International Journal of Scientific Research in Multidisciplinary Studies
Vol.9, Issue.9, pp.13-20, September 2023
E-ISSN: 2454-9312 P-ISSN: 2454-6143
Available online at: www.isroset.org

Research Paper

Students' Perspectives on Success in Online Teaching and Learning in a Traditional Learning Environment

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Received: 09/Jul/2023; **Accepted**: 10/Aug/2023; **Published**: 30/Sept/2023.

Abstract— This study attempted to examine the perceived student satisfaction in online teaching and learning in a traditional learning environment which had rapidly shifted to an online setting through a Learning Management System (LMS) due to COVID-19 pandemic started in early 2020 across the globe. The study used factors relating to instructor, interactivity and technology as the key determinants of students' perceived satisfaction. A total of 322 undergraduates participated in the online survey on perceived student satisfaction in a Sri Lankan state university. Results of the study indicated that all the three selected factors are significant predictors of student satisfaction where instructor related factors has the highest impact. The findings suggest that even without adequate awareness and training on online teaching - via a Learning Management System as in this study- student satisfaction seems to be at a reasonable level with relation to instructor related factors. However, fairly low satisfactory levels for the remaining two factors suggest that both the faculty and the students must undertake at least some basic levels of training on online teaching and learning due to its technology driven nature.

Keywords— Instructor, interactivity, technology, student satisfaction, online teaching, learning management system

1. Introduction

Online education is increasing throughout the world with swelling importance and recognition along with the readily available and accessible internet based technologies and personal computers [1]. Evidently, this increasing trend in online education will continue to grow at an exponential rate in the future. In online education, frequently, courses are taught via a Learning Management System (LMS) such as Blackboard, Desire2Learn or Moodle [2]. Most of the American universities offer their entire degree programs or some courses online in a vast array of different disciplines [3]. If at least 80% of the content of a particular course is delivered on an online platform, it can be categorized as an online course [4]. Although complete online degree programs or courses are not quite common especially in Sri Lankan state universities, as [5] pointed out, all of these universities provide basic course information such as the syllabus, assessment criteria, list of references, lecturer/tutor contact hours and time tables online. For example, the university in which this study was conducted, all the degree programs are conducted on campus, however the university also maintains a LMS where basic course information and lecture materials are uploaded to the LMS in a regular manner. Even though it is not mandatory, some academics tend to develop an online presence for their courses via their own web pages.

Growing trend in online education over the years extensively attracted the attention of researchers to explore the student satisfaction in online platforms. Many studies have explored various aspects and determinants of student satisfaction in online courses which have been originally developed for online environments, however neither of them have attempted to gain insights into students' perceptions of online teaching where students have been used to learn in a traditional face-to-face learning environment. In a global pandemic situation such as COVID-19, there is a strong need for initiating research relating to investigation of student satisfaction in online teaching and learning in universities which are primarily based on traditional classroom based education. With the rise of global spreading of COVID-19, many universities moved to online teaching from traditional methods of teaching without adequate preparation and training. Both the instructors and students should be well prepared and trained for online teaching and learning. Preparedness of the instructor plays a crucial role in online teaching methods than in traditional teaching methods. Both the instructor and student must undertake a comprehensive training on online teaching and learning methods since online education is mainly technology driven. Therefore, the main purpose of this study is to explore students' satisfaction in a state university that moved from traditional learning environment to online platform within a short time period due

to the prevailing pandemic situation experienced in early 2020. Specifically, the study sought to explore perceived students' satisfaction in terms of instructor, interactivity and technology. Due to the transition from traditional to online took place within a short time period and without adequate preparation and training, it is important to investigate perceived student satisfaction in order to assist faculty members and university administration in taking necessary actions to improve the courses or degree program and conditions in online platforms, if it needs. Quality is important in delivering any courses or programs irrespective of the environment in which they are delivered. Student satisfaction is one of the five pillars of quality online education together with faculty satisfaction, learning effectiveness, access and scale [6]. It is significant to assess these five pillars of quality as online education is widespread even among conventional classroom-based environments due to COVID-19 global pandemic.

This study significantly deviates from the existing research on students' satisfaction in online environment since the target sample of students were selected from a traditional university that had shifted to online teaching from conventional face-to-face teaching within a short time period due to COVID-19 global pandemic.

The paper begins with reviewing existing literature related especially to the students' satisfaction in online teaching and learning. Next, the methodology of the research followed by the results and findings are discussed. Finally, research implications, limitations and suggestions for further research are described

2. Related Work

Research related to online education has been increasing over the last few years with an exponential growth of online courses in the higher education system. The review begins with a short introduction to online teaching, followed by students' satisfaction and the determinants of students' satisfaction.

2.1 Online Teaching and Learning

It can be observed a significant increase in the number of online courses and programs over the recent years, especially in the USA and in other developed countries [7]. The growth in online education is well supported by the development of personal computers, the internet and other various technologies that are not only readily available today but also affordable for many.

Although distance education, distance learning, e-learning, online teaching, online teaching and learning have been interchangeably used to describe all teaching-learning approaches based on information communication technology, it is the term "online education" that has been extensively used [8]. This paper will use the term online teaching and learning to represent online education. In one study, online education has been defined as a process of teaching and learning, employing internet enabled devices such as computers, tabs and smartphones [9]. In one study distance learning has been defined as a learning platform in which "students and teachers are separated by distance and sometimes by time" [10]. Building on this definition, another study emphasized that the separation of any component in teaching/learning by time and/or geography makes that teaching/learning taking place in distance learning mode [11]. In line with [9] definition for online education, [12] defined online education as a teaching/learning process in which physically separated students and teachers communicate and interact with each other and also with the course content by means of internet based technologies. In this paper, a general definition for online teaching and learning is used where it is defined as a process that is facilitated by information communication technology enabling interaction between the students and teachers who are physically apart and promoting self-directed learning.

2.2 Student Satisfaction

Student satisfaction is defined as the students' overall perception towards the learning experience and value of the education either on campus or online [13]. Previous studies have well acknowledged student satisfaction as an important psychological factor that may influence student motivation and retention and their academic performance [14]. Student satisfaction is a key determinant of success or failure of students in online courses [13].

Students' decisions to continue with the courses as well as the level of satisfaction with the overall online learning experiences are driven by their perceived learning experiences. Especially in an online environment, student satisfaction is a significant determinant of continuation of student learning [15]. Student satisfaction positively correlates with student performance such that more the student satisfaction on a certain online course, better the performances [15]. Moreover, student satisfaction has a significant triggering effect on faculty satisfaction which is instrumental in the success in online teaching environments.

The elements that impact on student satisfaction in online modes are comparatively different from those that are in the traditional classroom-based settings. Prevailing literature shows that factors such as students' characteristics, quality of their relationships with the faculty and administrators, curriculum and instruction, quality of students' social life in the university, student support and welfare services, resources and facilities are associated with student satisfaction in classroom-based environments [13]. In their study, [13] reports that the factors relating to the instructor, technology and interactivity as the key determinants of student satisfaction in an online setting. In addition to that, course management issues, quality of course website, students' perceptions of task value and self-efficacy, social ability and availability of multimedia instructions have also been well acknowledged for their crucial role in determining student satisfaction.

2.3 Student Satisfaction in Online Settings

Since in online education, students and instructors are physically apart, both groups face a different set of challenges

such as difficulty in establishing relationships within and between groups [13]. Students' familiarity with technology usage is another significant determinant of student satisfaction since online education is primarily driven by technology and communication tools [16], [17]. Students with higher levels of computer literacy are more likely to exhibit higher levels of satisfaction [18]. Reference [16] found that web-based tools such as WebCT, message boards and chat rooms influence positively on student satisfaction. Service quality is another key predictor of student satisfaction in web-based learning [19]. Service quality in online education refers to the quality of personal support services provided through the online system such as help for registration, course selection, technical support services and receiving timely feedback from the instructors [8]. Flexibility, degree of responsiveness, technical support, interaction and technology usage impact on student satisfaction in online class [20]. Further, [11] argued that when monitoring the student satisfaction and performances in online teaching/learning environment, one must consider the quality of technology used, availability of technical support services, course design and instructions. Among many of such factors the quality of technical support services is a key determinant of student satisfaction [8]. Prevailing literature shows that the quality and quantity of students' experiences with respect to their interaction with the instructor is one of the key determinants of student satisfaction in online classes. The challenges and various differences in online education should be taken into consideration when investigating online student satisfaction.

Likely key determinants of student satisfaction in an online platform can be mainly categorized into three groups; instructor related, technology related and interactivity. These three categories of factors have been frequently used as important determinants of student satisfaction in previous studies while a study conducted by [13] confirmed that these three categories of factors itself are sufficient for determining student satisfaction to a reasonable level.

2.4 Instructor Related Factors

Instructor related factors are major determinants of student satisfaction where instructor performance, availability of the instructor and his/her response time are positively correlated with student satisfaction [21], [22]. Adding to this, [10] have shown that instructors must be flexible and available at any time when students have questions at least from the perspectives of students. Due to lack of physical presence, students may experience higher levels of frustration, thus instructors must keep communication with students on a regular basis. Timely feedback is another instructor-related determinant of student satisfaction [21]. Instructors must provide timely and constructive feedback on students' assignments to keep students involved and motivated. Regardless of the teaching/learning platform, instructors play a crucial role as a facilitator and motivator of student learning.

2.5 Technology Related Factors

Since online education is mainly technology driven, a variety of technology related factors are among the important predictors of online student satisfaction. Students will be satisfied and successful only when they have adequate and quality access to reliable equipment and when they are familiar with those technologies used in delivering the course [23]. It has been identified that students with limited and interrupted online access are likely to be at a considerable disadvantageous position compared to students who have unlimited and uninterrupted access [24]. Among other technology related factors, online access has been identified as one of the key determinants of student satisfaction [25]. Students who frequently experience technology related issues tend to exhibit lower levels of satisfaction.

2.6 Interactivity

If the learning environment allows and encourages greater social interaction and collaboration, better the achievements of learning outcomes. Collaborative learning tools such as chat room, discussion forums positively impact student satisfaction since such tools enable students to interact with the instructor and among themselves [26]. These tools facilitate group work and enable instructors to provide timely feedback. These types of social interaction enhance student satisfaction and motivation otherwise they may feel isolated which is quite common in online learning environments [13].

3. Methodology

3.1 Sample

The sample of the study consists of the total student population of one faculty in a state university in Sri Lanka. The faculty enrols approximately 200 students annually and has approximately 600 students at any given time. Until the global pandemic situation in 2020, the university has been engaged in providing only on campus education. At the time of this study which was conducted in mid of 2020, the faculty consists of 562 students, out of them, the majority are female (55.6%). All the individuals in the sample were in their early twenties. The majority were female (56.8%) out of 322 (57.2%) students who responded. Majority of the respondents (90.1%) had no or very little prior online learning experiences (Table 01).

3.2 Data collection

All undergraduate students who were at the faculty during the global pandemic were contacted via email and the faculty's LMS and were invited to participate in the study. They were well informed about the purpose of the study. The online course satisfaction survey (OCSS) was both emailed to their personal email addresses and uploaded to the LMS. Students could use which a way convenient to them to access the questionnaire. Approximately it takes 15 minutes to complete it. Of the 562 students in the faculty, a total of 267 participants responded at the initial round. After the initial round, a follow-up email was sent to the non-respondents and 55 responses were collected at the second round.

Table 1. Sample Profile

	Number of Students (N=322)	Percentage (%)
Gender		
Male	139	43.1
Female	183	56.8
Age (20-25)	322	100
Level		
1st year	118	36.6%
2nd Year	80	24.8%
3rd Year	59	18.3%
4th Year	65	20.1%
Experiences in online learning		
Yes	32	9.9%
No	290	90.1%

3.3 Instrument

The OCSS consists of 27 questions in total out of which 23 items on a 4-point Likert scale, ranging from strongly disagree (1) to strongly agree (4). The remaining four items consisted of demographic and general information. The questionnaire was developed by adopting mainly the instruments developed by [27] and [28] to measure students' attitude towards distance education and students' perception of support and course satisfaction respectively. Questionnaire items were then compared to other similar survey instruments in the prevailing literature relevant to online student satisfaction. Before making this available to the participants, the instrument was administered to 20 students in the faculty as a pilot run to assess the questionnaire items for spelling, clarity and conciseness. The items for the OCSS were directly extracted from those frequently used and well established instruments. Further, these instruments have been already tested for internal reliability. Since the instrument was constructed by merging few instruments with some modifications, a reliability analysis was conducted after the data collection.

3.4 Data analysis

The questionnaire was developed by adding questions from the existing literature. Since the questions were adapted to better suiting to the study context, a reliability analysis was performed before analysing the data in addressing the purpose of the research.

Descriptive statistics for each group; instructor related, technology and interactivity and student satisfaction were calculated for the Likert-style format items in the instrument. A correlation analysis was conducted to examine the relationship among the four variables. The survey data was analysed using the SPSS software.

4. Results

The descriptive statistics (mean and standard deviation) for the aggregated variables related to instructor, interactivity, technology and course satisfaction are presented in Table 2.

Table 2. Descriptive Statistics for Variables

	N	Mean	SD
Perception of student satisfaction related to			
Instructor	320	3.22	0.84
Interactivity	322	3.01	0.69
Technology	319	2.25	1.01
Course satisfaction	322	2.98	0.88

Responses on 4-point Likert scale; 1= strongly disagree, 4= strongly agree

Table 03 displays the means and standard deviations of the individual items that are used to operationalize the variables. Overall, students are moderately satisfied with the online course that they are following. Students' perceived satisfaction with regard to instructor has gained the highest score (M= 3.22) in relation to interactivity (M= 3.01) and technology (M= 2.25) related satisfaction. However, its standard deviation is also fairly high (SD=0.84), suggesting that students' perceived satisfaction related to instructor, significantly varies among the students. Students rated a low score for interactivity, probably because of limited opportunities available in the LMS for them to interact with their peers. This is further confirmed by the findings in Table 03. Though students tend to believe that they have ample opportunities to communicate with the instructor (M= 3.28), they are not satisfied with the currently available opportunities for them to interact among themselves in the online platform. The standard deviation of perceived student satisfaction in relation to interactivity (0.69) is comparatively low, suggesting that most of the responses tend to be close to the mean. In other words, most of the students are likely to have similar views with regard to the opportunities available for them to interact with each other. Among the three, student satisfaction in relation to technology has scored the lowest (M= 2.25) since there were a bundle of technical issues due to rapid shifting to online teaching with minimum training for both the faculty members and students. Students seem to be aware about where to seek for help when they have technical issues, however they are not satisfied with the technical support they received (Table 03). While scoring the lowest mean, perceived student satisfaction in relation to technology has scored the highest standard deviation (SD= 1.01). This highest standard deviation may be due to the fact that students are different to a greater extent based on their ICT knowledge especially pertaining to online education.

Table 3. Descriptive Statistics of the Items in the Instrument

No	Item	Mean	SD
	Instructor related		
1	Course goals/objectives were clearly outlined	3.95	0.32
2	I knew what I was expected to accomplish in each lesson (lesson learning outcomes)	2.64	0.75
3	The instructor provided clear instructions for tutorials, assignments and quizzes	2.83	0.81
4	The resources (lecture notes, supplementary readings, web links, audios, videos) relevant to the course	3.88	0.41

	were provided		
5	The feedback received on various assessments (tutorials, assignments, etc) was helpful	3.23	0.93
6	I felt that I could ask any questions from the instructor regarding the course.	3.01	0.88
7	I felt that the instructor was easily accessible	3.14	0.93
8	The instructor encouraged students to be successful in this course	3.02	0.86
9	The instructor responded to students' questions in a timely manner	2.99	0.98
	Interactivity		
10	There were appropriate ways of communicating with the instructor	3.08	1.01
11	There were many opportunities to interact with the peers	2.11	0.62
12	I enjoyed group discussions	2.57	0.89
13	I felt reluctant to ask for help from other students	2.89	0.92
14	I felt that I was respected by other students	2.09	0.96
	Technology related		
15	I had many technical issues in this course	1.96	0.99
16	Asking for technical help was difficult for me	2.01	1.02
17	I knew where to ask for help when I had any technical issues	2.85	0.88
18	I received technical support to my issues in a timely manner	2.33	0.96
	Course satisfaction		
19	This online course increased my interests in the subject	3.29	1.01
20	I felt that I achieved the objectives in this course	2.81	0.96
21	I like the format of the course - online	3.66	0.79
22	I felt comfortable in this course	2.99	0.92
23	I would recommend this course to others	3.01	0.88

Table 4. Correlations among Perception of Student Satisfaction and Course Satisfaction

		Course satisfaction
Perception of student satisfaction related to		
	Instructor	0.782*
	Interactivity	0.506*
	Technology	0.691*

Table 5. Reliability Statistics

			Inter-item correlations	
Subscale	No.of items	Cronbach's alpha	M	SD
Instructor	9	0.86	0.58	0.18
Interactivity	5	0.62	0.43	0.82
Technology	4	0.66	0.52	0.33
Course Satisfaction	5	0.68	0.49	0.20

Table 04 shows the correlation coefficients of the three variables with course satisfaction. Consistent with the prevailing literature, the results of the correlation analysis shows that perceived students' satisfaction in relation to instructor, interactivity and technology were significantly relate to course satisfaction. Perceived satisfaction in relation to instructor, technology and interactivity were positively related with course satisfaction (r = 0.782, 0.691 and 0.506) respectively. Based on the correlation coefficients, it can be suggested that among the three determinants, instructor related and technology related factors can be considered as the major determinants of student satisfaction in online environments. These findings further confirms the results of the descriptive analysis shown in Table 02. Although the mean score for interactivity is comparatively high, still the students' overall satisfaction is low since the impact of interactivity on student satisfaction is the lowest in relation to that of the other two variables.

4.1 Reliability Analysis

Cronbach's alpha coefficients were calculated to assess the internal reliability of total scale and sub scales. The Cronbach's alpha coefficient of the total scale consists of 23 items, is 0.81, and it indicates a high level of internal consistency of the scale with the data of the selected sample. Therefore, this confirms the reliability of the OCSS in measuring perceived student satisfaction in online teaching/learning via LMS. The reliability statistics for the individual subscales are presented in Table 05. The reliability of the instructor subscale has scored the highest Cronbach's alpha while interactivity scored the lowest. Comparatively to the instructor subscale, other subscales have a lower number of questions, probably reducing their reliability.

5. Discussion

This study attempted to examine the determinants of perceived student satisfaction in online modes of teaching/learning, however the study is significantly deviate from pile of existing studies on student satisfaction in online education since the study context is originally a traditional on campus environment which had rapidly shifted to online due to global pandemic situation in early 2020. The literature on online education shows that factors relating to instructor, interactivity and technology are important determinants of students' perceived satisfaction. Consistent with the previous studies, the findings of the present study confirm that these three categories of factors are key determinants of perceived student satisfaction [15], [28].

According to the mean scores, instructor related factors were most valued by the respondents including feedback and support received from the instructor and easy accessibility and availability of the instructor. This finding of the study is consistent with the previous research that indicate instructor related factors are the key determinants of perceived student satisfaction in online education [13]. The subscale related to instructor consisted of questions covering the areas such as communication, feedback, teaching & learning methods, assessment criteria, accessibility, encouragement and professionalism. Analysis of the mean scores of individual items in the subscale reveals that the students may not be well informed about the learning outcomes and instructions for tutorials. Hence, the faculty and the instructors should pay more attention to this aspect of communication such that the learning outcomes should be clearly communicated at the beginning of each lesson and clear instructions for tutorials should be provided before any tutorial sessions. Prior research shows that the instructor's timely manner responses to students' questions significantly influence on student satisfaction [29]. According to the mean score of the subscale item for measuring the nature of instructor feedback, students are not likely to have a favorable impression regarding the feedback they received. A reason for lack of immediate feedback may be explained by the fact that the instructors have not undergone a proper training on online teaching via LMS, thus they may not well aware about the various facilities available in the LMS to communication with the students such as discussion boards or discussion forums. It is a timely needed requirement for the faculty to organize workshops and training sessions for the faculty members about online teaching and learning especially pertaining to LMS based education. Instructors can also use other means of communication such as emails, instant messages and virtual meeting platforms like Zoom, Microsoft team, Google meeting to help foster better communication in the online environment [28], [30]. Use of LMS facilities and other technological tools help maintain a quality communication with the students and ultimately they will be more satisfied towards the course.

Consistent with the findings of prior research studies, interactivity and technology related factors were the secondly and thirdly valued factors by the respondents respectively. Interactivity related factors attempted to concern the instructor's interactivity with the students and interactivity among the students. In total five questions were in the interactivity subscale, which are related to communication, availability of tools for participation and interaction and students' behavioural attributes. According to the mean scores of individual items in the subscale, sufficient number of ways are available for communicating with the instructor, at least from the students' perspective. Resulting a fairly low score for interactivity is, probably due to the fact that certain aspect of interaction with the instructor such as feedback, accessibility are already covered in the instructor related subscale. Although, the students seem to be fairly satisfied with the level of their interaction with the instructor, means scores of individual items in the subscale reveal that they are less likely to be satisfied with the interactions and collaborations among themselves. Not like in traditional on campus environments where students can physically meet each other even without formal arrangements made by the faculty, availability of such opportunities are crucially important for student satisfaction in online environments. Connections formed among the students and the instructor are important since they help forming a community within the online learning environment which ultimately leads to positive learning outcomes like student satisfaction [3], [13]. The faculty and the instructors should take measurements to design learning environments such a way that provide and encourage social interactions and collaborations so that the students may feel involved and stay engaged in their online courses. As an alternative for the limited opportunities for student interactions available in the LMS, instructors may integrate online collaborative learning tools such as Padlet, TodaysMeet, Socrative, Twilda, Scribblar or Collaborize Classroom into their LMS teaching. These web-based tools facilitate wide range of functions such as interactive discussions, online collaboration activities, sharing and accessing electronic learning resources and many other opportunities.

Incorporation of technology with teaching and learning has being increasing in higher education regardless the environment [28]. Technology is one of the major determinant of student satisfaction in online learning environments [3], [31]. Among the three factors concerned in the study, the student satisfaction with relation to technology has received the lowest score. In another words, students were least satisfied with relation to technology related factors in their online learning experiences. The questions in the technology subscale related to difficulties in online access, awareness of availability of technical support and easy access to technical support. According to the mean scores of individual items in the subscale, the respondents were likely to experienced many technical problems. Therefore, in an attempt to increase the student satisfaction, the faculty should pay a special attention to the technical issues which are more likely to occur from the students' end as well as from the faculty's end. Providing reliable online access both personally and on the part of the institution, technical trainings needed for online teaching and learning, making aware the availability of technical support, and ensuring easy accessibility of the available technical supports are other important concerns. An important consideration here is that not all students are same. Technical problems are more significant for some students than others [3]. This triggers that one type of solution or support may not suit for all those students experiencing a particular technical issue. As [28] points out, availability of wide range of technical support facilities for students from which they can choose and ensuring these supports are tailor made to their specific technical requirements and learning styles, may address individual differences of the students to some extent. Providing human technical assistance where it necessary and making the students feel that these assistances are readily available and accessible whenever they need them will help students to overcome or reduce their frustration due to technical issues. Although, problems and issues can arise in

any learning environment, the probability is high in online platform [28]. Therefore, at the very beginning of the course, educating the students that they will be challenged and problem can occur at any time is key. Also, the students should aware the availability of various types of supports and how to reach for them and use.

6. Limitations and Future Research

The findings of this study add a relatively new knowledge to the existing literature on student satisfaction in online education, by conducting it in a traditional learning environment in which students were get used to face to face teaching and learning methods and suddenly moved to online teaching due to the COVID-19 outbreak experienced in the first quarter of 2020. Nevertheless, the study is not free from limitations that may be addressed by future research to increase its applicability to a wider context. First limitation is that the participants were selected by using purposeful sampling, predominantly focusing on undergraduates in one of the faculties of the university. Therefore, generalizability cannot be expected. The results of the study may be valid only to the target population. Future studies can address this limitation by extending the sample participants to the other state universities in the country. However, care should be taken to draw the sample from same faculties in different universities in order to maintain the consistency in the subject streams of the participants. Secondly, validity of the survey instrument is questionable. Although, the items for the instrument were extracted from those frequently used and previously tested instruments, no formal validity test was performed. The third limitation is that the student satisfaction was determined by three factors pertaining to instructor, interactivity and technology where many more other factors are associated with student satisfaction in online environment. Future studies may overcome this limitation by integrating factors in relation to course management, course web site, general information and many more.

7. Conclusion

This study investigated the perceived student satisfaction in online teaching and learning in terms of three major determinants found in the literature; instructor related, interactivity and technology related factor. The present study deviates from the existing literature on perceived student satisfaction in online education, since the study context is a traditional on campus learning environment which had moved to online due COVID-19 global pandemic. Consistent with the literature, findings of this study evidence that the three factors instructor related, technology related and interactivity are three major antecedents of student satisfaction respectively. The literature and also the empirical evidences prove that instructor related factors are the key determinants of perceived student satisfaction in online education. The respondents tend to be satisfied with their online course in relation to instructor related factors. At the same time, they are less likely to be satisfied in relation to interactivity and technology related factors respectively. This dissatisfaction is probably due to the fact that the university had to change its learning environment from on campus to online suddenly without adequate awareness or training on online teaching and learning for both the staff and the students. This implies that the faculty and the university administration should mainly look into address technology related and interactivity issues in online environment to increase the level of student satisfaction which may ultimately determine the successfulness of online education.

Funding Source
None.

Acknowledgement

I would like to express my sincere gratitude to the reviewers for providing constructive comments that helped improving the paper.

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