

## Original Article

# Satisfaction with Online Learning among Sohag University Students

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## Abstract

**Background:** Recently the growth of online learning programs has been driven by the progress of the internet and the information technology that improved the education. Due to advancement of the latest technology, online learning has arisen as a substitute complement to traditional teaching and learning.

**Objective(s):** To determine factors affecting satisfaction of Sohag university students with online learning.

**Methods:** Strachota's Online Satisfaction Survey was applied on 782 students from faculty of medicine, pharmacy and education to assess the satisfaction of students with online learning. It included five main parameters (student-content interaction, student-instructor interaction, student-student interaction, student-technology interaction, and general satisfaction).

**Results:** Half of the studied students (50.3%) were not satisfied with online learning as a continuous method for education. Males were more satisfied (59.5%) than females (45%). Students living in urban areas (53%) were more satisfied than those of rural areas (45.8%) and students of faculty of medicine were more satisfied (54.4%) than faculties of pharmacy and education (40% & 48.6% respectively). The availability of computers and internet was significantly affecting the satisfaction of students with all parameters.

**Conclusion:** Half of the studied students were not satisfied with online learning as a continuous method for education. The factors affecting the satisfaction of students with online learning were availability of computers and internet, male gender and urban residence.

**Keywords:** E-learning, traditional learning, online education, university students

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## INTRODUCTION

Online learning means usage of tele-communication skills to distribute information about education and training that requires improving learners awareness, skills and internet technology to provide a wide range of learning and performance-enhancing solutions <sup>(1)</sup>. Online learning has arisen as an substitute complement to traditional teaching and learning <sup>(2)</sup>. The World Wide Web has developed to be a valued educational means and provides new experience for learners which were not earlier possible. Recently the growth of online learning programs has been driven by the progress of the internet and the information technology that improved the education <sup>(3)</sup>.

The benefits of online learning comprise: good interactions between instructors and learners, or learners with each others <sup>(4)</sup>, unlimited time and space

through the asynchronous and synchronous learning network <sup>(5)</sup>. These days in the educational settings, the internet is integrated to expand learning activities without relying on usual classroom space and time, actually, one of the essential aspects of online learning is the malleability of time and place for learning <sup>(6)</sup>. Online learning can provide students with easier and more effective access to an extensive variety and greater quantity of information <sup>(7)</sup>. However, the shift from traditional to online learning has a lot of challenges. Increasing time constraints and demands are continually placed on students and educators alike, driving departments to find new ways of providing a more personalized, self-directed learning experience <sup>(8)</sup>.

Several elements can impact the success or failure of the online learning education, alternating from student factors to staff factors <sup>(9)</sup>. For example, "cultural resistance" among staff is a great obstacle

against student engagement with technology-based education; thus, staff focused initiatives may be vital to the introduction of successful online learning programs <sup>(10)</sup>. It has also been documented that changes and growths in education are placing extra pressure on overworked faculty <sup>(1)</sup>.

On eleventh March 2020, the World Health Organization (WHO) declared that COVID-19 caused by the 2019 novel coronavirus (2019-nCoV) is considered a pandemic. This has changed a lot of major aspects of our lives. Social distancing and restrictive movement have markedly affected known academic activities. The pandemic has provided humanity with a chance to pave the road for introducing digital learning among students. Virtual classrooms, distance education may be close enough to what was occurring in real life at past times, especially with chat rooms that can replace real classrooms with the virtual rooms. Hybrid education using both in person and online activities can be much more effective and easier to use during such time <sup>(11)</sup>.

At Sohag University, we used different methods for e-learning to enable students to attend their lectures and to interact with the lecturer such as Microsoft team program and Zoom meetings. Satisfaction of students is an essential element in the assessment of online learning, as it is linked to the quality of online learning and performance. Communication is an essential indicator of student satisfaction; though, its effect has not been tested in the context of other critical student- and class-level predictors. The aim of present study was to identify the factors affecting satisfaction of Sohag University students with online education.

## METHODS

A cross-sectional study was conducted using the Strachota's Online Satisfaction Survey <sup>(12)</sup> to detect factors that affect student satisfaction with online learning methods used in the public health course. The questionnaire included information about demographic characteristics of students, learning interaction between students and their instructors and between each other, interaction with technology resources and internet usage. Questions of the survey tool were premeditated to draw student's opinions of satisfaction with online education.

The sample size was calculated by EpiInfo 7 software for an estimated population of 40,000 and a frequency of  $50 \pm 5\%$  at a confidence level of 95%. It was found that the minimum required sample size is 381, but for proper presentation of all students in the university we increased the sample size to 782 respondents. They were collected from three faculties (Medicine, Pharmacy and Education) to represent

practical and theoretical faculties. Students were inquired to complete an online survey using Google forms. We used snowball sampling technique (we had sent the questionnaire form via WhatsApp to students and asked them to send more and more to their colleagues in different academic years) to reach the required sample size. Participants took the online survey during the 5th to 8th weeks of the fall semester of 2020.

The questionnaire used in this study was Strachota's Online Satisfaction Survey (2002) <sup>(12)</sup>, it included in section 1: questions about the demographic data of each student as age, gender, faculty, academic year and availability of computer and internet, section 2: included five main satisfaction parameters (student-content interaction, student-instructor interaction, student-student interaction, student-technology interaction, and general satisfaction). The five parameters consisted of 25 questions: five questions for each parameter. Answers to these questions were according to a five-Likert scale which ranged from strongly disagree to strongly agree and the response scores ranged from 1 to 5. The questionnaire was translated into Arabic before distributing it on students in an accredited center for translation in Sohag University. Internal reliability was high; Cronbach's alpha was 0.871 ( $> 0.7$ ), which indicates a high degree of internal consistency in a multi-item scale.

Participants took the online survey via a website link (<http://forms.office.com>) during the 5th to 8th weeks of the fall semester of 2020.

## Statistical analysis

The data were analyzed by SPSS software program version 23. The satisfaction score was calculated by adding the student's response (ranging from 1 to 5) for all questions. The total score was considered as satisfied if more than 60 and was considered not satisfied if less than 60 <sup>(12)</sup>. Data were analyzed to assess how interaction variables affected the satisfaction of students with e-learning education using non-parametric tests (Mann-Whitney test, Kruskal-Wallis test and Spearman correlation) for examining the relations for quantitative variables. Chi square test was used to identify the relations between qualitative variables. P value below 0.05 was considered significant.

## Ethical considerations

The study was approved by the Institutional Review Board and the Research Ethics Committee of Sohag University. The research conformed to the international ethics guidelines and in agreement with the principles of Declaration of Helsinki, 2013 revision. Informed consent of participants was obtained by adding the consent statement in the survey.

## RESULTS

Table 1 shows that 782 students from faculty of Medicine (36.4%), Pharmacy (11.5%) and Education (52%) were included in the study. Most of the studied students were females (67.1%) and more than half of them lived in urban areas (54.2%).

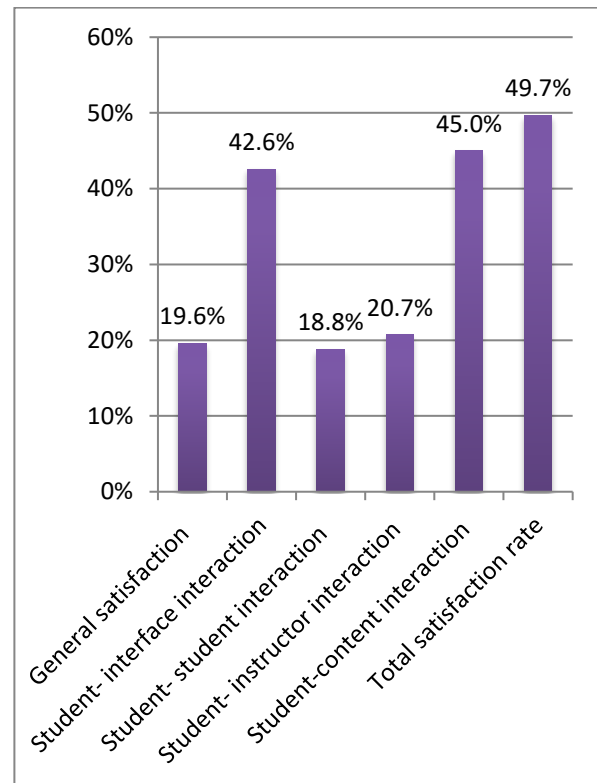
**Table 1: Socio-demographic data of the studied Sohag University students**

Demographic variables	University students (n = 782)	
	No.	(%)
<b>Age (Mean ± SD)</b>	20.86 ± 1.07	
<b>Gender</b>		
Male	257	(32.9)
Female	525	(67.1)
<b>Residence</b>		
Urban	424	(54.2)
Rural	358	(45.8)
<b>Faculty</b>		
Medicine	285	(36.4)
Pharmacy	90	(11.5)
Education	407	(52.0)
<b>Academic year</b>		
First year	166	(21.2)
Second year	166	(21.2)
Third year	64	(8.2)
Fourth year	386	(49.2)
<b>Availability of computer and internet</b>		
Yes	476	(60.9)
No	306	(30.1)

About half of the studied students (49.7%) were satisfied with online learning as a constant method for education. About 45% of the students were satisfied with the student-content interaction, 42.6% with the student-interface interaction, 20.7% with the student-instructor interaction and 18.8% with the student-student interaction (Figure 1).

As regards the student-instructor interaction, about 46% of the students strongly disagreed that the teacher had been an active member of group discussion offering direction to their discussion, 41.9% of them had not received timely response from their teacher, 40.9% had not been able to get individualized attention from their teacher when needed and 44.8% strongly disagreed that the teacher had functioned as the facilitator of the course by continuously encouraging communication. As regard the general satisfaction parameter, about 46% of the students were strongly not satisfied with the course, 41.9% of them strongly disagreed with taking another course with the same learning method, 40.9% strongly disagreed with the idea that the course definitely met their learning needs, 44.8% strongly disagreed that

they would definitely recommend this course to others and 42.3% strongly disagreed that this course was as effective as other courses with different learning methods (Table 2).



**Figure 1: Satisfaction of the studied Sohag University students with different parameters of online learning**

Table 3 shows that males were more satisfied (59.5%) than females (45%). Also, that students who had computer devices and internet were more satisfied (65%) than others (26.1%). Students of Faculty of Medicine were more satisfied (54.4%) than faculties of Education and Pharmacy (48.6% & 40% respectively). Students of urban areas were more satisfied (53%) than others of rural areas (45.8%). All differences were statistically significant.

Table 4 displayed that gender was significantly affecting satisfaction of students with the student-content, student-instructor and student-interface interaction ( $p$  value = <0.001, <0.001 & <0.001 respectively). The type of faculty was noticed to significantly affect the student satisfaction with the student-content, student-student and student-interface interaction ( $p$  value = <0.001, <0.001 & <0.001 respectively). Also, it was noticed that the residence significantly affected the general satisfaction of the studied students ( $p$  value <0.001). Lastly, the availability of computers and internet were significantly affecting the satisfaction of students with all parameters of satisfaction.

**Table 2: Parameters of satisfaction of the studied Sohag University students with online learning**

Student-content interaction (Mean ± SD)	14.80± (6.31)				
	SD %	D %	N %	A %	SA %
The course notes, modules, or lectures used in this course have facilitated my learning.	11.5	12.5	27.6	24.3	24
The tasks or projects in this course have facilitated my learning.	19.9	12.8	26.7	27.6	12.8
Training for quiz/exams in this course has facilitated my learning.	12.8	12.5	27.6	24.5	22.5
The education activities in this course have required submission of problem solving skills which facilitated my learning.	20	12.8	26.7	27.6	12.7
The education activities in this course have required serious thinking which facilitated my learning.	22.5	12.5	27.6	26	11.4
<b>Student-instructor interaction (Mean ± SD)</b>	11.12 ± 5.48				
In this course the teacher has been an active member of group discussion offering direction to our discussion.	45.7	19.9	20.5	9.1	4.9
I have received timely response from my teacher.	41.9	25.2	15.5	11.5	5.9
I have been able to get individualized attention from my teacher when needed.	40.9	23.8	20.8	9.0	5.5
In this course the teacher has functioned as the facilitator of the course by continuously encouraging communication.	44.8	25.4	15.2	8.6	6.0
When I have attended the course, the teacher knew I was present.	24.2	19.6	27.5	18.9	9.8
<b>Student-student interaction (Mean± SD)</b>	10.85 ± 5.00				
In this course the discussion activities have provided opportunity for problem solving with other students.	35.7	23.8	27.9	9.8	2.8
This course has made a sense of community among students.	34.7	29.4	20.2	12.7	3.1
In this course I have been able to share my views with other students.	35.8	30.8	19.4	11.0	2.9
In this course I have received timely response from other students	35.4	33.6	18.4	10.2	2.3
In this course I have been encouraged to deliberate ideas and perceptions covered with other students.	34.5	30.8	18.2	13.2	3.3
<b>Student-interface interaction (Mean± SD)</b>	14.1 ± 5.72				
I like working with computers.	24.2	19.6	27.5	18.9	9.8
Computers make me much more creative.	27.6	22.8	25.3	16.0	8.3
I am very self-confident in my abilities to use computers.	21.5	15.6	27.2	21.4	14.3
Some computer software packages definitely make learning easier.	22.5	12.5	27.6	24.3	13.0
Computers are good means for learning.	19.9	12.8	26.7	27.7	12.8
<b>General satisfaction (Mean± SD)</b>	10.54 ± 5.68				
I am very satisfied with this course.	45.7	19.9	20.5	9.1	4.9
I would like to take another course with the same learning setting.	41.9	25.2	15.5	11.5	5.9
This course definitely meets my learning needs.	40.9	23.8	20.8	9.0	5.5
I would definitely recommend this course to others	44.8	25.4	15.2	8.6	6.0
I feel this course is as effective as other courses with different learning methods	42.3	23.7	18.3	10.4	5.4

SD: Strongly Disagree D: Disagree N: Neutral A: Agree SA: Strongly Agree

**Table 3: Relation between satisfaction with online learning and characteristics of studied Sohag University students**

	Sohag University Students			p value of Chi square
	Satisfied (n = 389) No. (%)	Not satisfied (n = 393) No. (%)	Total (n = 782) No.	
<b>Gender</b>				
Male	153 (59.5)	104 (40.5)	257	0.000**
Female	236 (45.0)	289 (55.0)	525	
<b>Faculty</b>				
Faculty of Medicine	155 (54.4)	130 (45.6)	285	0.047*
Faculty of Pharmacy	36 (40.0)	54 (60.0)	90	
Faculty of Education	198 (48.6)	209 (51.4)	407	
<b>Residence</b>				
Urban	225 (53.0)	199 (47.0)	424	0.045*
Rural	164 (45.8)	194 (54.2)	358	
<b>Availability of computers and internet</b>				
Yes	309 (65.0)	167 (35.0)	476	0.000**
No	80 (26.1)	226 (73.9)	306	

**Table 4: Relations between parameters of student satisfaction and socio-demographic data of the studied Sohag University students**

	Student-Content interaction <i>p</i> value	Student-Instructor interaction <i>p</i> value	Student-Student interaction <i>p</i> value	Student-Interface interaction <i>p</i> value	General satisfaction <i>p</i> value
Age	0.031*	0.635	0.007*	0.145	0.429
Gender	0.000**	0.001*	0.866	0.000*	0.019*
Residence	0.008*	0.008*	0.221	0.046*	0.000**
Faculty	0.000**	0.217	0.000**	0.001*	0.225
Academic year	0.001*	0.002*	0.000**	0.002*	0.001*
Availability of computers and internet	0.000**	0.000**	0.000**	0.000**	0.000**

Spearman correlation with age

Mann-Whitney test with gender, residence, availability of computers and internet

Kruskal-Wallis test with faculty and academic year

## DISCUSSION

The aim of present study was to assess students' satisfaction with online learning at Sohag University. Most of the studied students were females (67.1%) due to different response rate among males and females and the mean age of the study participants was 20.8 years. This was similar to the results reported by Magagula and Ngwenya<sup>(13)</sup> in Turkey who stated that 68% of the learners were females and 92% aged 20 to 25 years. About half of the studied students (50.3%) were not satisfied with online learning as a persistent system for education, as they might be more interested to interact with teachers in the class room rather than watching online lessons, the reasons might be that undergraduates may be easily distracted during online sessions or they might prefer using the internet for entertainment or chatting with their friends, not for education. Our results are in agreement with Yu Z (2021), who found that undergraduate students were not satisfied with the online learning. However, the postgraduates, with stronger self-regulation, might have been more resistant to the external disturbances and could keep their learning behaviors under control. They thus preferred the online learning method to the traditional method, resulting in higher learning outcomes than the undergraduates<sup>(14)</sup>.

The present study revealed that males were more satisfied with online learning than females. Online female learners are more perseverant and involved than males, while males are more stable and have positive attitudes toward online learning. Females have stronger self-regulation than males in online learning, while males can use more learning strategies and better technical skills than females. Future research should do more in-depth research into this field<sup>(14)</sup>.

In the current study, the factors affecting satisfaction with online learning were availability of computers and internet, gender, type of faculty, and residence. Our results were in agreement with results

reported by Adas and Shmais<sup>(15)</sup> who confirmed that access to technology is one of the most essential elements affecting satisfaction of students. Technologies used in online and mixed educational situations have the potential to enrich the learning experience, to do more than what can be done in face-to-face or other approaches. Zuvic-Butoracet et al.<sup>(16)</sup> emphasized that e-learning is concerned with learning activities, resource access, communication and assessment assumed in an online environment, using range of information and communication technologies available in computer or mobile devices. Furthermore, Hampshire et al.<sup>(17)</sup> emphasized that a multilevel technique that comprises the individual student, learning environment, framework of the e-learning application, technological environment and the pedagogic included in the application of e-learning should be followed by successful implementation and comprehensive evaluation. Additionally, Barton et al.<sup>(18)</sup> reported that online access is an important element affecting students satisfaction, which was in line with our results. Learners should have access to consistent equipment and should be acquainted with the technology used in the course in order to be successful. Learners with restricted online access are at a significant difficulty compared to learners who have unrestricted online access<sup>(18)</sup>. The results were also in agreement with Astri<sup>(19)</sup> who stated that access to technology is one of the most significant elements affecting student satisfaction. Also, Fernández-Pascual et al.<sup>(20)</sup> mentioned that the important factors that explain satisfaction of students are technology, gender and residence. Learners should have an access to good tools both personally and on the part of the institution, students should have functioning equipment for participation and interaction and these equipment should be always used.

## CONCLUSION AND RECOMMENDATIONS

Half of the studied students were not satisfied with online learning as a persistent system for education.

The factors affecting satisfaction were availability of computers and internet, male gender and urban residence.

### CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

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