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Iranian University Students' Learning Satisfaction with Online Classes during the COVID-19 Pandemic: A Mixed-methods Study

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Abstract

With the abrupt emergence and development of the COVID-19 pandemic, face-to-face classes have been replaced with online classes (OCs) on an unprecedented scale in Iran. To improve the quality of OCs, it is quite essential to examine to what extent students are satisfied with them. With this aim, the current mixed-methods study purported to examine nnihrrsity ttddett '' lerrnigg aat.ffcctiee w,th OCs tt . ytt oll.. Brr ui. rii Uii vrrsutettrrr tee uuttt itati.. part, a total of 509 university students, including males (N=34) and females (N=475) filled out a modified version of the Satisfaction with Online Classes Survey (SWOCS) developed and validated by Bolliger and Martindale (2004). For the qualitative part, a sample of 20 students, consisting of males (N=9) and females (N=11) completed a reflective written statement disclosing their perceptions of OCs. Findings evidenced that the participants are moderately satisfied with OCs. In addition, the results of Friedman test documented that all the sub-factors of SWOCS played nn imrrr tnnt rll i i t t ee prrticiaatt a' laatii ii aaoistatt inn n cte n Cssn .. tt dd rrr rr y with the quantitative findings, r.. nnnndi fioe reaaaan nill hhh fav' vvrr rr iii nn ommssl "iii trutt t rs ard a critiaal fcctrr crr stnnnnts' lerr ll ee aatitt cctfnnh, 'pmndlrr iti wich accnnppss c fccts emcgggi vt ooernn ssusffss tœeht lrrrr aa ssi-up shapes statttt a' f""nbtii ,, tfofii av'' r cii ,"ecclmn" g ici dtccv" rr e natnn, ccd 'stnnnn.d' laarnigg aaeiff lii inn is ll ss ll y rrr rll atdd witu uutmmsss" Fiaallya argggf ff imll itt 9nni i s rr opeeen frr differnnt stkkllll drr..

***Keywords*:** Iranian Universities, Online Classes, COVID-19, eeeeeet'' aaa rii gg Stt iffatt inn

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Introduction

One of the essential conditions for successful online courses io nnmti i, n learning satisfaction. The level of atudents' learning satisfaction with online classes (OCs) plays a significant role when teachers, their course programs, and the general quality of educational programs are evaluated (Dashtestani, 2020; Jiang, Islam, Gu, & Spector, 2021). As Bolliger and Halupa (2012) noted, knowledge of the factors that may influence students' learning satisfaction with OCs can be of great help to hone the quality of such courses. For example, Bolliger and Martindale (2004) considered instructors as a very influencing factor that their roles have intensively changed with the advent of OCs. They continue that instructors have to become facilitators rather than what has beev traditionally alled the 'E ge onttLecuer de'S ' addition, Bolliger and Wasilik (2009) postulate that

raising students' learning satisfaction with OCs, students and instructors need to share control of the learning processes and students must learn to self-regulate their learning processes. In line with this dramatic shift, content design s ifus froi dteachar initiative, control, and respanribr or‘ il oh red fmT on hs oLei snonsrbiltty" (Bolliger & Wasilik, 2009).

Online learning can be defined as the access to learning experiences using technology (Carliner, 2004; Conrad, 2002). In the literature past, a number of notable advantages have been acknowledged for online learning, including being flexible (Bolliger & Wasilik, 2009), unlimited participation from across the world (Baker, Wentz, & Woodsc 2009f, impr33ing stakeholders' computer skills (Robinson & Hullinger, 2008), raising critical thinking (Chen, 2014), and providing opportunities for use of higher-order skills like problem-solving (Dashtestani, 2020). Also, the disadvantages of OCs should be noted. For example, the absence of face-to-face interactions, additional workload, technical difficulties, limited access to resources, among others, are some of the main challenges to benefit from online learning (Bolliger & Wasilik, 2009).

As Kamble, Gauba, Desai and Golhar (2021) put it, due to the extensive shift to online learning environments during the COVID-19 pandemic, education officials should try their best to create learning-rich environments. For this purpose, they need to pay particular attention to technology use, content design, learning assessment, student motivation, and student diversity (Jiang et al., 2021). These requirements necessitate training, time, and resources for instructors and online course designers (Landrum, Bannister, Garza & Rhame, 2021). If such fundamentals are ignored when a course is developed and delivered, student success and satisfaction will be adversely impacted. Creating a learning-rich environment that fosters success and satisfaction requires the systematic and principled use of both pedagogy and technology (Dashtestani, 2020). So, it is vitally crucial to explore the factors that may foster or imperil student success and learning satisfaction in online learning environments.

As online learning is growing, institutions and instructors have become more interested in knowing what f3ctors influence students' learning and satisfaMion in this environment. In the literature past, some factors have been confirmed (Bolliger & Halupa, 2012; Bolliger, & Martindale, 2004). These factors include instructors, technology, interactions, course setup, and course outcomes. One of the most influencing factors in .tudents' learning satisfaction is instructors (Finaly-Neumann, 1994). According to Bolliger and Martindale (2004),piut inochar esom . m to raise *tudente' learning satisfaction in OCs, they should be available when students have any question, they should be flexible, they should act as a motivator, they should offer feedback on students' assigmnent. and *erformanc in a timely manner, and they communicate with students regularly. Technology is another important factor influencing snudents' learning satisfaction in OCs. As Datt and Singh (2021) note, students do not feel satisfied with OCs unless they have unlimited access to reliable and easy-to-use facilities and have enough familiarity with the technology used in OCs. Another important issue that rwtenti hss ahc ct o.el. leg a , qmmobi etcexlearning rawhfa)taon m OCs in stunentsh comi u er self-efficacy (Jiang et al, 2021). It is postulated that the higher levels of computer self-efficacy, the higher levels of learning satisfaction. The third factor that has gained huge attention is interactions. As Kuo et al. (2014) stressed, social interaction and collaboration is the integral requirement of any learning environment. According to PsdnEonnx . rnttw(f9nE)t "o, Ef oT the learning process are the interactions among students themselves, the interactions between faculty and students, and the collaboration in learning that results from these interactions" (p. 12). Hence, it can be concluded .hat the learning environment that lacks interactions cannot lead to students' learning satisfaction. Course set-up is seen as the other crucial variable in student2' learning satisfaction. During OCs, students should receive administrative support (Moore & Kearsley, 1996). As Bolliger and Martindale (2004) highlighted, students should have access to one contact person who assists them when they encounter a problem. Students are more satisfied with well-designed online courses that have clear goals and are easy to navigate (Sun, Tsai, Finger, Chen & Yeh, 2008). The last factor determining students' learning satisfaction is course outcomes. This factor refers to the results that students have obtained in OCs (Bolliger & Halupa, 2012). It seems easy to hypothesize that the more promising results students obtain, the more satisfied they are with OCs.

hhe9el p8.n "cG oa tudents' learning satisfaction with OCs has gained huge significance with the abrupt emergence and development of the COVID-19 pandemic. This is particularly the case with the Iranian higher education contexts where the COVID-19 pandemic has led to the lockdown of universities across the country. In actual fact, the Iranian higher education contexts have been experiencing online learning on an unprecedented scale, scope, and depth in history. Given this unique situation, the current study purported to dri nvoet yncen ht dns ic, rn rcll ea aopbt isur sutp1m ts' are satisfied with OCs during the COVID-19 pandemic. The hope is that university officials, university teachers, and online course developers can benefit from the current study's findings aimigg to verify t, e dett rmining<facvors

of university students' learning satisfaction with OCs. As such, they can provide university students with quality learning environments (Ilgaz & Gulbahar, 2015; Tarisayi & Munyaradzi, 2021).

Here, we review critically some of the relevant studies to lay the groundwork for the current study. In the research by Bolliger and Martindale (2004), an attempt was made to clarify the key factors determining students' learning satisfaction in online courses. Their findings evidenced that some factors, including the instructor, technology, interactivity, course management, and website have the largest effect on students' learning satisfaction with OCs. Additionally, Bolliger and Halupa, (2012) investigated American graduape stydents' learning satisfaction with both blended and online courses. They found that the instructor received the highest value and technology received ths owiD ' apte from the participants' perspectives. Moreover, their findings documented that their participants' learning satisfaction was immensely affected by the flexibility of the delivery mode, instructor availability and response time, as well as quality instructor feedback.

More recently, in the research by Jiang et al. (2021), the factors determining Chinese university students' learning satisfaction with online learning platforms were et ure". Wss e Afound that their participants' learning satisfaction with online learning platforms is directly and indirectly affected by computer self-efficacy and the perceived ease of use. Finally, Datt and Singh (2021) examined university students' awareness of and satisfaction with the e-services that were provided through Website. Their results disclosed that up to 58% of the university students were not aware of the services provided by the university and the majority of the participants were dissatisfied with the given e-services. Kamble et al. (2021) tried to excavate Indian university learners' perceptions toward the sudden-ransformation from traditional face-to-face classes to online learning environments due to the COVID-19 pandemic. Their results yielded five major themes: accessibility and comfort, internet connectivity, online learning environment effectiveness, course content, and interactions between students and instructors. In the Iranian context, Dashtestani (2020) examined higher education stakeholders' perspectives about online courses and pre-service teachers' learning achievements in online courses. His results disclosed some challenges, including lack of credibility of course certificates, technical problems, students' low knowlegge of the content, lack of technological infrastructures, lack of human interaction, and employers' lack of interest in employing graduates of online courses.

What can be inferred from the above-alluded studies is that university students' learning satisfaction with OCs during the COVID-19 pandemic in the Iranian higher education is under-researched. To bridge the gap, the present mixed-methods study set out to disclose to what extent Iranian university students are satisfied with OCs during the COVID-19. The findings of the present study can be useful to university officials to address effectively the factors that contribute to university students' satisfaction in OC1. Additionally, the results of the study can further university teachers to accommodate their ways of teaching such that it can lead to increased learning satisfaction among university students. To meet these goals, the following research questions were put forward:

1. To what extent are the Iranian university students satisfied with the online classes during the COVID-19 pandemic?
2. What are the Iranian university students' experiences and perceptions about the online classes during the COVID-19 pandemic?

Method

Research Design

In this study, we used an explanatory mixed-method approach where we gathered the required data by distributing a questionnaire and a reflective written statement. That is, the quantitative data were followed by the qualitative data. As Mackey and Gass (2016) noted, the mixed-methods design provides allows researchers to achieve triangulation. That is, researchers use different methods to gather data on the same topic.

Participants

hhe study's participants were selected from Ayatollah Borujerdi University, Iran. Using a random sampling method, a total of 509 university students, including 34 (6.7 ٪) males and 475 (93.3 ٪) females participated in the quantitative part. For the qualitative part, 20 university students including 9 males (45 ٪) and 11 females (55 ٪) who participated in the quantitative part were selected through a random sampling method. As Riazi (2016) noted, the random sampling method is used by researchers to offer equal opportunity for individauls in a population to be selected for a study. They were all undergraduate B.A. students who ranged from 18 to 24 years of old. It should be noted that to access the participants, the first researcher referred to the Education Deputy of Ayatollah Borujerdi University and explained thow rmuhnmtal yef ort s av-depth. With the agreement of the Education Deputy, the phone numbers of the participants were given to the first researcher. As all

university students at Ayatollah Borujerdi University were using WhatsApp application during the COVID-19 pandemic, the researchers sent a message to explain to tf s m kind' (Le, Wi, &Du, 2019 und asked thmmif th. y are willing to participate in the current study. Moreover, it is worthy to note that to measure the reliability of the questionnaire, it was piloted with 65 B.A. students at Ayatollah Borujerdi University.

To satisfy the ethical requirements, the written consent in Persian was sent via WhatsApp Messenger, or simply WhatsApp application to the participants to be signed and sent back to the researchers. In the written consent, the participants were ensured that their responses would remain confidential, participation in the current study would not bring any negative consequences for them, and they would be kept informed about the final findings.

Instruments

The researchers used a questionnaire named Satisfaction with Online Classes Survey (SWOCS) and a reflective written statement to gather the required data. SWOCS was developed and validated by Bolliger and Martindale (2004) to measure students' learning satisfaction with OCs. SWOCS has 23 five-point Likert scale statements ranging from 1-strongly disagree to 5-strongly agree that address several factors, including (a) instructor; (b) technology; (c) course set-up; (d) interactions; and (e) outcomes. The instructor factor deals with the availability, response time, and feedback of the instructors. The technology factor refers to the availability of high-quality and reliable equipment to students. The course set-up concerns technical support and asks if students have access to resources like textbooks, libraries, and a toll-free number to reach OCs. The interaction factor explores if students have enough quality interactions with their instructors and other students, as well as enough opportunities to work with each other. The outcome factor securitizes if students are satisfied with their grades and if there is a harmony between the time and effort they put in OCs and the results they obtain.

It should be noted that SWOCS was translated into Persian by a professional translator to avoid any possible misunderstanding on behalf of the participants. The reliability and validity of SWOCS were measured prior to the study. Concerning the reliability, a total of 65 B.A. students filled out SWOCS. The internal consistency was measured through Cronbach alpha (0.85) which was acceptable to the present study's purposes. Regarding the validity, SWOCS was given two associate professors in applied linguistics at Lorestan University to measure its face and content validity. In line with their comments, some minor modifications were made. Moreover, to ensure that if SWOCS items are understandable to the intended participants, the researchers invited ten B.A. students to complete SWOCS and tell if there is any ambiguity with its items

For the qualitative part, according to SWOCS (Bolliger & Martindale, 2004), the researchers developed some questions to prepare a reflective written statement. In exact words, the participants were invited to reflect upon the following prompt:

Dear Student,

I kindly invite you to reflect upon your learning satisfaction with online classes during the COVID-19 pandemic. You are supposed to verify the factors that may have affected your learning satisfaction with online classes. For this purpose, you can consider the following questions:

1. How can your instructors affect your learning satisfaction with the online classes?
2. How can your familiarity with technology affect your learning satisfaction with the online classes?
3. How can the course set-up affect your learning satisfaction with the online classes?
4. How can your interactions with others (instructors and students) affect your learning satisfaction with the online classes?
5. How can the outcomes affect your learning satisfaction with the online classes?

A report with 500-700 words in length will be enough.

Of particular note is that the reflective written statement was in Farsi to let the participants express their perceptions with ease. The reflective written statement was sent to 20 university students via WhatsApp. The underlying reason to use the reflective written statement was to check the accuracy of the quantitative findings, as well as to disclose some important aspects that may have not been addressed by SWOCS. It should be noted that the researchers checked the consistency and accuracy of these questions. For this purpose, they gave the questions to two associate professors in Educational Psychology to assess their face and content validities. According to their comments, the researchers made some minor modifications. However, they confirmed that they could be used for the current study. Afterward, the researchers sent the questions to ten university students to examine if there was any problem with them in regards to the grammar and lexis. The university students' affirmed that the questions enjoyed a high level of readability.

Procedure

The required data were gathered both quantitatively and qualitatively. For the quantitative part, in the first step, Bolliger and Martindale's (2004) questionnaire was translated into Persian by a technically proficient in translation. In the next step, the researchers invited two associate professors in applied linguistics to examine if the questionnaire enjoy the required face and content validity. Then, to measure the reliability of the questionnaire, the researchers distributed it among 60 B.A. undergraduate students and its internal consistency was gauged through Cronbach alpha (0.85). In the final step, the questionnaire was sent to the participants (n=509) via WhatsApp application to be filled out.

For the qualitative part, as pointed out above, in line with Bolliger and Martindale's (2004) questionnaire, the researchers designed a reflective written statement including five questions. Then, a well-experienced translator translated the questions into Persian so that the participants can express their perceptions easily. Next, the reflective written statement was sent to the participants via WhatsApp (n=20) who completed SWOCS.

Data Analysis

As the present study was mixed-methods, the data were analyzed both quantitatively and qualitatively. To analyze the quantitative data, the researchers used SPSS, version 22 and checked out if the collected data consisted of any cases with missing data. Then, they estimated the mean (M), standard deviation (SD), and percentage of all 23 items of SWOCS. Afterward, the researchers run one Sample T-test to see if a statistically significant difference between the Ms of the items and the overall mean. Then, this procedure was repeated for each sub-factor as well. Additionally, to see which sub-scales of SWOCS were more influential, the researchers run a Friedman Test.

To analyze the qualitative data, they were subjected to inductive content analysis. As Mackey and Gass (2016) noted, the content analysis aims at making sense of the content of the interactions among participants. In doing so, a three-step procedure, namely *open coding*, *axial coding*, and *selective coding* was followed (Dörnyei, 2007). In the first step, the first researchers read the transcripts so much so that she got familiar with and understood them well. In this step, she broke the collected data into discrete parts, created codes (n=257), and labeled them. The underlying reason for breaking up the collected data and labeling them with codes was being enabled to compare and contrast similar concepts. In the second step, the first researchers based on the codes created in the first step organized them and tried to draw connections among them. The last step was dedicated to putting the perceptions of the participants under the inductively-generated themes. The first researcher connected all the together around one core category. This led to the emergence of five main core categories. It should be noted that two analysts analyzed the data and the consistency of their inter-rater was (α= 0.87). The member checking strategy was used to ensure the credibility of the university students' responses. For this purpose, five participants were invited to see a copy of their perceptions and assess if they represented their intended meanings. In total, the participants confirmed that the results corresponded with their intended meanings.

Findings

Quantitative Results

The first research question investigated to what extent Iranian university students were satisfied with OCs during the COVID-19 pandemic. As the findings in Table 1 report, since the calculated P values were all less than the sig value (0.05), it can be concluded that all the items contributed significantly to the university students' learning satisfaction. Additionally, as the results indicate, the university students' were satisfied with the instructor sub-scale. 50 percent of the participants were satisfied with the ways through which the course expectations were communicated to them. 70 percent of the participants were satisfied with the clarity of the communication of the class assignments. Only 37 percent of the participants feel satisfied with the clarity of the assessments/grades and considered them as fair. 58 percent of the participants were gratified with the manners through which feedback and evaluation of papers, tests, and other assignments were given. 60 percent of the participants agreed that their instructors make them feel that they are part of the class and feel belongingness. 43 percent of the participants feel gratified with their instructors' accessibility and availability.

Table 1.
Mean Scores and Standard Deviations for Students' Learning Satisfaction Sub-scales Items

Items	M	SD	Percentage	P value
1. The course expectations were clearly communicated to me.	3.21	1.148	50.1	.004*
2. The class assignments were clearly communicated to me.	3.66	1.045	70.5	.000*
3. The assessment/grades in this course were clear and fair.	2.80	1.318	37.1	.008*
4. Feedback and evaluation of papers, tests, and other assignments was given in a timely manner.	3.37	1.169	58.3	.003*
5. The instructor makes me feel that I am part of the class and belong.	3.47	1.203	62.1	.024*
6. I am dissatisfied with the accessibility and availability of the instructor.	3.11	1.278	43.6	.008*
7. I am satisfied with the use of "threaded" online discussions and/or forums.	3.31	1.235	57.2	.012*
8. I am satisfied with the use of the chat tools.	3.48	1.219	63.7	.017*
9. I am satisfied with how I am able to navigate within the course management system.	3.37	1.348	59.3	.033*
10. I am dissatisfied with download times of resources in the course management system.	2.58	1.182	23.6	.022*
11. I am satisfied with the frequency I have to attend class (e.g., log into the course, participate).	3.50	1.246	62.1	.000*
12. I am satisfied with the flexibility this course delivery method affords me.	3.23	1.482	54.0	.042*
13. I am dissatisfied with the level of self- directedness required of me.	3.17	1.208	45.8	.008*
14. I am satisfied with working on projects by myself.	3.40	1.147	59.5	.017*
15. I am satisfied with the quality of interaction between students.	3.18	1.224	50.3	.007*
16. I am dissatisfied with the process of collaborative activities during the course.	2.97	1.181	37.3	.009*
17. I felt I could relate to the other students in my course.	3.14	1.234	47.3	.008*
18. I am dissatisfied with the amount of student-to student interaction in the class.	2.95	1.167	37.3	.006*
19. I felt comfortable participating in class through this course delivery medium.	3.28	1.358	56.0	.042*
20. I am satisfied with the level of effort this course required.	3.50	1.195	63.1	.027*
21. I am dissatisfied with my performance in this course.	3.25	1.283	50.3	.012*
22. I believe I will be satisfied with my final grade in the course.	3.14	1.312	50.1	.041*
23. I feel I will be able to apply what I have learned in this course.	2.96	1.310	41.7	.032*

Concerning the technology sub-scale, the findings report that the participants are somehow satisfied. 57 percent of the participants were satisfied with the use of "threaded" online discussions and forums. 63 percent of the respondents demonstrated that they were satisfied with the use of chat tools. 59 percent of the participants feel satisfied with their opportunity to navigate within the course management system. Only 23 percent of the university students feel dissatisfied with download times of resources in the course management system.

About the course set-up sub-scale, the results disclosed that the university students are, to large extent satisfied. 62 percent of the participants expressed learning satisfaction with the frequency they were able to attend OCs. 54 percent of the participants indicated that they were satisfied with the flexibility the course delivery method has afforded them. 45 percent of the participants were dissatisfied with the level of self-directedness required of them. 59 percent of the

participants were satisfied with working on projects by themselves.

Regarding the interaction sub-scale, the results evidenced that the participants were not highly gratified with it. 50 percent of the university students expressed learning satisfaction with the quality of interactions in online courses. 37 percent of the respondents were dissatisfied with the process of collaborative activities during the online courses. 47 percent of the respondents felt that they could relate to other students. 37 percent of the university students were dissatisfied with the amount of student-to-student interactions. 56 percent of the respondents felt comfortable participating in the OCs through this course delivery medium.

About the outcomes subscale, the findings documented that the participants were moderately satisfied with it. 63 percent of the participants were gratified with the level of effort that the online courses required. 50 percent of the respondents stated that they were dissatisfied with their performance in the online courses. 50 percent of the participants feel satisfied with their final grades in the online courses. Only 41 percent of the respondents felt that they were able to apply what they have learned in the course.

As reported in Table 2, the results evidenced that all the sub-scales contributed significantly to the university students' learning satisfaction because the calculated p values were less than the Sig Value (0.05). Furthermore, the researchers wanted to see which sub-factors of SWOCS were more influential. To this end, they run a Friedman test. As reported in Table 2, the basic descriptive statistics for the course set-up (M=3.27, SD=1.19), instructor (M=3.27, SD=1.19), outcomes (M=3.27, SD=1.19), technology (M=3.27, SD=1.19), interaction (M=3.27, SD=1.19) were calculated, respectively.

Table 2.
Mean Scores and Standard Deviations for Learning Satisfaction Sub-scales

Subscale	M	SD	P value
Instructor (Q1-6)	3.27	1.193	.024*
Technology (Q7-10)	3.18	1.246	. 031*
Course Set-up (Q11-14)	3.32	1.270	.049*
Interaction (Q15-19)	3.10	1.232	.012*
Outcomes (Q20-23)	3.21	1.275	.038*

To investigate if there was any statisitically difference between the sub-factors, the reseachers run a Friedman test. The results are presented in Table 3.

Table 3.
Results of the Friedman Test

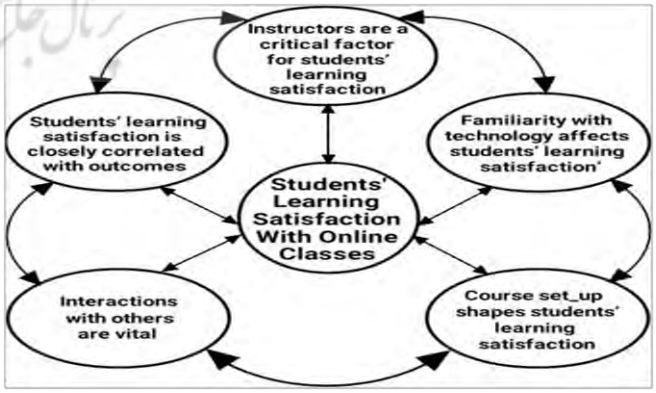
Test Statistics[a]	
N	509
Chi-Square	6.75
df	4
Asymp. Sig.	.042*
a. Friedman Test	

As reported in Table, there was not a statistically significant difference among the factors contributing to the university students' learning satisfaction in OCs ($\chi\chi^2(4) = 6.75$, $p = 0.042$). It means, for the participants, the sub-factors of students' learning satisfaction, course set-up, instructors, technology, outcome, interaction, play an important role in the participants' learning satisfaction with OCs.

Qualitative Results

The second research question examined Iranian university teachers' perceptions about their learning satisfaction with OCs during the COVID-19 pandemic. The results of the content analysis yielded five overarching thmnes: "instructors are a critical factor for students' learning satisfaction', 'familiarity with technology affects students' learning satisfaction', 'course set-up shapes students' learning satisfaction', 'interactions with others are vital', and 'students' learning satisfaction is closely correlated with outcomes' (Figure 1). They are detailed below.

Figure 1.
A Model of University Students' Learning Satisfaction with Online Classes



Instructors are a critical factor for students' learning satisfaction

hhe first recurring theme was 'instructors are a critical factor for students' satisfaction'. Complementary with the quantitative results, the participants pinpointed that instructors play a key role in their learning satisfaction with OCs. They reported that they were satisfied moderately with their instructors' roles in the OCs. For example, one of the participants was somehow satisfied with the OCs since he has easy access to the instructors. He commented:

"hhe instructors have a crucial role in the online classes. Easy access to my teachers made me feel calm and urged me to study my lessons."

Also, another participant's cmmmented that she is somehow satisfied with the OCs due to their instructors' clear communication about the course expectations. She remarked:

"Our teachers try to clarify the course expectations clearly. This helps us know course objectives and mangge our time and effort."

However, one of the participants blamed for the ambiguity of their instructors' grading criteria. He asserted:

"Unfortunately, the grading criteria are not communicated with us clearly at the beginning of the courses. This makes me feel confused and lose my motivation."

Familiarity with technology affects students' learning satisfaction

The second frequent theme that emerged from the participants' responses was 'familiarity with technology affects students' learning satisfaction'. Concerning the effects of familiarity with technology on the university students' learning satisfaction with the OCs, the findings evidenced that they are somehow satisfied with them. One of the frequent points in the participants' responses was that they have enough opportunity to reuse the course materials later. In this regard, one of the participants remarked:

"One of the biggest benefits of the online courses is that we can reuse the course materials. When I cannot attend a class, I can use the materials recorded by my instructors."

Additionally, the participants felt satisfied with the times that can enter OCs. In this respect, a participant wrote down:

"One of the big advantages of the online classes is that I can enter and leave the classes in an unlimited time. This makes the online classes flexible and makes me feel satisfied with them."

However, the participants expressed dissatisfaction with the complex, hard use of Learning Management System (LMS). In this respect, one of the participants wrote down:

"oo benefit from the online classes, we need to have good digital literacy. The point that made me dissatisfied during the online courses was the complex use and unfamiliarity with Learning Managmnent Systmm"

Course set-up shapes students' learning satisfaction

The third theme catching the attention of the participants was 'set-up shapes students' satisfaction'. In line with the quantitative results, the participants' words revealed that they are somehow satisfied with the course set-up of OCs. One of the factors contributing to the respondents' learning satisfaction was flexibility. In this regard, one of the university students remarked:

"hhe flexibility of the online classes is a notable advantage. Unlike the traditional classes, the online classes are easy to access and cost-effective."

Additionally, the respondents expressed learning satisfaction with their autonomy in OCs. For this, one of the participants commented:

IIn the online classes, I have the opportunity to work and learn based on my interest and talent. hhat is, I don't have to wait for the other students like the traditional classes."

However, some of the participants lamented the lack of discipline in running OCs. One of the respondents stated:

"Unfortunately, the schedule of the online classes is chaos. I couldn't plan to attend the online classes because some instructors change the class times continuously."

Interactions with others are vital

The next theme that received attention from the participants was 'interactions with others are vital'. hhe findings disclosed that the university students are somehow dissatisfied with the interactions in OCs. The following statement clearly shows this:

"Unfortunately, in the online courses, the interactions between teachers and students are not dialogic. For example, I can't share my views freely about the lesson materials or raise my questions. There are lots of problems and limitations."

Another participant complained about the absence of face-to-face interactions in OCs. He wrote down:

"hhe absence of face-to-face interactions in the online classes is really problematic. When you cannot see the face of instructors and other students, you can't

see their feelings about the lesson materials. In turn, this mkkes the online classes boring."

Besides, another participant expressed disdain for OCs due to the lack of opportunity to do cooperative activities. In this respect, she stated:

IIn the online classes, I do'' t have any chance to do pair/group works. They are run in lecture mode. Hence, some students do not enjoy learning in them."

Students' learning satisfaction is closely correlated with outcomes

The last theme that emerged from the university students' words was 'Students' learning satisfaction is closely correlated with outcomes'. In accordance with the quantitative findings, the results unveiled that the university students felt satisfied moderately with the outcomes in OCs. The respondents frequently commented that they are scored leniently. So, they can get high scores easily. For this point, one of the respondents asserted:

"Because I can get high soores, I mmsatisfied with the online classes. hhe reason for this is our teachers' grading system. They score my performance somehow leniently."

Additionally, the participants emphasized that there exists a good match between their spent time and effort and their results. The following comment shows this clearly:

II mmsatisfied with my corr se scores because there exists a good match between the amount of time and energy I spent and the score I got. It is promising to me when I can get my desired scores in the online classes.

Discussion

The first research question investigated to what extent Iranian university students' were satisfied with OCs during the COVID-19 pandemic. As reported above, the findings revealed that the participants were not highly satisfied with OCs. The results evidenced that the university students' learning satisfaction with sub-scales, including instructors, technology, course set-up, interactions, outcomes, and overall nearly fell around 50 percent. Additionally, the findings documented that all the items of the questionnaire contributed significantly to the university students' learning satisfaction. Further, the results of the Friedman test documented that all the sub-scales of SWOCS played an important role in the participants' learning satisfaction. The second research question explored the Iranian university teachers' perceptions of their learning satisfaction with OCs during the COVID-19 pandemic. Complementary with the quantitative findings, the qualitative results yielded five overarching thmnes: 'instructors are a critical factor for students' learning satisfaction', 'familiarity with technology affects students' learning satisfaction', 'course set-up shapes students' learning satisfaction', 'interactions with others are vital', and 'students' learning satisfaction is closely correlated with outcomes'. According to tee study's findings, it myy be argued that the university students' learning stasifaction in OCs is a complex concept affected by different factors. In other words, it may be discussed that instructors, technology, course set-up, interactions, outcomes factors should act positively to set the ground for the university students' feel satisfied with their learning in OCs.

hhe study's findings myy be explained from this view that the university teachers might have not been acting very well in OCs. It seems that they have not been prepared well to deal with OCs during the COVID-19 pandemic. Instead of perceiving their roles as lecturers whose major job is the delivery of learning materials, they have not adapted themselves to become a facilitator in the online courses (Eom, Wen, & Ashill, 2006). It may be argued that they might have not accepted to be responsible for stimulating, guiding, and challenging university students through empowering them with freedom and responsibility. Additionally, in line with Landrum et al. (2021), it may be argued that since university teachers might not have provided effective feedback in OCs, the university students could not imprvve their learning. hhe study's findings are partly compatible with the previous studies (Bolliger & Halupa, 2012; Bolliger & Martindale, 2004; Eom et al., 2006; Fedynich, Bradley & Bradley, 2015; Landrum et al., 2021), reporting that instructors were perceived crucially important in students' learning satisfaction in OCs.

Another possible reason for the study's findings myy be provided through the communication framework of Moor (1989). According to this model, involvement in learning can be achieved through interactions between learners and learning materials, interactions between learners and their teachers, and interactions between learners and their peers. As the findings revealed, since the university students did not have effective interactions in OCs, they may not have been engaged well in verbalizing what they have learned and articulating their current understanding (Dziuban & Moskal, 2011). Moreover, in line with Ozkan and Koseler (2009) and Harsasi and Sutawijaya (2018), it can be argued that as the university students did not have opportunities to do group work in OCs, they were deprived of interactions to benefit from their peers' help. hhe study's findings are partly consistent with the previous studies (Arbaugh, 2000; Eom et al., 2006; Fedynich et al., 2015; Kuo et al., 2014), documenting that there was a strong positive

correlation between learners' levels of interactions and their learning satisfaction in OCs. In addition, in line with Emm et al. (2006), the study's findings myy be related to the course management factor. It means that since the participants did not find the overall usability of the LMS platform satisfactory, it may have adversely affected their learning satisfaction. Additionally, the study's results may be also ascribed to the fact that administrative and technical support was vitally important to the university students' learning satisfaction with OCs (Moore & Kearsley, 1996). Along with Bolliger and Halupa (2012), it may be argued that since the university students were derived of a contact person to assist and guide them, they may have had some problems using the LMS platform. So, they might have experienced frustration in OCs. These findings are partially consistent with the previous studies (Bolliger & Martindale, 2004; Fedynich et al., 2015; Mahmood, Mahmood, & Malik, 2012), indicating that the course manggmnent factor was highly correlated with learners' learning satisfaction in OCs.

hhe study's findings myy also be explained through the technology satisfaction model (TSM), proposed by Islam (2014). According to TSM, users will be satisfied with technology when they experience the ease of use and usefulness (Jiang et al., 2021). Therefore, in line with the study's findings, it can be argued that the university students were not highly satisfied with the OCs due to the absence of ease of use and usefulness. In other words, along with Granić and Marangunić (2019), it may be argued that since the factors determining the quality of OCs were not functioning well, the university students might do not found the classes easy to use and useful. Consequently, they might have lost their satisfaction. Additionally, the study's findings myy be ascribed to the participants' weak computer self-efficacy, proposed by Venkatesh and Davis (1996). Introduced to the education field by Islam, Leng, and Singh (2015, p. 57), computer self-efficacy is defined as "students' beliefs in their capability to use a computer for their learning and research" (Jiang et al., p. 3). From this perspective, we may argue that a major reason for the findings myy be that the participants' did not have a high computer self-efficacy to believe in their capabilities to use effectively the new platforms and applications. Therefore, they were not able to improve their learning and perceived the online learning as difficult to use and useless (Chen, Islam, Gu, Teo, & Peng, 2019; Islam, Qian, & Leng, 2018). The findings are consistent with the previous studies (Dong et al., 2020; Heckel & Ringeisen, 2019; Wang, Lin, Hwang, & Liu, 2019), reporting that the computer self-efficacy greatly impacted learners' satisfaction in OCs. Also, the study's findings can be discussed from this view that the online learning classes and systems might have placed more duties on the participants compared to the face-to-face classes. In this regard, the university students might have been required to be more self-regulated learners such that they could more actively plan, monitor, and evaluate their own learnings (Eom et al., 2006; Kuo et al., 2014). Therefore, it is reasonable to imagine that since the university students had not been prepared to self-regulate their online learning before the COVID-19 pandemic, they could not benefit from OCs to improve their learnings (Smith, 2001). Thus, they may have lost their motivation to attend to OCs.

Conclusion

There has been a growing interest concerning learning satisfaction with OCs in higher education contexts. One of the major reasons for this increasing call is the rapid and extensive development of OCs around the world. In addition, another factor that has synergized this growing call was the abrupt emergence and spread of the COIVD-19 pandemic. In fact, there is an urgent need to explore university students' learning satisfaction with OCs as millions of Iranian university students are using them to not be deprived of their studies. To meet this urgent need, the current study purported to examine Iranian university students' learning satisfaction with OCs both quantitatively and qualitatively. In general, the findings evidenced that the Iranian university students were not highly satisfied with OCs during the COVID-19 pandemic. Furthermore, the results of Friedman test documented that all the sub-factors of SWOCS played an important role in the participants' learning satisfaction with OCs. Complementary with the quantitative findings, the qualitative results yielded five overarching thmnes: "instructors are a critical factor for students' learning satisfaction', 'familiarity with technology affects students' learning satisfaction', 'course set-up shapes students' learning satisfaction', 'interactions with others are vital', and 'students' learning satisfaction is closely correlated with outcomes' According to the results, it can be concluded the university students were not satisfied with OCS. The factors shaping university students' learning satisfaction, such as instructors, technology, interactions, course-set-up, and outcomes were not acting well.

In line with the study's findings, smne implications are presented for different stakeholders. Firstly, it is suggested that Iranian university officials should take an urgent step to improve and localize the LMS platform to meet the students' needs and wants. For example, they can add Persian to thier language list so that Iranian universities can easily use it for their studies. Secondly,

Iranian universities officials need to hold some in-service online workshops to prepare university teachers for OCs. For example, in these online workshops, university teachers can be provided with practical tips on how to prepare and present the learning materials effectively, as well as to offer feedback on their students' performance. hhirdly, in consistent with the study's findings, Iranian university officials are recommended to run online workshops to assist university students to improve their computer self-efficacy. Fourthly, since one of the major reasons for dissatisfaction with OCs was the absence of face-to-face interaction, university classes can be run with a smaller number of students such that they can use the Webcam service. Finally, even after the COVID-19 pandemic, Iranian universities should use OCs as a complement to face-to-face classes. Online learning and teaching should be considered as a venue for meeting the educational needs of learners in the modern-day and a powerful instrument for bringing educational equality across the country.

Due to some limitations, the study's findings should be interpreted and generalized with enough care. As the sample of the current study was selected at one state university (Ayatollah Borujerdi University) in Iran, to achieve a more comprehensive picture of the issue, future research can be carried out with more participants in other universities across the country. Additionally, as the current study explored the university students' learning satisfaction with OCs, future research can address university teachers' learning satisfaction with OCs during the COVID-19 pandemic. Moreover, future studies can go byyond stddents' learning satisfaction with OCs and scrutinize how university students and teachers can be trained to use more effectively OCs. Last but not least, further studies can investigate the relationship between university students' computer self-efficacy and their perceived ease of use and usefulness from university students' perspectives in the Iranian higher education contexts.

Conflicts of Interest

No conflicts of interest declared.

References

Arbaugh, J. B. (2000). How classroom environment and student engagement affect learning in internet-based MBA courses. *Business Communication Quarterly, 63*(4), 9-18. https://doi.org/10.1177/108056990006300402

Baker, S. C., Wentz, R. K., & Woods, M. M. (2009). Using virtual worlds in education: Second life as an educational tool. *Teaching of Psychology, 36*(1), 59-64. https://doi.org/10.1080/00986280802529079

Bolliger, D. U., & Halupa, C. (2012). Student perceptions of satisfaction and anxiety in an online doctoral program. *Distance Education, 33*(1), 81-98. DOI: 10.1080/01587919.2012.667961

Bolliger, D. U., & Martindale, T. (2004). Key factors for determining student satisfaction in online courses. *International Journal on E-Learning*, 3, 61-67.

Bolliger, D. U., & Wasilik, O. (2009). Factors influencing faculty satisfaction with online teaching and learning in higher education. *Distance Education, 30*(1), 103-116. https://doi.org/10.1080/01587910902845949

Carliner, S. (2004). *An overview of online learning* (2nd ed.). Human Resource Development Press.

Do¨rnyei, Z. (2007). *Research methods in applied linguistics.* Oxford University Press.

Mackey, A., & Gass S. M. 2016. *Second language research: Methodology and design* (2nd ed.). Routledge.

Chen, H., Islam, A. Y. M. A., Gu, X., Teo, T., & Peng, Z. (2019). Technology-enhanced learning and research using databases in higher education: The application of the ODAS model. *Educational Psychology*. https:// doi.org/ 10.1080/ 01443 410.2019.1614149.

Chen, S. J. (2014). Instructional design strategies for intensive online courses: An objectivist-constructivist blended approach. *Journal of Interactive Online Learning, 6*(1), 72-87.

Conrad, D. (2002). Deep in the hearts of learners: Insights into the nature of online community. *Journal of Distance Education, 17*(1), 1-19. https://www.learntechlib.org/p/96579/

Dashtestani, R. (2020). Online courses in higher education in Iran: A stakeholder-based investigation into prrrrr veee cccchrrs' cceepnnree, Laarnnng achievements, and satisfaction: A mixed-methods study. *International Review of Research in Open and Distributed Learning, 21*(4), 117-142. DOI:10.19173/irrodl.v21i4.4873

,,,,, .. , & ii ngh, .. (2021). Laarnrr s' ssssscoon wtth the Website performance of an open and distance learning institution: A case study. *The International Review of Research in Open and Distributed Learning, 22*(1), 1-20. https://doi.org/10.19173/irrodl.v22i1.5097

Dong, Y., Xu, C., Chai, C. S., & Zhai, X. (2020). Exploring hhe srrutt urll rooooonship mnong cccchrrs' technostress, technological pedagogical content knowledge (TPACK), computer self-efficacy and school support. *The Asia-Pacific Education Researcher, 29*(2), 147-157. https://doi.org/10.1007/s40299-019-00461-5

Dziuban, C. & Moskal P. (2011). A course is a course is a course: Factor invariance in student evaluation of online, blended, and face-to-face learning environments. *The Internet and Higher Education, 14*(4), 236-241. DOI:10.1016/j.iheduc.2011.05.003

Eom, S. B., Wen, H. J., & Ashill, N. (2006). The drrrr mnmanss of studnnts' prr eevvdd rrrr nnng outcomes and satisfaction in university online education: An empirical investigation. *Decision*

Sciences Journal of Innovative Education, 4(2), 215-235. https://doi.org/10.1111/j.1540-4609.2006.00114.x

Fedynich, L., Bradley, K. S., & Bradley, J. (2015). Graduate suudenss' prr eepoons of oniine rrrr ning. *Research in Higher Education Journal*, 27, 1-13.

Finaly-Neumann, E. (1994). Course work characteristics and suudenss' siii sfccoon wihh insrruoooons. *Journal of Instructional Psychology, 21*(2), 14-19.

rr nn,,, A., & aa rnnguni,, .. (2019). Tcchnoogy acceptance model in educational context: A systematic literature review. *British Journal of Educational Technology, 50*(5), 2572–2593. https://doi.org/10.1111/bjet.12864

Harsasi, M., & Sutawijaya, A. (2018). Determinants of student satisfaction in online tutorial: A study of distance education institution. *Turkish Online Journal of Distance Education, 9*(1), 89-90.

Heckel, C., & Ringeisen, T. (2019). Pride and anxiety in online learning environments: Achievement emotions ss mddooons btt ween rrrr ners' hharacteristics and learning outcomes. *Journal of Computer Assisted Learning, 35*(5), 667–677. https://doi.org/10.1111/jcal.12367

Ilgaz, H., & Gülbahar, Y. (2015). A snapshot of online learners: E-readiness, e-satisfaction and expectations. *The International Review of Research in Open and Distance Learning, 16*(2), 171-187. https://doi.org/10.19173/irrodl.v16i2.2117

Islam, A. Y. M. A. (2014). Validation of the technology satisfaction model (TSM) developed in higher education: The application of structural equation modeling. *International Journal of Technology and Human Interaction, 10*(3), 44–57.

Islam, A. Y. M. A., Leng, C. H., & Singh, D. (2015). Efficacy of the technology satisfaction model (TSM): An empirical study. *International Journal of Technology and Human Interaction, 11*(2), 45-60. DOI:10.4018/ijthi.2014070104

Islam, A. Y. M. A., Mok, M. M. C., Qian, X., & Leng, C. H. (2018). Factors infuuenii ng studnnts' sasssfccoon nn using wireless internet in higher education: Cross-validation of TSM. *The Electronic Library, 36*(1), 2-20. https://doi.org/10.1108/EL-07-2016-0150

Jiang, H., Islam, A.Y. M. A., Gu, X., & Spector, J. M. (2021). Online learning satisfaction in higher education during the COVID-19 pandemic: A regional comparison between Eastern and Western Chinese universities. *Education and Information Technology, 21*(2), 1-23. https://doi.org/10.1007/s10639-021-10519-x

Kamble, A., Gauba, R., Desai, S., & Golhar, D. (2021). Laarnrr s' prr eepoon of hhe rransttoon oonnsrruoor-led online learning environments: Facilitators and barriers during the COVID-19 pandemic. *The International Review of Research in Open and Distributed Learning, 22*(1), 199-215. https://doi.org/10.19173/irrodl.v22i1.4971

Kuo, Y. C., Walker, A. E., Schroder, K. E. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education*, 20, 35-50. https://doi.org/10.1016/j.iheduc.2013.10.001

Landrum, B., Bannister, J., Garza. G., & Rhame, S. (2021). A aaass of on:: uuudenss' sasssfccoon wtth oniine learning. *Journal of Education for Business, 96*(2), 82-88, DOI: 10.1080/08832323.2020.1757592

Mahmood, A., Mahmood, S. T., & Malik, A. B. (2012). A comparative study of student satisfaction level in distance learning and live classroom at higher education level. *Turkish Online Journal of Distance Education, 13*(1), 128-136.

Moore, M. G. (1989). Three types of interaction. *The American Journal of Distance Education, 3*(2), 1-6. https://doi.org/10.1080/08923648909526659

Moore, M.G., & Kearsley, G. (1996). *Distance education: A systems view*. Wadsworth Publishing.

Ozkan, S., & Koseler, R. (2009). Multi-dimensional suudenss' vvll uoooon of e-learning systems in the higher education context: an empirical investigation. *Computers & Education, 53*(4), 1285-1296. DOI: 10.1016/j.compedu.2009.06.011

Palloff, R. M., & Pratt, K. (1999). *Building learning communities in cyberspace: Effective strategies for the classroom*. Jossey-Bass.

Riazi, A. M. (2016). *The Routledge encyclopedia of research methods in applied linguistics*. Routledge.

Robinson, C. C., & Hullinger, H. (2008). New benchmarks in higher education: Student engagement in online learning. *Journal of Education for Business, 84*(2), 101-109. https://doi.org/10.3200/JOEB.84.2.101-109

Smith, P. A. (2001). Understanding self-regulated learning and its implications for accounting educators and researchers. *Issues in Accounting Education, 16*(4), 663-700. https://doi.org/10.2308/iace.2001.16.4.663

Sun, P., Tsai, R. J., Finger, G., Chen, Y., & Yeh, D. (2008). *What drives a successful e-technologies, tools and techniques?* Idea Publishing Group.

Tarisayi, K. S. & Munyaradzi, E. (2021). A simple solution adopted
during the Covid-19 pandemic: Using WhatsApp at a university in Zimbabwe. *Issues in Educational Research, 31*(2), 644-659. http://www.iier.org.au/iier31/tarisayi.pdf

Venkatesh, V., & Davis, F. D. (1996). A model of the antecedents of perceived ease of use: Development and test. *Decision Sciences, 27*(3), 451-481. https://doi.org/10.1111/j.1540-5915.1996.tb00860.x

Wang, H., Lin, V., Hwang, G., & Liu, G. (2019). Context-aware language-learning application in the green technology building: Which group can benefit the most? *Journal of Computer Assisted Learning, 35*(3), 359-377. https://doi.org/10.1111/jcal.12336