

Students' Perception on Participating in the Online Classroom at the Four Tertiary Level Government Colleges in Bangladesh

a. Md Shamsuzzoha

Professor, Department of Economics
Rajshahi Government Women's College, Rajshahi.
Email: zoha18thbcs@gmail.com

b. Mt. Rozina Afroz

Assistant Professor, Department of Sociology
Rajshahi College, Rajshahi
Email: rozinaraj30@gmail.com

Abstract: As most of the educational institutions in Bangladesh have been closed since March 2020 due to COVID-19 pandemic, the learning procedure of tertiary education has been transformed from face to face classroom education to online education. At that time, in Bangladesh, it had been tried to continue online education without sufficient preparation in terms of technological support, course design and content delivery. This quantitative research surveyed over 200 students of four tertiary level government colleges in Bangladesh to identify the Students' Perception of Online Classroom on the basis of preparedness, participation, and classroom activities. The study also investigated the challenging factors of online classroom faced by the students. Findings revealed a lack of preparedness, participation, and minimal scope of classroom activities through online learning while some positive perceptions were also found. Lack of electricity, low bandwidth of internet connection, paying attention, understanding lessons through the online platform are the major obstacles of Online Classroom in Bangladesh.

Keywords: Students' perception; Online classroom; Tertiary education; Classroom activities

Introduction

Online Classroom (OC) is an alternative way of delivery. This study has tried to identify the factors that influence Students' Perception (SP) regarding OC. SP towards OC depends upon the effects of multiple factors: student self-roles and responsibilities; teacher roles regarding knowledge; motivation; assessment systems; class management and support services; technical skills (for both student and teacher); and, course design and content delivery (Fedynich et al., 2015). All these factors have been identified as highly influential to the SP of OC (Kim et al., 2011). However, at present many educational institutions shifted their traditional classroom into OC. (Huss, & Eastep, 2013).

OC is a course directed over the internet connection, in which students can participate their academic activities and communicate with their teachers and fellow students. Some benefits of OC are interaction between peers and teachers, softly operational, lower total cost, more suitable learning environment,

improving students' technical skills and geographical flexibility (Moghaddam & Moradi., 2021). Peer-interactions, feedback from tutors, online course structure and students' support were the key factors that affected SPs of OC. By considering all these factors, SPs can provide valuable information that will help to improve the quality of OC (Almahasees et al., 2021). This study considered two hundred (200) respondents for main study and thirty (30) for a pilot study using a convenience sampling technique among five hundred and fifty (550) graduate students of the four district-level government colleges in Bangladesh.

Problem Statement

Education is one of the most affected sectors by covid-19 in Bangladesh. All levels of academic activities in Bangladesh became shut down since March 2020. For that reason, session continuation has been hampered in the education sector. At the moment, an innovative teaching method could play a vital role to overcome this disrupted education system (Lee, 2020). Despite this pandemic, to support the continuation of teaching and learning, many educational institutions continued their academic activities through OC from April 2020 in Bangladesh (Islam et al., 2020). Despite its various benefits, there are quite a several limitations of OC in Bangladesh such as lack of electricity, logistic supports, physical interaction, assessment systems, and connectivity problems (Abbasi et al., 2020). The major challenges of OC are: it may be dull, general difficulty with the use of technology and group activities, the student may be isolated, time consumed, connectivity issue and practical or lab activities almost impossible (Gillett-Swan, 2017). There are several reasons for choosing this topic. Although most of the developed countries used OC as an effective medium of learning, it is not handled properly in Bangladesh (Biswas et al., 2020). In spite of that, OC is now an important phenomenon in most of the developing countries like Bangladesh. OC might be a potential method for learning at the tertiary level education in Bangladesh not only due to the COVID-19, but it will continue to persist post-pandemic also (Reimers & Schleicher., 2020). As a non-traditional way of learning it is essential to explore the SP related to the effects of various factors for further developing of virtual learning (Huss, & Eastep, 2013). In the context of Bangladesh, the influencing factor regarding SP of OC need to be identified. Current challenges of OC and possible solutions also need to be identified as they are not well defined yet.

SP Related to the Effects of Various Factors towards OC

Many factors influence SP of OC. According to the findings of Faize & Nawaz (2020), the degrees of student's satisfaction were subject to peer interaction, readiness and self-motivation those are important factors in developing communication which dramatically influenced SPs. Prior et al. (2016) found that if students realize them within a learning community, they are likely to become successful in an OC. Correspondingly, Bali, & Liu. (2018), observed that developing a strong and suitable interaction between students and teachers, and practical supports are all essential to assist positive perception towards OCs.

Specifically, Peechapol et al. (2018) focused their attention to compute SP with peer interaction, student's self-motivation and readiness and they discovered a positive correlation between them. In contrary, Derakhshandeh & Esmaeili (2020) looked in a study in a web-based course, that student's self-motivation is not a key indicator of student's perception. It has been further supported by Ibrahim et al. (2017), which emphasized in their study that in a virtual class, students have to be confident in their efficacy and interactions rather than depend upon only self-motivation to reach the goals in an informal delivery system. Furthermore, fellow students' interaction has been identified as the highest influencing factor towards OC than self-motivation and readiness.

A significant number of researchers identified the importance of teachers' feedback and assessment in online courses. Huss & Eastep (2013), found that feedback and assessment in online courses must be given by teachers in a positive and quick respond manner for online sessions to be succeed. Similar results were found by Herguner et al. (2020), that is, teacher's roles and responsibilities including knowledge, motivation, communication, feedback and assessment were very influential to student's perception of online learning. These results were based on the factors related to the interaction between peers and teachers. Various studies proved that teachers' knowledge, feedback style and equitable assessment were the key factors to success the online sessions.

In their study, Lowenthal & Moore (2020), showed that the weaker management of online sessions and lack of support services were underlying SPs towards OC. Inan et al. (2017) also identified the benchmark factors (management, support service, using technology, course design and content delivery) to measure student perception in an OC. In contrast to the study of Lowenthal & Moore, Inan et al. (2017) identified that student satisfaction and perception increased over time with good management. Therefore, it is well established fact that good management and support service were critically important for developing the perception of OC. Al-Hunaiyyan et al. (2017) stated that the course design and content delivery should be more specific, significant, distinct, rich, organized and delicate for students' retention and comprehension. Al Emran et al. (2016) also discovered that the overall perceptions of the students' learning has been developed by enhancing technical skills, exchanging ideas and views. Kelly & Westerman (2016) found that using technologies, online class management and support systems are also the key indicators for the successful and sustainable learning in a virtual environment. Additionally, Tagoe (2012) have noted the factors like age, sex, prior experience of computers and devices, using technology and self-learning techniques related to the nontraditional delivery system have influenced the satisfaction. Anderson et al., (2011) and Niess & Gillow-Wiles (2013), focused on the teacher roles including creating, formatting, editing, and incorporating their selves' experiences into the course design and content delivery, that should be supported by the technology and management.

The Challenging Factors Related to the SPs towards OC

Unger & Meiran (2020) found that online learning can be a challenge for both students and teachers. Kebritchi et al. (2017) mentioned teachers' skills and students' attitudes as a major difficulty affecting learning in the OC. Whereas, Jacobs (2014) recommended assessment in an online session as a vital challenge to persist students' perceptions. Students' expectations may be challenging and hinder the successful delivery in an online session as well (Herguner et al., 2020). They also found that some students might have undue expectations like an immediate response on their online presentations and tasks or may act impolite and annoying of their identity. Some of them might also query about assessment and others may not follow the schedule properly. According to Baber (2021) students might feel isolated and separated in OCs that can affected their perceptions. Warren (2017) emphasized the same things as it is tough to assess students' improvement within an exchanged view of personality, objectives, and customs due to the concrete sense of personality. As a valuable member of the learning community, a strong sense of personality can play a vital role to build an effective interaction (Baxter, 2019). Hence, it is alarming that isolation and concrete sense of personality can be underlying the perceptions of students towards OC. Meanwhile, Czerkawski & Lyman (2016) noted that in online class, listening or perceiving is a complex and continuous phenomenon and a significant aspect of the student perception. Wise et al (2013) found that students spend 75% of their time in listening and perceiving in OC. On contrary, Czerkawski & Lyman (2016) opined that engagement with the content, thinking, and feedback depend upon instructional framework along with a set of strategies could foster SPs to the OC.

Kebritchi et al. (2017) illustrated that the lack of training and support service, content designing and delivering online courses are the challenging factors that have affected students' satisfaction. Students often become bored with online learning due to lack of engagement, and this insufficient involvement and motivation are one of the fundamental reason behind the failure of online courses (Widjaja & Chen, 2017). Students are no longer inquisitive about taking the lessons, do no longer get admission to the platform and do not complete the syllabus.

From the above review of literatures, it has been specifically observed that many researchers have been led to examine the SP on participating their OC from various perspectives. Most of the researchers could not specify which factors are positively accelerating the SP of their OC. In addition, not a lot of researches has been conducted on the students' perceptions towards the online classroom at the tertiary level education of Bangladesh. This paper discussed the perceptions of students on online classroom and tried to identify the challenges of online classroom as well.

Objectives

The specific objectives of this study are

1. to identify SPs related to the effects of student and teacher roles and responsibilities to their OC.
2. to identify the challenging factors of OC which are being faced by the students while participating OC.

Research Questions:

1. What are the SPs related to the effects of various factors towards OC?
2. What are the challenges that students are facing while participating in the OCs?

According to the two research questions this study aims to relate which factors are positively affected to the students' perception towards their online classroom. Moreover this paper interested to find out the anticipated challenges for both student and teacher.

Methodology

This study is a quantitative one with the intention to get a valid and accurate result through this approach as it is suitable for studying any group's opinions, perceptions and behaviours (McNabb, 2015). This study followed the descriptive design as it is convenient to manage in a short period of time because the subjects are usually surveyed once, and it makes associations between variables. Furthermore, descriptive design helps to incorporate about some characteristics, attitudes, perceptions or behaviours of the population from the sample (Dawson, 2009). This study considered two hundred (200) respondents for main survey and thirty (30) for a pilot study using a convenience sampling technique among five hundred and fifty (550) graduate students of the four district-level government colleges in Bangladesh. Considering the perceptions and challenges found in the pilot study, it seemed that the instrument was appropriate. Since it was a small scale study, the convenience sampling was adequate to gather requisite data to identify the perceptions regarding various factors in OC due to geographical proximity and availability at a given time during the Covid-19 pandemic. An online survey has been conducted by using e-mail or Facebook messenger due to the pandemic. Ethical consent was taken from each of the participants. A structured questionnaire has been developed because, for the medium/small sample size under quantitative method it is one of the most useful tools to assemble data (McNabb, 2015). The items of the questionnaire were designed to find out characteristics, attitudes, perceptions or behaviours of the population from the sample (Alharbi, 2017). The survey instrument was comprised of two sections. Section-1 consisted of 14 questions that were included in demographic information. To minimize response bias, 5 survey questions were itemized negatively. For example, item no 10 to 14 (Appendix) were indicated a Reverse Coded Questions (RCQ) with answers 'Yes' or 'No'. Section-2 contained 12 Likert scale questions, designed to collect students' overall perceptions related to the effects of various factors of the OC (Appendix 2). The rating scale's range

were used from strongly agree to strongly disagree. The factors included in the questionnaire were influenced by the factors of SPs by Moore & Kearsley (2011) and therefore included: peer interaction, preparedness, self-motivation, teachers' knowledge, feedback and assessment systems, management, support service, technical skill, course design and content delivery, along with overall perception. To ensure the reliability of the instrument, a Cronbach's alpha test was performed where the score was 0.79, indicating a very high degree of internal consistency. The validity of the respondent scales were also checked for content validity, construct validity and criterion-referenced validity (McNabb, 2015). After examining each survey item, it was being fixed if they were perfect and correlated to the subject. Confusing items were revised and reworded. Unnecessary items were eliminated for final data collection. One item was added after the pilot study. That item dealt with prior experiences of OC. And the purpose of adding that one item was to find if prior experiences of online sessions were related to SPs towards OC.

Method of Data Analysis

After collecting data, it was coded and presented through narratives, tables, and charts. The data has been analyzed by descriptive statistics using with SPSS-22 as it is a prompt and extensively used software for executing such analysis (Dawson, 2009). In the process of data analysis, all the items/variables of the questionnaire have been divided into five categories as per two research questions:

- I. SP is related to student responsibilities including peer interaction, preparedness and self-motivation.
- II. SP is related to the effects of teacher roles regarding knowledge, feedback, communication and assessment.
- III. SP is related to online class management and support service.
- IV. SP is related to technical skill, course design & content delivery. We thought this sub-category of the first research question to be significant because SPs towards using technology may inspire their perception of their OC. Sufficient technical skills lead to support positive perceptions. On the other hand, poor technical skills lead to deviating of perception too.
- V. Student's challenge towards OC.

According to the above subcategories this study used Mean, standard deviation (SD), chi-square and p-value to justify the significance of the variables.

Mean has been used in this study as an effective tool of data analysis for comparing different sets of data. (McNabb, 2015). 5 RCQs were asked in a "negative" way in the survey, but they are presented in the analysis in an opposite (positive) direction. The average value in the 5-points Likert scale is 3 (reference value), and with "yes" and "no" answer is 0.5 (reference value). If the calculated mean is greater than the reference value ($>3/0.5$) it means the SP is high. On the other hand, in case of less than the reference value ($<3/0.5$), it means the SP is low. While, the mean value of the RCQ with greater than or less than to the reference value, the SP will be just opposite. SD helps to explain the shape of our

distribution, how close the individual data values are from the mean value. Together, they help to make a more comprehensive feature than the mean alone cannot provide us (Saunders et al., 2009).

For comparing the observed value with the expected value, the Chi-square test was used as a statistical measure. Similarly, the 'p-value' was used as an alternative to rejection points to provide the smallest level of significance at which the null hypothesis (H_0) would be rejected (Dawson, 2009). A lower p-value suggests that there is no chance to accept the H_0 , while there is stronger evidence to accept the alternative hypothesis (H_1) (McNabb, 2015). The purpose of this test and value is to determine the significant relationship between most of the demographic variables and SP.

Pilot Study

The survey instruments of this study have been validated by a pilot study with 30 samples. The purpose of the pilot study was to check the validity and reliability of the survey instrument. As the nature of the data collection instruments, the respondents were not guided to deliver manipulated answers. Moreover, the reliability of data has been justified by Cronbach's Alpha with the help of SPSS version-22. For this purpose, this study collected data using the questionnaire from 30 respondents including 18 Females (60%) and only 12 Males (40%). A high degree of internal consistency of the instrument was established because the average value of Cronbach's Alpha was reported 0.79 by the pilot data analysis (shown in table-1).

Table-1: Reliability Statistics by Cronbach's Alpha of the 30 samples		
The average value of Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.79	.73	26

In Table-A1 (Appendix 1) the highest value of Cronbach's Alpha was reported 0.81 (item-9 was worded as "Are you satisfied in participating as a self-motivated learner towards OCs?"). Moreover, the average Cronbach's Alpha of 12 Likert items was reported 0.77 and other 14 general items were reported 0.79.

Findings

Among the 200 students with the complete survey, 46% were male and 54% were female while 38% were from the rural area and 62% were from urban areas. Only 26% of the respondents revealed they had previous experiences with OC while 74%, had no previous experience of OC. It has shown in Table-A2 (Appendix). The first research question that directed this study carried out with the multiple factors related to student's perception of the OC. Those factors have been divided into four categories as mentioned in the data analysis sub-section (3.6).

SP related to the effects of student and teacher roles and responsibilities

To answer the first research question, descriptive statistics on SPs related to the effects of student responsibilities were reported as influential factors. In table-2, data showed that the students' responsibilities including peer interaction (88%, item-22), self-motivation (82%, item-9), getting the facility to ask questions during online sessions (72%, item-23) and preparedness for online sessions (70%, item-16) identified either agree or strongly agree on categories. While SPs related to the effects of teacher roles were reported also as influential factors. In table-2, data showed that the teacher roles regarding knowledge, motivation and good at communication (84%, item-20), provided guidelines to the students (82%, item-17) and provided feedback (72%, item-23) identified either agree or strongly agree on categories. Data showed in table-2 on assessment systems (46%, item-26), and item-19, was worded "Online classes are effective than face-to-face live classroom" had a total of 50% disagree and strongly disagree categories.

Item/ variable labels	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
15. You were satisfied with your online class management and support services (smartphone/computer/laptop/Internet/software) to participate in online classes.	4 (2%)	32 (16%)	32 (16%)	84 (42%)	48 (24%)	3.70>3	1.07
16. You have sufficient computer knowledge and IT skills to attend your online class.	4 (2%)	40 (20%)	16 (8%)	96 (48%)	44 (22%)	3.68>3	1.09
17. Appropriate Guidelines are provided before starting online classes by your teacher.	4 (2%)	8 (4%)	24 (12%)	100 (50%)	64 (32%)	4.06>3	.890
19. Online classes are effective than face-to-face live classroom.	20 (10%)	80 (40%)	32 (16%)	52 (26%)	16 (8%)	2.82<3	1.17
20. The teachers are very knowledgeable, motivated and good at communication.	0 (00%)	4 (2%)	28 (14%)	76 (38%)	92 (46%)	4.28>3	.784
22. You are happy about the student-student and student-teacher interaction during online sessions.	0 (00%)	4 (2%)	20 (10%)	116 (58%)	60 (30%)	4.16>3	.681

23. You have the facility to ask questions or getting feedback during online sessions.	0 (00%)	4 (2%)	52 (26%)	80 (40%)	64 (32%)	4.02>3	.820
26. The assessment systems are not biased.	12 (6%)	80 (40%)	68 (34%)	32 (16%)	8 (4%)	2.72<3	0.94
Table-2 part-(b)							
Statement of the Item	Frequency N=200		% of Respondents		Mean & Std. Deviation		
8.Do you think the content of OC provided to you are helpful?							
Yes=1	N=164		82%		0.82>0.5 0.388		
No=0	N=36		18%				
9. Are you satisfied on participating as a self-motivated learner towards OCs?							
Yes=1	N=164		82%		0.82>0.5 0.388		
No=0	N=36		18%				
12. Lack of physical interaction with fellow Students/teachers (RCQ*).							
Yes=1	N=140		70%		0.70>0.5 0.463		
No=0	N=30		30%				

RCQ*=Reverse Coded Question, that was asked negatively to the respondents in the survey, however, it's processed in a positive direction.

Students' Perception Related to the effects of Online Class Management and Support Service

Descriptive statistics on SPs related to online class management and support service were reported low. Data showed in table-3 that the mean values of item-21 (2.84<3), item-25 (2.84<3), were less than their reference level (3 and 0.5). There were 5 questions (3, in table-3) asked in a "negative" way in the survey, but they are presented in this table in an opposite (positive) direction. For example, the mean value of item-10 (0.78>0.5), item-11 (0.58>0.5) and item-14 (0.58>0.5) in table-3 were worded, "Low or Remittent connectivity", "lack of Electricity", and "Disturbance from Family/Surrounding" respectively are a reverse coded questions. For reporting and analysis purposes, these items were reverse-coded and stated in a positive direction to allow easier comparison to the other responses. Thus, the reported averages for the three items (less than 0.5 on the yes/no scale) indicated that the lack of internet connectivity and electricity, and familial/surrounding disturbances with

online classes existed. As a result, these 5 items treated as the factors obstructing the SPs. It is needed to be improved management and support service. In table-3, the mean value of only two items (15 and 24) was greater than their reference level (3).

Table-3 (a & b): Students' Perception Related to Online Class Management and Support Service							
Item/ variable labels	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
15. You were satisfied with your online class management and support services (smartphone/computer /laptop/Internet/software) to participate in online classes.	4 (2%)	32 (16%)	32 (16%)	84 (42%)	48 (24%)	3.70>3	1.07
21. Simple than traditional classroom	20 (10%)	68 (34%)	48 (24%)	52 (26%)	12 (6%)	2.84<3	1.11
24. Home environment is suitable for participating in online sessions.	0 (00%)	16 (8%)	44 (22%)	92 (46%)	48 (24%)	3.86>3	0.88
25. You will like to participate in an online class with conventional sessions after COVID-19 pandemic over.	20 (10%)	68 (34%)	48 (24%)	52 (26%)	12 (6%)	2.84<3	1.11
Table-3 part (b)							
Item/ variable labels	Frequency N=200		% of Respondents		Mean & SD		
10.Low or remittent connectivity (RCQ*)							
Yes=1	N=156		78%		0.78>0.5 0.418		
No=0	N=44		22%				
11. Lack of electricity (RCQ*)							
Yes=1	N=116		58%		0.58<0.5 0.499		
No=0	N=84		42%				
14. Disturbance from family/surrounding (RCQ*)							
Yes=1	N=116		58%		0.58<0.5 0.499		
No=0	N=84		42%				

RCQ* =Reverse Coded Question

Student's Perception Related to the effects of Technological skill and Course Design & content Delivery

To answer this sub-category of the first research question, descriptive statistics on SPs related to the effects of Technological skill and Course Design & content Delivery were reported. Data showed in table-4 that the mean values of item-16 (2.58<3), item-19 (2.82<3), item-21(2.84<3), item-8 (1.18<1.5) and item-13 (1.42<1.5) were less than their reference level (3 and 1.5). As a result, these 5 items treated as the factors underlying the SPs.

Table-3 (a & b): Students' Perception Related to Online Class Management and Support Service							
Item/ variable labels	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
15. You were satisfied with your online class management and support services (smartphone/computer/laptop/Internet/software) to participate in online classes.	4 (2%)	32 (16%)	32 (16%)	84 (42%)	48 (24%)	3.70>3	1.07
21. Simple than traditional classroom	20 (10%)	68 (34%)	48 (24%)	52 (26%)	12 (6%)	2.84<3	1.11
24. Home environment is suitable for participating in online sessions.	0 (00%)	16 (8%)	44 (22%)	92 (46%)	48 (24%)	3.86>3	0.88
25. You will like to participate for an online class with conventional sessions after COVID-19 pandemic over.	20 (10%)	68 (34%)	48 (24%)	52 (26%)	12 (6%)	2.84<3	1.11
Table-3 part (b)							
Item/ variable labels	Frequency N=200		% of Respondents		Mean & SD		
10.Low or remittent connectivity (RCQ*)							
Yes=1		N=156	78%		0.78>0.5		
No=0		N=44	22%		0.418		
11. Lack of electricity (RCQ*)							
Yes=1		N=116	58%		0.58<0.5		
No=0		N=84	42%		0.499		
14. Disturbance from family/surrounding (RCQ*)							
Yes=1		N=116	58%		0.58<0.5		
No=0		N=84	42%		0.499		

RCQ*=Reverse Coded Question

Identified highest levels of student's perception

While answering questions from different perspectives, this study has found mixed feedback from the respondents. It was identified with high levels of student perception. In Table-5(a) identifies the variable (item-22) that presented a high level of perception. According to this data, the teacher role regarding feedback and assessment has been identified as being extremely critical to SP. The majority of the items (7 out of 9) related to either teacher's role or student's responsibilities which have influenced high student's perception.

Table-5 (a & b): Identified Highest levels of student's perception	
Items	Strongly Agree & Agree
22. You are happy about the student-student and student-teacher interaction during online sessions (Student & Teacher role)	88%
20. The teachers are very knowledgeable, motivating and good at communication (Teacher role)	84%
17. Appropriate Guidelines are provided before starting online classes by your teacher (Teacher role)	82%
23. You have the facility to ask questions or getting feedback during online sessions (Student & Teacher role)	72%
16. You have sufficient computer knowledge and IT skills to attend your online class (Student role as a preparedness)	70%
24. Home environment is suitable for participating online sessions (Management & support system)	70%
15. You were satisfied with your online class management and support services (smartphone/computer/laptop/Internet/software) to participate in online classes. (Management & support system)	66%
Table-5 part-(b)	
Items	Yes
8. Do you think the content of OC provided to you are helpful? (Teacher role plus course design & content delivery)	82%
9. Are you satisfied on participating as a self-motivated learner towards OCs? (Student role)	82%

Identified lowest levels of student's perception

Table-6 addresses the areas that students identify as their lowest levels of perception. Based on this data, online class management and support services, assessment procedure have been identified as being critically important to students' satisfaction. Another statement with low perception, item no-20 dealing with "Simple than traditional classroom" also identified as the lowest levels of SP. The majority of the items (3 out of 5) related to either course management or support services which have critically influenced low student's perception.

Items	Strongly Agree & Agree
26. The assessment systems are not biased (Teacher role as a course design and content delivery)	20%
20. Simple than traditional classroom (Management & support system plus course design and delivery)	22%
18. Online tools are easy to handle (Technological skill & support system)	28%
25. You like to participate for online class with conventional sessions after COVID-19 pandemic over (Management & support service)	32%
18. Online classes are effective than face-to-face live classroom (Teacher role as a course design and delivery)	34%

Moreover, to answer the second research question of this study, descriptive statistics on students' challenges to the OC was reported. Data showed in table-7, that eight items were identified as the challenging factors related to the OC. The majority of the items (5 out of 8) that have been shown in table-7, are related to the effects of either course management or support services which have identified as the challenging factors towards OC. The assessment systems were found (item-25) as the top challenging factor where only 20% of respondents were given their opinion that the assessment systems were unbiased. While 22% and 28% of respondents thought that OC was more simple than traditional classroom and difficulties with the use of online tools respectively (item-20 and 17) as the challenging factors.

Items	Strongly Agree & Agree
25. The assessment systems are not biased (Teacher role as a course design and delivery)	20%
20. Simple than traditional classroom (Management & support system plus course design and delivery)	22%
17. Online tools are easy to handle (Technological skill & support system)	28%
Table-7 part-(b)	
Items	Yes
10. Low or remittent connectivity (RCQ*). (Management & support system)	78%
12. Lack of physical interaction with fellow students/teachers (RCQ*). (Student & Teacher role)	70%
11. Lack of electricity(RC) (Management & support system)	58%
13. General difficulty with the use of technology (RCQ*). (Technological skill & support system)	58%
14. Disturbance from family/surrounding (RCQ*). (Management & support system)	58%

RCQ* =Reverse Coded Question

In table-7(b), 5 items were “negative” way questions which are presented in this table in a “positive” direction. Here, the percentage value of item-10 (78%), item-12 (70%), item-11, 13 and 14 (58%) are showing the statements of all these 5 items as the challenging factors for online classrooms.

Discussion

This study found there was no significant relationship between most the demographic variables and student's perception. In Table-A2 and A3 (Appendix) it has been shown that the P-value of students' satisfaction in respect to "gender" and "residence" is greater than 10 ($10 < P < 49.5$ & $10 < P < 20.5$), it means that there is no significant relationship between gender and student's perception. Similarly, it is not significant with residence and students' perception. The same reliable findings are observed from the various researches (Arbaugh, 2000).

SP Related to the Effects of Student and Teacher Roles, and Responsibilities

The initial students' role was found by asking how about their preparedness of students for an OC. This study began with the motive for choosing online classroom in the six-item about their preparedness on OC, the majority of the respondents (88%) indicated they have selected an OC only when traditional physical classroom was not available or did not fit due to the covid-19. Another reason of choosing OC was, it is strictly convenience. Only 18% of respondents took an OC because they learn best in an online classroom (it has shown in Table-A2, Appendix).

As the findings from this study demonstrated, 88% of the graduate students rated their perception level with peer interaction and student-teacher interaction during online sessions at the highest end of the scales. This is similar to the findings of Inan et al. (2017) that “interactive delivery” or learning by doing was important as participation enhanced positive learning outcomes. 84% of the respondents out of 200, were also highly satisfied with their teacher's knowledge, motivation and communication capabilities, were the highest SP was identified similar to what Kirtman (2009) also found.

Student's Perception Related to the Effects of Online Class Management and Support Service

This study found that online class management and support services were also key indicators for successful and sustained learning in a virtual environment. Similar results were found by McGreal, & Elliott (2004) in their study. Although an average number of participants were partially satisfied with their management particularly, home environment for online learning; most of them were significantly disappointed with their support services specifically, their power supply, connectivity problems and surrounding disturbances.

Students' Perception Related to the Effects of Technical Skill, Course Design and Content Delivery

Based on findings of this study, technological skills, course design and content delivery have been identified as being critically important to students' satisfaction

which is similar to the findings of Jacobs (2014) and Yueng (2001). It was paradoxical that the students' general perception found positive even they expressed OC was not simpler than the traditional classroom. These lower degrees of perceptions suggest narrowing down the gaps between OC and the traditional physical classroom.

Students' Challenges

Based on findings of this study, for answering the second research question, the assessment system, course management and support service, and technological skills have been treated as the major challenges that the students are facing while participating in the OC - similar to what Allen & Seaman (2010) and Arbaugh's (2005) found. Another statement with low perception, dealing with "Simple than traditional classroom" also identified as a major challenge related to OC.

Only 20% of respondents agreed or strongly agreed that the assessment system was unbiased during the online sessions. It may be due to the rapid preparation of assessment instruments and system development by the teacher. Regarding assessment in OC, William, Cameron & Morgan (2012) found that practices during online classes are restricted due to format and methods. The reason may be the students were fresh as this was their first experience to get connected with the online class (Alam, 2020).

As they were new in OC, students had to be adapted to the IT based learning environment in spite of having different obstacles. During the lockdown period, most of the students were staying in different corners of the country especially in the rural areas where internet connectivity is either low or remittent. Also, the lack of electricity interrupts the continuation of the online sessions. From table-A2 (Appendix), it has been shown that most of the students (76%) are habituated to use the smartphone with tool like 'Zoom' (74%) for participating online sessions. It seems challenging as this app has limited time (40-minutes) to be connected online. So the time management has been difficult because students waste their time for rejoining after every technical disconnection (Alam, 2020).

Conclusion

Overall, this study identified positive SP towards OC related to the effects of various factors at the government colleges in Bangladesh. It has interpreted the SP throughout the whole procedure. The result was formulated into four categories according to the first research questions: (a) students' responsibilities including peer interaction, preparedness and self-motivation, (b) teachers' role including feedback and assessment, (c) online class management and support service, (d) technical skill, course design and content delivery.

Students' and teacher roles and responsibilities have identified influencing factors to the positive SP towards OC. However, SP was critically influenced by technical skills, class management, support service, and assessment. Besides, using technology, inadequate internet connectivity, lack of power supply and lack

of physical interaction were identified as the challenging factors for the students' Perceptions towards OC. As noted earlier, respondents were frequently dissatisfied with their assessment systems, using technology, and support services with students pointing out that biasedness and availability were common limitations for online classrooms. Respondents expressed that "we are taking an online classroom because the face-to-face classroom is not available or do not fit due to the COVID-19." Despite many limitations, this study identified the overall SPs were positive with online learning from various perspectives. This study has found the highest SP related to the interaction between peer learners and teachers. This may be due to the staying longtime in their residence as a matter of boredom.

Recommendations

Perhaps, the policymakers in Bangladesh should consider the issue of OC as well as identified those factors are critical to the SPs. The necessary resources for online classroom are- physical and human resources – management and support services – technical skills – course design and content delivery to improve online classroom do not exist in Bangladesh (Alam, 2020). The online courses should be designed earlier for ensuring effective learning. The appropriate guidelines should be provided for the students. Increased online support services including internet facilities and devices/tools from the institution level are also needed. Let the students ask or raise questions and give them feedback in a positive manner. Assessment tools should be developed and enable for using online. Also, the assessment systems should be unbiased. Online content and delivery should be revised according to the course design. Collect students' reflection on what you did better and on what you challenged with after finishing a course delivery to use for tentative course revises.

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APPENDIX

Table-A1: item wise value of Cronbach's Alpha		
Items	Item wise Cronbach's Alpha value	Average value of two major sub-categories
1. Gender	.786	0.787
2. Residence	.802	
3. Do you have previous experiences with OC	.791	
4. Devices Used on Regular Basis	.787	
5. Availability of Internet/Wi-Fi Connection at Home	.785	
6. Reason for taking OC (1-Face-to-face did not fit at the COVID-19 Pandemic, 2-I learn best in an online environment for all time)	.790	
7. Familiarity with these tools in online learning	.786	
8. Do you think the content of OC provided to you are helpful?	.786	
9. Are you satisfied in participating as a self-motivated learner towards OCs?	.810	
10. Low or remittent connectivity	.779	
11. Lack of electricity	.789	
12. Lack of physical interaction with fellow students/teachers	.768	
13. General difficulty with the use of technology	.775	
14. Disturbance from family/surrounding	.786	
Likert Scale items		
15. You have sufficient equipment and facilities (smartphone/computer/laptop/Internet/software) to participate for online classes	.794	0.771
16. You have sufficient computer knowledge and IT skills to attend your online class	.770	
17. Appropriate Guidelines are provided before starting online classes by your teacher	.750	
18. Online tools are easy to handle	.779	
19. Online classes are effective than face-to-face live classroom	.797	
20. The teachers are very knowledgeable, motivating and good at communication	.746	
21. Complicated than traditional classroom	.770	

22. You are happy about the student-student and student-teacher interaction during online sessions	.757	
23. You have the facility to ask questions or clear doubts during online sessions	.744	
24. Home environment is suitable for participating online sessions	.752	
25. You like to participate for online class with conventional sessions after COVID-19 pandemic over	.797	
26. The assessment systems are not biased	.792	

Table-A2: SPs Related to the Effects of General Items to the OC			
Variable labels and coding	Frequency N=200	% of Respondents	Mean & Std. Dev.
1. Gender			
"Male" =1	N=92	46%	1.54
"Female"=2	N=108	54%	0.503
2. Residence			
"Rural"=1	N=76	38%	1.62
"Urban"=2	N=124	62%	0.490
3. Do you have previous experiences with OC			
"Yes"=1	N=52	26%	0.26<0.5
"No"=0	N=148	74%	0.443
4. Devices Used on Regular Basis			
"Smart Phone"=1	N=152	76%	1.36 0.693
"Laptop"=2	N=24	12%	
"Desktop"=3	N=24	12%	
"Tablets"=3	N=0	-	
5. Availability of Internet/Wi-Fi Connection at Home			
"Yes"=1	N=156	78%	0.78
"No"=2	N=44	22%	0.418
6. Reason for taking OC			
"Face-to-face did not fit at the COVID-19 Pandemic"=1	N=164	82%	0.82
"I learn best in an online environment for all time"=2	N=36	18%	0.388
7. Familiarity with these tools in online learning			
"Microsoft Team" =1	N=0	-	2.42 0.758
"Zoom"=2	N=148	74%	
"Google Classroom" =3	N=20	10%	
"Others"=4	N=32	16%	

Table-A3: Chi-Square & P-Value Statistics Showing Student Satisfaction in Respect with Gender					
Question and Value level		Are you satisfied in participating as a learner towards OCs?		Total	Chi-Square & P value
		Yes	No		
Gender	Male	72	20	92	.403* P value=.395<.01
		72.0%	6.0%	78.0%	
Female	92	16	108		
	10.0%	12.0%	22.0%		
Total		164	36	200	
		82.0%	18.0%	100.0%	

* Not Significant (P>10)

Table-A4: Chi-Square & P-Value Statistics Showing Student Satisfaction in Respect with Residence					
Question and Value level		Are you satisfied in participating as a learner towards OCs?		Total	Chi-Square & P value
		Yes	No		
Residence	Rural	56	20	76	1.436* P value=.205<.01
		72.0%	6.0%	78.0%	
Urban	108	16	124		
	10.0%	12.0%	22.0%		
Total		164	36	200	
		82.0%	18.0%	100.0%	

* Not Significant (P>10)

SURVEY INSTRUMENT

Survey On Finding the Students' Perception and Challenges Towards OC

Item 1: Gender:

- a) Male. b) Female.

Item 2: Residence:

- a) Rural. b) Urban.

Item 3: Do you have previous experiences with OC:

- a) Yes. b) No.

Item 4: Devices Used on Regular Basis:

- a) Smart Phone. b) Laptop. c) Desktop. d) Tablets.

Item 5: Availability of Internet/Wi-Fi Connection at Home:

- a) Yes. b) No.

Item 6: Reason for taking OC:

- a) Face-to-face did not fit at the COVID-19 Pandemic. b) I learn best in an online environment for all time.

Item 7: Familiarity with these tools in online learning:

- a) Microsoft Team. b) Zoom. d) Google Classroom. d) Others.

Item 8: Do you think the content of OC provided to you are helpful?

- a) Yes. b) No.

Item 9: Are you satisfied on participating as a self-motivated learner towards OCs?

- a) Yes. b) No.

Item 10: Low or remittent connectivity:

- a) Yes. b) No.

SURVEY INSTRUMENT

Survey On Finding the Students' Perception and Challenges Towards OC

Item 1: Gender:

- a) Male. b) Female.

Item 2: Residence:

- a) Rural. b) Urban.

Item 3: Do you have previous experiences with OC:

- a) Yes. b) No.

Item 4: Devices Used on Regular Basis:

- a) Smart Phone. b) Laptop. c) Desktop. d) Tablets.

Item 5: Availability of Internet/Wi-Fi Connection at Home:

- a) Yes. b) No.

Item 6: Reason for taking OC:

- a) Face-to-face did not fit at the COVID-19 Pandemic. b) I learn best in an online environment for all time.

Item 7: Familiarity with these tools in online learning:

- a) Microsoft Team. b) Zoom. d) Google Classroom. d) Others.

Item 8: Do you think the content of OC provided to you are helpful?

- a) Yes. b) No.

Item 9: Are you satisfied on participating as a self-motivated learner towards OCs?

- a) Yes. b) No.

Item 10: Low or remittent connectivity:

- a) Yes. b) No.
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