Pearson's Correlation Coefficient was used for data analysis. The findings showed that when teachers applied e-learning, students were more motivated.

The work of Johnson et al. (2000) on comparative analysis of learner satisfaction and learning outcomes in online and face-to-face methods revealed that the students in the face-to-face course displayed a slightly more positive perception of the instructor and overall course quality than the online course. However, there was no difference between the two course formats in several measures of learning outcomes.

Objectives

The goal of the study is to examine if learners are satisfied with the administration and delivery of programs on the indices of online presence, factors considered critical to success, learning materials, and learning activities. The specific objectives are to:

1. Determine the extent of learners' satisfaction with the instructors' online presence in the virtual learning environment;
2. Examine how learners are satisfied with critical factors for learning success;
3. Examine if learners are satisfied with the learning materials for learning activities; and
4. Investigate if learners are satisfied with learning activities designed to ensure mastery of learning outcomes.

Methodology

The study adopts a descriptive survey design. Validated questionnaire items were used as a data collection instrument, using a modified Likert-scale of highly satisfied, moderately satisfied and not satisfied. The respondents were selected using purposive sampling based on predetermined inclusion criteria. The data obtained were coded and analyzed with the SPSS software, using frequency distribution, percentage distribution, and mean statistics. The lowest mean value indicated the most preferred and highly satisfying e-learning program. The questionnaire items were used to collect data on the general satisfaction of the respondents to the program, the rate of engagement through the creation of online presence by facilitators, the quality of the learning materials, and the frequency of learning activities. Respondents were also compared across the level of the program, specifically, 200-level courses and 300-level courses.

Data Analysis and Discussion

Research Objective 1: Determine the extent of learners' satisfaction with the instructors' online presence in the virtual learning environment.

The section examines how learners are satisfied with the degree of online presence in the virtual environment. The indices measures relate to instructors' presence online and VLE as a learning community.

Table 1
Rating of Satisfaction of Online Learning Experience Based on Online Presence in a Virtual Learning Environment

Perception of Satisfaction with Online Presence	Rating of Satisfaction of Online Learning Experience Based on Online Presence and Community of Learners				Total	Mean
	1	2	3	4		
	n(%)	n(%)	n(%)	n(%)		
It makes me feel like a real person.	75 (34.4)	44 (20.2)	26 (11.9)	73 (33.5)	218 (100.0)	2.445
It is easier to form meaningful relationships among peers online.	43 (19.7)	50 (22.9)	63 (28.9)	62 (28.4)	218 (100.0)	2.661
It makes me feel the presence of my instructor and other students.	57 (26.1)	58 (26.6)	53 (24.3)	50 (22.9)	218 (100.0)	2.44
It makes me feel as if the online environment is a community.	67 (30.7)	64 (29.4)	28 (12.8)	59 (27.1)	218 (100.0)	2.362

Note. 1 is highly satisfied, 2 is moderately satisfied, 3 is not satisfied while 4 is no response. The level of satisfaction is given below the mean value of 2.5. Any mean above 2.5 indicates that learners are not satisfied with the variable.

Table 1 presents the online learning experience and computer-mediated communication of the students. Among the learners, 34.4% are highly satisfied that being online makes them feel more like a person, while 20.2% were moderately satisfied. In contrast, 11.9% were not satisfied and 33.5% indicated no response. It was reported that 19.7% easily relate with their co-learners, and 22.9% indicated a moderate sense of relationship. A total of 28.9% of students expressed that they were least satisfied with the level of relationship, while 28.4% indicated no response. Regarding instructor presence, 26.1% of students reported a high level of engagement, 26.6% indicated a moderate presence, 24.3% indicated a low presence, and 22.9% did not indicate any option. When it comes to having a sense of community in the VLE, 30.7% indicated that they are highly satisfied with feeling part of a learner community, 29.4% indicated a moderate sense of community, 12.8% indicated a low level, and while 27.1 % indicated no option. The study reveals that there was a sense of online presence even though it was difficult for learners to easily make meaning out of the relationships that exist online.

Table 2 presents the results comparing the level of satisfaction with the online learning experience based on online presence and the sense of community of learners across 200 and 300 levels.

Table 2
Rating of Satisfaction of Online Learning Experience Based on Online Presence in Virtual Learning Environment by Program Level

Perception of Satisfaction with Online Presence	Rating of Satisfaction of Online Learning Experience Based on Virtual Learning Environment by Level of Student									
	1		2		3		4		Mean	
	200	300	200	300	200	300	200	300	200	300
It makes me feel like a real person.	17.9	16.5	10.6	9.6	6.0	6.0	13.8	19.7	2.324	2.554
It is easier to form meaningful relationship among students.	9.2	10.6	12.8	10.1	14.7	14.2	11.5	17.0	2.59	2.726
It makes me feel the presence of my instructor and other students.	11.5	14.7	11.0	15.6	14.7	9.6	11.0	11.9	2.524	2.363
It makes me feel as if the online environment is like a community.	11.5	19.3	16.5	12.8	6.4	6.4	13.8	13.3	2.467	2.265

Research Objective 2: Examine how learners are satisfied with critical factors for learning success.

The factors considered for online success according to the literature are content, interactivity of the learning materials, quality and delivery of learning materials, structure of the program, degree of learning styles, learning platforms, and quality of facilitator.

Table 3
Level of Satisfaction of Factor Responsible for Success in Online Learning

Factors Responsible for Success in Online Program	Level of Satisfaction			Total	Mean
	Highly satisfied	Moderately satisfied	Not satisfied		
Content	134 (61.5)	15 (6.9)	69 (31.7)	218 (100.0)	1.702
Interactivity	76 (34.9)	53 (24.3)	89 (40.8)	218 (100.0)	2.06
Quality	95 (43.6)	67 (30.7)	56 (25.7)	218 (100.0)	1.821
Structure	73 (33.5)	53 (24.3)	92 (42.2)	218 (100.0)	2.087
Learning Styles	105 (48.2)	52 (23.9)	61 (28.0)	218 (100.0)	1.798
Platform (LMS)	79 (36.2)	49 (22.5)	90 (41.3)	218 (100.0)	2.05
Instructors	81 (37.2)	53 (24.3)	84 (38.5)	218 (100.0)	2.014

Table 3 highlights the factors that motivate the students to assess online programs and their level of satisfaction for each factor. Analysis revealed that more than half of the students (61.5%) were highly satisfied with the content of online programs while very few (6.9%) were moderately satisfied and about 32% were not satisfied. Almost half of the students (48.2%) were highly satisfied with the learning styles offered by online programs, 28% were not satisfied while 23.9% were moderately satisfied. In addition, more than one quarter of the students (43.6%) were highly satisfied with the quality of the online program, 30.7% were moderately satisfied while a quarter (25%) were not satisfied with the quality of the online program. The mean level of satisfaction indicated that most of the students mostly consider content ($\bar{x}$ = 1.702), quality ($\bar{x}$ = 1.821) and learning style ($\bar{x}$ = 1.798) as the most highly satisfying factor responsible for online program while interactivity ($\bar{x}$ = 2.06), instructors ($\bar{x}$ = 2.014) and structure ($\bar{x}$ = 2.087) are considered as the least satisfying factors responsible for the students to access online programs.

Research Objective 3: Examine if learners are satisfied with the learning materials for learning activities.

Table 4
Level of Satisfaction of Learning Materials of Online Program

Learning Materials of Online Program	Level of Satisfaction			Total	Mean
	Highly satisfied	Moderately satisfied	Not satisfied		

Overall program	68 (31.2)	51 (23.4)	99 (45.5)	218 (100.0)	2.142
Video content	142 (65.1)	15 (6.9)	61 (28.0)	218 (100.0)	1.628
Handout	109 (50.0)	34 (15.6)	75 (34.4)	218 (100.0)	1.844
Discussion forum	40 (18.3)	41 (18.8)	137 (62.8)	218 (100.0)	2.445
Release of result	9 (4.1)	33 (15.1)	176 (80.7)	218 (100.0)	2.766

Table 4 measures the average level of satisfaction of the students based on the learning materials of online programs. The analysis of the level of satisfaction of the students on learning materials of online programs shows that the students irrespective of their level were averagely more satisfied with the video contents and handout materials. In addition, the analysis indicated that they were least satisfied with the released results and a little bit satisfied with the overall online program.

Table 5
Level of Satisfaction of Learning Materials of Online Program by Program Level

Learning Materials of Online Program and Feedback	**Level of Satisfaction with Online Learning Materials by Student Level**						**Mean**	
	Highly satisfied		**Moderately satisfied**		**Not satisfied**			
	200	**300**	**200**	**300**	**200**	**300**	**200**	**300**
Overall program	35 (16.1)	38 (17.4)	24 (11.0)	24 (11.0)	46 (21.1)	51 (23.4)	2.105	2.115
Video content	68 (31.2)	74 (33.9)	7 (3.2)	8 (3.7)	30 (13.8)	31 (14.2)	1.638	1.619
Handout	51 (23.4)	58 (26.6)	18 (8.3)	16 (7.3)	36 (16.5)	39 (17.9)	1.857	1.832
Discussion forum	18 (8.3)	22 (10.1)	16 (7.3)	25 (11.5)	71 (32.6)	66 (30.3)	2.505	2.389
Release of result (feedback)	4 (1.8)	5 (2.3)	15 (6.9)	18 (8.3)	86 (39.4)	90 (41.3)	2.781	2.752

Table 5 indicates that 200-level students ($\bar{x}$ = 2.105) were on average more satisfied than 300-level students ($\bar{x}$ = 2.115) based on overall learning materials of online program, in terms of video content, analysis indicated that 300-level students ($\bar{x}$ = 1.619) were more satisfied than 200 level students ($\bar{x}$ = 1.619), and also 300-level students were on average more satisfied ($\bar{x}$ = 1.832) than 200-level students ($\bar{x}$ = 1.857) using handout. In addition, analysis also shows that 300 level students were averagely more satisfied ($\bar{x}$ = 2.752) with the release of results or feedback than 200 level students ($\bar{x}$ = 2.781) of the online program.

Research Objective 4: Investigate if learners are satisfied with learning activities designed to ensure mastery of learning outcomes.

Table 6
Learners' Satisfaction with Learning Activities

Learning Activities	Level of Satisfaction			Total	Mean
	Highly satisfied	Moderately satisfied	Not satisfied		
Quizzes	104 (47.7)	67 (30.7)	47 (21.6)	218 (100.0)	1.739
Assignment	100 (45.9)	67 (30.7)	51 (23.4)	218 (100.0)	1.775
Discussion forum	66 (30.3)	92 (42.2)	60 (27.5)	218 (100.0)	1.972
Feedback	45 (20.6)	81 (37.2)	92 (42.2)	218 (100.0)	2.216

Table 6 indicates that close to half of the students were highly satisfied with quizzes (47.7%) and assignments (45.9%) while less than one-fifth were highly satisfied with discussion forums (30.3%) and feedback (20.6%). 30.7% and 42.2% were moderately satisfied with quizzes and discussion forums and 37.2% were moderately satisfied with feedback. In addition, feedback has the highest percentage of not satisfied students (42.2%) while quizzes have the lowest percentage of not satisfied students (21.6%). However, the students were averagely more satisfied with the frequency of quizzes ($\bar{x}$ = 1.739) and assignments ($\bar{x}$ = 1.775) learning activities than any other frequency learning activities.

Table 7
Learners' Satisfaction with the Learning Activities by Program Level

Learning Activities	Level of Satisfaction of Frequency of Learning Activities by Level of Student						Mean	
	Highly satisfied		Moderately satisfied		Not satisfied			
	200	300	200	300	200	300	200	300
Quizzes	58 (26.6)	46 (21.1)	21 (9.6)	46 (21.1)	26 (11.9)	21 (9.6)	1.695	1.695
Assignment	56 (25.7)	44 (20.2)	24 (11.0)	43 (19.7)	25 (11.5)	26 (11.9)	1.705	1.841
Discussion forum	34 (15.6)	32 (14.7)	36 (16.5)	56 (25.7)	35 (16.1)	25 (11.5)	2.01	1.938
Feedback	26 (11.9)	19 (8.9)	34 (15.6)	47 (21.6)	45 (20.6)	47 (21.6)	2.181	2.248

Table 7 compares the level of satisfaction between 200 and 300-level students on frequency of learning activities. The analysis indicates that the student has the same level of satisfaction ($\bar{x}$ = 1.695) on the frequency quizzes activities respective to their level. While 200-level students ($\bar{x}$ = 1.705) were averagely more satisfied than 300-level students ($\bar{x}$ = 1.841) on the frequency of assignment activities. In addition, 300-level students ($\bar{x}$ = 1.938) were averagely more satisfied with the frequency of discussion forum activities than 200-level

students ($\bar{x}$ = 2.01) while 200-level students were ($\bar{x}$ = 2.181) on average more satisfied than 300 level students ($\bar{x}$ = 2.248) on the frequency of feedback activities.

Table 8
Summary of Learners' Satisfaction with All the Variables Investigated

Level of Satisfaction	Online Presence and Online Community	Factors for Online Success	Learning Materials	Frequency of Learning Activities	Overall Program
Highly satisfied	4 (1.8)	60 (27.5)	58 (26.6)	52 (23.9)	48 (22.0)
Moderately satisfied	172 (78.9)	122 (56.0)	146 (67.0)	122 (56.0)	112 (51.4)
Not satisfied	42 (19.3)	36 (16.5)	14 (6.4)	44 (20.2)	58 (26.6)
Mean Statistics	2.174	1.89	1.798	1.963	2.046

Table 8 shows the overall components of each of the e-learning programs. Analysis of the online presence and online community indicated that very few (1.8%) were highly satisfied while the majority (78.9%) were moderately satisfied and only 19.3% were not satisfied. For factors for online learning success, 27.5% were highly satisfied, 56% were moderately satisfied, and 16.5% were not satisfied. In terms of learning materials, 26.6% were highly satisfied, 67% were moderately satisfied, and 6.4% were not satisfied. For the frequency of learning activities, 23.9% were highly satisfied, 56% were moderately satisfied, and 20.2% were not satisfied. For the overall program, 22% indicated that they were highly satisfied, 51.4% were moderately satisfied, and 26.6% were not satisfied.

Table 8 also shows the mean statistics of each of the e-learning components, comparing the mean, analysis indicated that online presence ($\bar{x}$ = 2.174) and overall program ($\bar{x}$ = 2.046) has the highest mean in the order of one to three, while the effectiveness of learning materials ($\bar{x}$ = 1.798) and factors of online success program ($\bar{x}$ = 1.89) has the lowest mean. This suggested that very few were highly satisfied with the online presence and overall program compared to learning materials and factors for online success.

Conclusion and Recommendation

The findings showed that most of the respondents were highly satisfied with the indicators of online delivery. However, the level of moderate satisfaction and non-satisfaction are still considered high. The frequency of learning activities has a percentage of 20.2%, online presence has 19.3%, learning materials has 6.4%, and a staggering proportion of 26.6% are not satisfied with the university online program. The data reveals areas where the Centre needs to focus its

efforts and add value to improve the quality of the program. Training on online presence will need to be conducted for instructors to speed up the degree of online presence, create a sense of community of learners, and stimulate learners for engagement with instructors, learning content, and colleagues. The frequency of online activities such as the administration of quizzes, assignments and discussion forums need more attention. Providing training will improve the quality of facilitation and online interaction. The frequency of online presence, or the degree to which the program fosters a community of learners are vital in enhancing the quality of online programs. This factor minimizes the feeling of isolation which is common to online learning environments which can lead to reduced attrition rate among online learners. Online presence is characterized by being in a virtual environment and being ready for interpersonal interaction between learners and instructors and among learners (Keihrwald, 2008); It is the sense of being a "real" person for all parties involved in teaching and learning in online environment (Gunawardena & Zittle, 1997), as well as the willingness to engage in communication exchanges (Lehman & Concercao, 2010). Social presence is affected by several factors such as social context, online communication and interactivity (Tu & Mclsacc, 2002) immediacy and degree of awareness (Kehrwald, 2008). From the findings, learners were satisfied by the level of activities and learning materials which are constructing interactivity. Moore's (1993) theory of transactional distance explains the importance of interactive, increased dialogue which by implication can make physical distance inconsequential. Presence, according to Lehman and Concercao (2010) is the result of "dynamic interplay of thought, emotion and behavior in the online environment, between the private world (that is, the inner world) and the shared world (that is the outer world)." Presence can be viewed from three dimensions, namely social, psychological and emotional. Social presence connotes that learners have feelings of connecting to instructors and other learners. In psychological presence, technology becomes 'transparent' to users in such a way that a sense of togetherness has been cemented among people who are geographically separated. They relate as if they are together physically. For emotional presence, learners can "genuinely show feelings through words, symbols and interactions with others in the online environment."

As Lehman and Conceicao (2010) put it, learners have "become psychologically comfortable with the online environment and feelings are as if they are interacting as in the face-to-face". Online presence helps learners to break the feelings of isolation and get involved in the learning process. This is central to the creation of effective online learning by creating a comfortable learning environment which makes learners become more active (Caspi & Blau, 2008).

Presence is different from and deeper than engagement in the teaching-learning process. Instructors should actively engage learners for effective teaching; however, engagement is an integral aspect of presence. While engagement is "the participation of the instructor with learners or learners with other learners as they interact, presence includes "dynamic interplay of thought, emotion and behavior in the online environment" (Lehman & Concercao, 2010). Presence creates a social atmosphere in online environment and capacity to stimulate high level dialogue between the instructors and learners, and as well inspire critical thinking in the instructional process (Garrison et al., 2001).

Another critical area of concern is the timely release of results or feedback. It is an aspect of the program that has the highest disapproval rate. Feedback constitutes a critical component of the quality assurance framework in online learning, and as such be accorded importance in program delivery.

Given the results of the study, it is recommended for facilitators to receive regular training to create "a group of individuals who collaboratively engage in purposefully critical discourse and reflection to construct personal meaning and confirm mutual understanding" (Garrison et al., 2000). A facilitator should be able to create social presence where learners develop the ability to become contributing members of the class community, with active participation and interaction with course content, colleagues and instructor for meaningful learning; cognitive presence for learners to construct and confirm meaning through sustained reflection and discourse; and teaching presence through effective design, facilitation, and direction of cognitive and social processes towards worthwhile learning outcomes (Garrison et al., 2000). The relevant agencies should investigate the cause of untimely release of student results as a critical step to improve the satisfaction among learners. This challenge can demoralize learners and consequently, lead to dropping out of the program. In conclusion, the articulation of the online delivery policy by the institution will address the issues that are responsible for dissatisfaction. For example, a policy could outline the frequency of feedback provided to the learners, the frequency of facilitators' online presence, the nature and schedule of online activities, along with the time limit for completion. An assessment model can also be developed in the form of a checklist of activities, to be monitored and supervised by designated personnel.

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