Original Paper

A Study of Online Learning Motivation in the COVID-19 Pandemic Situation for Undergraduate Students at Shiraz University According to Their Gender and Field of Study

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Abstract

The present study aims to determine the extent to which online learning (or e-learning) motivation during COVID-19 Pandemic for undergraduate students at Shiraz University in Shiraz, Iran. It also plans to compare students' level of motivation for online learning, based on their gender and field of study. For these purposes, the researcher adopted a quantitative comparative research design, using a questionnaire which was developed and checked for internal consistency. The questionnaire was administered on 200 undergraduate students of civil engineering and psychology at Shiraz University. After the collected data were split by gender and field of study two independent samples t-tests were conducted to assess the significance of the results and to determine if there was a significant difference in their online learning motivation among the resulting groups for each independent variable. The research findings showed that undergraduate students are rather highly motivated to online learning regardless of their gender or field of study. No significant difference in online learning motivation between male and female university students was derived from the data analysis. However, in relation to field of study, it was found that the overall online learning motivation for civil engineering students was significantly higher than psychology students.

Keywords

online learning, COVID-19, civil engineering, psychology, motivation

1. Introduction

Online learning is the employment of technology to aid and enhance learning. It has its roots in distance education which started a few decades ago through globalization of technology and its impacts on all aspects of our life including education. Ally (2008) defines online learning as the use of the

Internet to interact with the content, instructor, and the students to acquire knowledge. Seeing through globalized telescope, online learning is an updated version of distance learning which enables knowledge to travel through the borders and reach the individuals in their home. In other words, globalized technologies such as the Internet and smart phones in recent years are used to remove physical barriers, allowing wide range of students all over the world to study anytime and anywhere without even communicating with the teacher (Zolochevskaya, 2021). Additionally, Online learning has hugely contributed the distribution of knowledge among disabled people and office workers to study what they desire to learn without leaving home or their working place. It has even had great advantages for talented students in higher education such as undergraduates by giving them this opportunity to pursue multiple related programs simultaneously.

In December 2019, Wuhan, in Hubei province, China, was the origin of an epidemic known as COVID-19, or the corona virus disease which affected every single aspect of societies all over the world (Wang, Horby, Hayden, & Gao, 2020). One of the most devastating effects of COVID-19 has been on the educational sector. It has greatly affected students' opportunities to learn worldwide. Both students and educators have been forced to shift from traditional face-to-face classrooms to emergency online learning. Since then, the demand for online classes has been multiplied. Although some students have predictably encountered new challenges in adapting practices away from face-to-face learning to an online learning environment mediated by various forms of technology, many more seem to have been interested and motivated to online learning and its benefits. Based on the recent numerous research studies, university students, in turn, seem to have been encouraged by different aspects of online learning such the flexibility of the online courses or the amount of time that they can save through online classes which enable them to have more time for more favorite activities they might like to do or to pursuit the part-time careers they may be interested in (Rahman et al., 2021). They also benefited from the high interaction that happened in the forms of virtual communication among teachers/students and students/students which resulted in vast capacity of sharing information and experience. (Pakpahan & Fitriani, 2020; Rochman & Pertiwi, 2020)

Shiraz University is a public university located in Shiraz, Iran, established in 1946. It is considered as one of the oldest and most prestigious modern universities in Iran which is listed among the top three research-oriented schools in the country according to a ranking of Iranian universities based on scientific output (Shiraz University, 2021). Shiraz University is benefited from a wide range of faculties and programs out of which this study has run the research on bachelor of science in civil engineering and bachelor of arts in psychology. After the outbreak of the Pandemic, the Iranian government issued a policy through Minister of Higher Education concerning the Prevention of Coronavirus Disease (COVID-19) in the Education Unit. As a follow-up to this policy, the Ministry of Higher Education stipulated online learning as a substitute for face-to-face learning. This was, nonetheless, an opportunity for students to experience a new way of learning via the Internet. After almost two years, they seem to be able to show their level of motivation and interest in this new platform. The current

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study aims to investigate if undergraduate students have been motivated to pursue online learning of their university courses.

1.1 Research Objectives

The following research objectives were addressed in this study.

1) To determine the levels of Online Learning Motivation (OLM) for university courses, according to gender, held by undergraduate students at Shiraz University.

2) To determine the levels of Online Learning Motivation (OLM) for university courses, according to field of study, held by undergraduate students at Shiraz University.

3) To determine whether there is a significant difference in Online Learning Motivation (OLM) for university courses between undergraduate students at Shiraz University, according to their gender.

4) To determine whether there is a significant difference in Online Learning Motivation (OLM) for university courses between undergraduate students at Shiraz University, according to field of study.

1.2 Literature Review

In this section, some relevant previous studies related to motivation in online learning are reviewed and summarized. Motivation to online learning is an emerging topic in education studies specially when it is narrowed down to a specific era like COVID-19 Pandemic. That is why the researcher had difficulties to find first hand research studies related to this topic.

Octania (2017) conducted a research to investigate the factors affecting students' motivation toward online learning. The study took place at the English Language Education Program, Faculty of Language and Arts (FLA), Universitas Kristen Satya Wacana among 12 students. They were interviewed. Through the open-ended questions in the semi-structured interview, the participants showed three significant elements that give motivational effect to them toward online learning; namely as benefits, barriers, and challenges in online learning. Octania concludes that although online learning contains some barriers and challenges, it can bring about very helpful pedagogical practices for both learners and teachers. On the one hand, it helps teachers to find out modern creative ways in teaching process, on the other hand, it helps students to do self-directed learning and find the answer to their questions more independently.

Gustiani (2020) also conducted a study to ascertain the motivation of the students at English Department of Sriwijaya Polytechnics in Indonesia toward their online learning during the Covid-19 Pandemic era. The findings of the data indicated that due to the sudden shift from onsite learning to digital learning, students' motivation toward online learning was a mixture of both intrinsic and extrinsic motivational factors. Using snowball sampling and running two kinds of individual and group interviews, the result of the data revealed that students' motivation toward their online learning was intrinsically affected more by their belief to learn new knowledge and enjoyment in experiencing new way of learning. It was also influenced extrinsically by external regulation and environmental condition. The data of the research also showed that a motivation or the absence of both intrinsic and extrinsic motivation also occurred due to poor external supporting facilities which the study concludes to be the

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most significant factor for unsuccessful online learners.

A new case study by Meşe and Sevilen (2021) also explored students' perceptions of online learning and its effects on their motivation in an English preparatory school in Turkey over a period of a seven-week-course. Through semi-structured interviews and creative writing samples a qualitative research was run and the data were collected from 12 students in an intact classroom. The data taken from the interviews and sample writings revealed a different outcome from the previous studies discussed in this research. The overall result from the case study demonstrated that online learning has had a negative influence on their motivation due to lack of social interaction and similarity between expectations and content as well as some technical challenges related to the organization of learning environments.

Another study with a quite similar result was run by Mardesci (2020) on the effect of online learning on university students' learning at the Department of Food Technology, Islamic University of Indragiri, Indonesia. Sixteen students were involved in this study. Data collection was carried out through observation, literature review, and questionnaires. The findings of the study indicated that online learning in the midst of COVID-19 has a negative influence on students' learning motivation. The researcher believes that this negative effect can be caused by several factors related to the implementation of online learning such as issue related to network facilities including the Internet, LAN, and WAN.

2. Method

2.1 Participants.

This research was conducted on a convenience and voluntary sample, comprised of 200 undergraduate students at Shiraz University. The participants consisted of 100 male and 100 female students from two quite different majors of civil engineering from the Engineering Faculty (100 students including 50 males and 50 females) and psychology from the Human Sciences Faculty (100 students including 50 males and 50 females). Needless to say, owing to the Pandemic situation, all the respondents received an online copy of the questionnaire in order to participate in the survey.

2.2 Research instrument.

In order to carry out the data collection, a motivation questionnaire about online learning was created. This questionnaire was designed by the researcher to check if the target undergraduate students were motivated to have online learning for their university courses. The questionnaire, comprised of 14 items, was partly developed based on the previous study done by Mardesci (2020). Some items from her were meticulously selected and revised, and few others were added to make them more compatible with the research objectives and the COVID Pandemic situation. The items mentioned in the questionnaire are all extrinsically driven motivatonal factors because the researcher believes that the online learning motivation that emerged after the COVID 19 Pandemic (and is discussed in this study) is by itself an external force of the current condition and not a choice of the students. The questionnaire was designed

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on a 5-point Likert scale format, ranging from 1 (strongly agree) to 5 (strongly disagree). A pilot test was run and 20 random undergraduates from each gender group and both field of studies, civil engineering and psychology, participated in it. After the pilot test, some items were omitted and finally 14 items were kept.

Table 1. Items Comprising the Online Learning Motivation Questionnaire

Item No.	Item statement
I like online learning because	
1	it can help me to learn my lessons with lower stress level
2	it can help me to find the answer to my questions faster and more easily
3	it can improve my knowledge related to information technology
4	it can help me to answer the questions with more confidence
5	it can help me to have a better team work with my friends
6	it can help me to do my assignments more confidently and independently
7	it can help me to feel more comfortable when asking my questions
8	it can save my energy in learning process
9	it can help to exchange ideas with a wider group of classmates
10	it makes it easier for me to complete assignments given by the lecturer
11	it can be done anywhere
12	it can help me to have a better class presentation
13	it can help me to have more time to spend on the activities I like to do
14	it can help me to have more time for some part-time jobs

Regarding the reliability of the questionnaire, an overall Cronbach's alpha of .81 was obtained, revealing a high level of internal consistency of the piloted instrument.

3. Result

The collected quantitative data were analyzed by using descriptive statistics (means and standard deviations) and statistical hypothesis testing method (independent samples t-test). This section summarizes the findings obtained from the data analysis performed on the collected data.

3.1 Findings from Research Objective 1

Table 2. Descriptive Analysis and Interpretation of OLM for Learning University Courses for

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Male and Female Undergraduate Students of Shiraz University

	Male			Female		
Item number	*M*	*SD*	Int.	*M*	*SD*	Int.
Overall						
OLM	2.51	1.16	Average	2.40	1.04	High

The data from Table 1 shows that regarding the level of online learning motivation males have rather average level of motivation in online learning while females are more motivated to have online classes for their university coursed. The overall level of 2.40 is a rather high level of motivation for online learning.

3.2 Findings from Research Objective 2

Table 3. Descriptive Analysis and Interpretation of OLM for Learning University Courses for Civil Engineering and Psychology Undergraduate Students of Shiraz University

	Civil Engineering			Psychology		
Item number	*M*	*SD*	Int.	*M*	*SD*	Int.
Overall						
TBM	2.12	.79	High	2.79	1.26	Average

Based on the data shown in Table 3, civil engineering undergaduate students have a high level of motivation in online learning whereas the psychology undergraduates seem to be less motivated for online learning. The mean score of 2.79 shows just an average level of motivation for them.

3.3 Findings from Research Objective 3

Table 4. Results of Independent Samples t-Test Comparing the Level of Online Learning Motivation in both Fields of Study Between Male and Female Undergarduate Students at Shiraz University

Gender	*N*	*M*	*SD*	*t*	*df*	*p*
Male	100	2.51	1.16	.702	198	.483 (Note 1)
Female	100	2.40	1.04			

The independent sample *t*-test results revealed there was no significant difference in online learning motivation between male and female undergraduate students of this study. That is to say the overall level of OLM for male students was 2.51 which shows an average level of motivation, and for their female fellows, it was just a bit higher at 2.40 which results in no significant difference in their level of

motivation. (p =.483)

3.4 Findings from Research Objective 4

Table 5. Results of Independent Samples t-Test Comparing the Level of Online Learning Motivation in both Fields of Study between Male and Female Undergarduate Students at Shiraz University

Fields	*N*	*M*	*SD*	*t*	*df*	*p*
Civil Eng.	100	2.12	.79	-4.483	198	.000 (Note 2)
Psycho.	100	2.79	1.26			

As can be seen in Table 5, the results from the sample *t*-test indicated that the overall level of OLM for civil engineering undergraduate students was 2.12 which shows a high level of motivation for online learning, while for the psychology students, the mean score was 2.79 which shows a lower level of motivation and, consequently, resulted in a significant difference in their level of motivation between civil engineering and psychology undergraduate students (p = .000).

4. Discussion

In this section, the findings obtained from the current study are discussed. The discussion is presented and organized based on online learning motivation for undergraduate university students as the main variable of the study and the only common variable between this study and the other previous studies.

4.1 Online Learning Motivation for Undergraduate Students

The results of this study present that although implementing online learning for university students in the period of the Pandemic has been a force of law rather than a free choice and has come along with numerous tough challenges for students to set up the facilities and follow the lessons with limited amount of interaction with the instructor, the overall students have been motivated to online learning. The findings of the research revealed that both male and female undergraduates are rather equally highly motivated to online learning although level of motivation for male students was on the border line of high and average level. It appears that after having online classes for more than a year in Iran, university students are getting used to the challenges of the online learning and trying to find solutions to implement the new normal situation to their learning process. On top of that, they seem to have understood the potential advantages of online learning which were discussed in the questionnaire and try to make benefit of them to improve their learning method. However, the level of implementation and understanding of the benefits of online learning do not seem to be equal for students of different majors at Shiraz University. As can be concluded from the results of this survey, undergraduate students of civil engineering were more motivated in online learning than their peers majoring in psychology. It can be understood that implementing online classes for some majors such as psychology is more

challenging for students, firstly, because they are generally less skillful at working with ICT than engineering students and, secondly, human sciences such as psychology require more face-to-face communication skills with people than digital conversations, and that is probably why students majoring in psychology are opt for onsite classes rather than online learning.

Interestingly enough, comparing the results of this study with the previous studies on online learning motivation which were run during the COVID 19 Pandemic (from March 2020 to the present time) revealed that this latest research study showed more consistency of university students with technology and online learning. To the best of the researcher's knowledge and his domain of research while running this survey, almost all research studies including the ones discussed in the literature review resulted in the negative effects of online learning on students learning motivation. Comparing this study with Mardesci's research on university students in November 2020 shows an opposing result. While Mardesci's finding indicated a negatives effect of online learning on students' learning motivation, the current research findings (run 8 months later) proved the more positive effects of online learning on students motivation. Considering the fact that Mardesci's main issue in the study was challenges students have to implement online learning and ICT issues, we may be able to conclude that as the need for online learning is becoming more essential nowadays (at least during the Pandemic outbreak) the network facility issues are being alleviated by the authorities and, consequently, the students can feel more comfortable with online learning and be more motivated to that.

The case study run by Meşe and Sevilen (2021) in Turkey was also in contrast with the present research findings. Meşe and Sevilen survey showed that students were negatively motivated by online learning due to the lack of interactions in online classes. However, we need to consider the target group of the two studies. Meşe and Sevilen focused on school students who seem to be more in need of interaction and face-to-face communication while the university students are generally more independent and can learn much more individually.

In terms of the motivational factors that can affect university students' online learning motivation, this study is similar to the one run by Gustiani (2020). Both studies have discussed the extrinsic motivational factors that may influence students' motivation such as the possibility to improve ICT knowledge through online learning and the environmental conditions. However, in contrast with this study, Gustiani's emphasis is on intrinsic motivational variables such as internal ambition to learn new knowledge and the enjoyment of the new experience which he believes are the key motivational variables in pursuing online learning for university students.

The current study's underlying ideas on the benefits of online learning which have positively motivated university students to it aligned with Octania (2017) survey on the factors affecting students' motivation toward online learning. Both studies focus on the features such as time saving and flexibility of the online classes as well as having the opportunity for learning new ICT skills as the benefits of online learning. Kim et al. (2005) and Sumakul (2013) also focused on the flexibility that students can have in online classes to do it anywhere, anytime, and even in their own pace. Just in line

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with Octania, the researcher believes that Online learning has much more merits than it looks. However, university educators should consider online learning's barriers and challenges before designing the curriculum and activities to make it compatible for their students.

Online leaning is a new learning channel which emerged after the globalization of technology but has recently been widely spread due to the outbreak of the COVID 19 Pandemic. It has made great challenges for students and educators to implement in their curriculum, but it seems that both groups have accepted the challenges and are trying to find ways to overcome them. The researcher believes that online learning was once a force owning to an emergency situation which can now turn into a unique opportunity to recreate the principals of learning. Online learning is making students less dependent on the class lectures and their classmates. It can increasingly change university students, in particular, from passive instructor-dependent learners into more creative, independent, lifelong learners.

4.2 Recommendations

The recommendations of the current study are intended to benefit students, teachers, curriculum designers as well as future researchers.

The findings obtained from this study showed that undergraduate university students, regardless of their gender were mostly highly motivated to online learning. This means that they are aware of the benefits and opportunities that online learning has for them. This can help them to try to find new ways to learn their lessons and be more creative in their assignments which eventually make them more successful problem solvers.

The results of this study would help university lecturers and professors to implement online teaching principles in their course syllabus and design the course materials and assignments that can match students' new needs and conditions.

Understanding the fact that students are getting more motivated to online learning could also help administrators to make informed decisions about online course designs as well as guide professional development workshops for university lecturers to better overcome the oncoming challenges.

Since the topic of this survey is online learning motivation by focusing on undergraduate university students, future researchers could examine the same motivation on other groups of students such as school students or even graduate students of university.

A further research study can be carried out to investigate the relationship between online learning motivation and learning achievement in different fields of study in order to find out, if ever, which university majors or academic courses can probably implement online learning in their curriculum more successfully than others.

Technology literacy is one of the 21st century skills that students need to develop nowadays, there seems to be a direct, positive relationship between online learning motivation and this new life skill. The future researchers could examine the influence of online learning motivation on students' technology literacy and, more importantly, how OLM could improve learners' technology literacy.

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Notes

Note 1. Significance level was set at *p* =.05.

Note 2. Significance level was set at *p* =.05.