ORIGINAL ARTICLE

Evaluation of Learning of Students of Jiroft University of Medical Sciences through e-Learning during the COVID-19 Pandemic

NASIBEH SALARI[1], SUDABEH AHMADIDARREHSIMA[2], AZIZOLLAH ARBABISARJOU[3], NEDA DASTYAR[4*], SHOHREH SHAFEI[5]

[1]Nursing and Midwifery School, Jiroft University of Medical Sciences, Jiroft, Iran.
[2]Nursing and Midwifery School, Jiroft University of Medical Sciences, Jiroft, Iran.
[3]Associate Professor of Nursing, Department of Nursing, Community Nursing Research Center, Zahedan University of Medical Sciences, Zahedan, Iran.
[4]Department of Midwifery, Nursing and Midwifery School, Jiroft University of Medical Sciences, Jiroft, Iran.
[5]Nursing and Midwifery School, Jiroft University of Medical Sciences, Jiroft, Iran.
Corresponding author: Neda Dastyar, E.mail: nedadastyar98@gmail.com . Tell: +989193418943. PO Box:7861763730. Address: Sabzevaran Square, Jiroft University of Medical Sciences, Jiroft, Kerman, Iran.

ABSTRACT

Background and objectives: Due to the importance of e-learning during the COVID-19 pandemic, this study was conducted to investigate the learning of students of Jiroft University of Medical Sciences during the COVID-19 in 2020.

Materials and Methods: This descriptive cross-sectional study was performed in 2020 on 242 students of Jiroft University of Medical Sciences. Subjects were selected by cluster sampling method, and data were collected using the standard e-learning questionnaire of Watkins et al. (2004). The validity and reliability of the questionnaire has been used and confirmed in various studies with Cronbach's alpha of 845%, and the data were analyzed using SPSS 20. Significance level was considered 0.05.

Results: In this study, 432 students participated, and their average total e-learning score was 21.48±78.11. The skills and online communication dimension had the highest mean compared to the others. Also, according to Kruskal-Wallis test, there was a direct and significant relationship between the field of study and the total score of e-learning and the mean total score of e-learning and each of its dimensions.

Discussion and Conclusion: Increasing students' learning through e-learning is influenced by various factors such as motivation, access to technology, Internet chats, the ability to learn through the media, and important issues for success in e-learning. Therefore, it is recommended that educational administrators give priority to the improvement of e-learning conditions in their programs.

Keywords: e-learning, COVID-19 disease, the students of university of medical sciences

INTRODUCTION

Coronaviruses are important pathogens in humans and animals (1). Low pathogenesis and high transmissibility are two unique features of this new virus that distinguish it from other members of the coronavirus family including SARS-CoV and MERS-CoV (2), making it a major public health emergency in the world (3). COVID-19 was declared an epidemic by the WHO on March 11, 2020 (4, 5). This disease has completely affected the economic, social, and educational situation of the affected countries, and Iran is one of the top 10 countries in the world with the highest number of patients (6). Thus, the sudden outbreak of COVID-19 has not only posed many challenges to the world's healthcare systems but has also affected other areas, including education (7). With the spread of this disease worldwide, health protocols have emphasized the observance of social distance (8). In this regard, in many countries, including Iran, face-to-face education in universities was ended to reduce the prevalence of COVID-19 (9), and e-learning or distance education was used in many countries during the pandemic as a guide to reduce the risks associated with COVID-19 transmission (10). In order not to interrupt the education of students during the period of observing social distance, and to maintain university curricula, various solutions were offered, including the pervasiveness and prosperity of virtual and e-learning throughout the country (4, 11). E-learning is a type of learning that is done through various electronic devices such as the Internet, computers, mobile phones, audio-visual learning aids, audio and video tapes, and satellite networks (12). E-learning is a kind of technology-based learning available through websites, video conferencing, You Tube, mobile phones, and thousands of other types of websites (5, 13). Considering the rise of electronic technologies in the world and with the entry of information and communication technology into the gate of education, many changes have occurred in the curriculum and educational content of the educational system (14). E-learning has been developed in Iran since 2001 at the University of Tehran (15) and in the University of Medical Sciences since 2007 as virtual student admission (16). One of the advantages of e-learning is that it is student-centered unlike traditional education (17, 18). Other advantages of this method include reducing costs, improving the quality of content, the possibility of more student interaction with the teacher, and ease of access at any time and place (10, 19). E-learning can also be effective in learning clinical skills (10). E-learning, like other learning methods, has disadvantages in addition to many advantages, which include: poor control over learning, inflexibility, and lack of face-to-face contact (20). Since information and communication technology and the competence of the teacher and the student are important for e-learning, infrastructure resources can be a major challenge for the implementation of e-learning (4, 21). So, the lack of proper system and infrastructure for e-learning is the most

important factor in not using this educational method (16, 22). Studies have shown that the effect of e-learning can vary depending on the method used and different disciplines in the medical sciences, and based on the benefits, the effectiveness and satisfaction can be a recommended method (16). Success in e-learning or virtual education depends on student satisfaction and other factors that increase the student's willingness to continue using this type of education. Student satisfaction is so important and a large number of students have been reported to have started e-learning or virtual courses but do not want to continue that course, so the problem or factors should be identified and adjusted to increase students' willingness (23). In this regard, researchers have stated that examining the quality of assessment in e-learning is very important in determining the strengths and weaknesses of these trainings (15). Therefore, considering the importance of evaluation in the education system, especially in the e-learning system, and pointing out that no study has been conducted having this purpose in the target poulation, the authors of this article evaluated the learning rate of Jiroft University of Medical Sciences students through e-learning during the COVID-19 pandemic in 2020.

METHOD

This study aimed to determine the learning rate of students of Jiroft University of Medical Sciences through e-learning during the coronavirus pandemic in 2020, which was performed using descriptive cross-sectional method. The statistical population included all students of Jiroft University of Medical Sciences in the second semester of the 2019-2019 academic year; the number of participants reached 650 by excluding the internship students. Then, the sample size was determined 242 people with 5% error, and the multi-stage cluster sampling method was selected to conduct the research. Inclusion criteria consisted of students studying their first semester before the internship course and receiving at least two teaching sessions electronically (virtual) during the coronavirus outbreak. If a participant had not completed the questionnaire or responded to it incompletely, the questionnaire would have been excluded from the research. To collect information, the standard e-learning questionnaire of Watkins et al. (2004) was used. This 27-item questionnaire consists of two parts: The first part is related to personal information including gender, educational group, level of education, and average score. The second part includes questions about students' readiness to participate in e-learning, which are categorized into six factors (access to technology, motivation, ability to learn through the media, Internet group discussions, and important issues for success in e-learning). Also, a 5-point Likert scale was used for scoring, i.e. the students were asked to choose one of the options according to their readiness: strongly disagree (score = 1), disagree (score = 2), have no opinion (score = 3), agree (score = 4), and completely agree (score = 5). The minimum possible score was 27 and the maximum score was 135. Also, a score between 27 and 45 was considered as low level of e-learning; a score between 45 and 90 was considered as moderate level of e-learning, and if the score was above 90, the level of e-learning was considered high. The reliability of the questionnaire in the study of Ahangar

Seleh Bani (2014) was obtained 845% with Cronbach's alpha for the whole questionnaire, which indicates that the test has acceptable reliability. Content validity was also used to determine the validity of the questionnaire (24). Due to the prevalence of coronavirus and the absence of students in the university, the researcher sent the link of the questionnaire and informed consent form through Press Line to all students of medical, nursing, midwifery, paramedical, and health schools, having the inclusion criteria. After data collection, data analysis was performed using SPSS 20 at both descriptive and inferential levels. At the descriptive level, statistical characteristics of mean and standard deviation, and at the inferential level, if the data were normal, t-test, Kolmogorov-Smirnov, Pearson correlation coefficient, and multivariate analysis of variance were used, and if the data were not normal, their nonparametric equivalent was used. Due to the non-compliance of the data with the normal distribution, non-parametric tests were used, including Kruskal-Wallis test, Mann-Whitney test, and Spearman correlation coefficient test.

Ethical considerations: The present study has been registered in the ethics committee of Jiroft University of Medical Sciences with code number of (IR.JMU.REC.1399.021). Information about the research, duration of the study, confidentiality and anonymity of the questionnaire, and the optionality of participating in the study were provided to all participants.

RESULTS

In the present research study, 432 students participated in this study, of which 288 (66.7%) were girls and 144 (33.3%) were boys. According to the results, 93 participants (21.5%) were nursing students and 105 (24.3%) were students in their second semester of study (Table 1).

The average age of the students was 20.83±1.52 and their average score was 16.69±1.62, and the average number of sessions in which the students were taught virtually was 13.70±13.42 (Table 2).

Among six different dimensions of e-learning, the continuous skills and communication dimension with an average of 29.28±8.24 had the highest mean, and the motivation dimension with an average of 8.30±3.18 had the lowest mean. The average total score of e-learning was 21.48±78.11 (Table 3).

According to Kruskal-Wallis test, there was no significant relationship between the semester and the overall score of e-learning (P-value = 0.127), but there was a significant relationship between the field of study and the overall score of e-learning (P-value <0.0001). According to Mann-Whitney test, there was no significant relationship between gender and the total score of e-learning (P-value = 0.153). Spearman correlation coefficient test showed a significant relationship between average score and total e-learning score and between the number of virtual sessions and students' total e-learning score; there was no significant relationship between participants' age and total e-learning score (Table 4).

According to Spearman correlation coefficient test, there is a direct and significant relationship between the average total score of e-learning and e-learning dimensions

(access to technology, motivation, ability to learn through the media, Internet group discussions, and important issues for e-learning success), i.e. as each dimension of e-

learning increases, the total score of e-learning increases (Table 5).

Table 1: Frequency distribution of students based on gender, field of study, and semester

Variable		Percentage	Frequency
Gender	Female	66.7	288
	Male	33.3	144
Specialization	Anesthesia	9.3	40
	Nursing	21.5	93
	General hygiene	10.9	47
	Environmental Health	11.1	48
	Laboratory sciences	8.8	38
	Surgery room	10	43
	Medicine	18.1	78
	Midwifery	10.4	45
Education semester	First	13.9	60
	Second	24.3	105
	Third	18.5	80
	Fourth	16.7	72
	Fifth	14.1	61
	Sixth	12	52
	Seventh	0.2	1
	Eighth	0.2	1
Variable		Percentage	Frequency
Gender	Female	66.7	288
	Male	33.3	144
Specialization	Anesthesia	9.3	40
	Nursing	21.5	93
	General hygiene	10.9	47
	Environmental Health	11.1	48
	Laboratory sciences	8.8	38
	Surgery room	10	43
	Medicine	18.1	78
	Midwifery	10.4	45
Education semester	First	13.9	60
	Second	24.3	105
	Third	18.5	80
	Fourth	16.7	72
	Fifth	14.1	61
	Sixth	12	52
	Seventh	0.2	1
	Eighth	0.2	1

Table 2: Mean and standard deviation of age, average score, and virtual education sessions

Variable	Mean±SD	Minimum	Maximum
Age	20.83±1.52	18	27
Mean	16.69±1.62	12	20
Virtual education sessions	13.70±13.42	0	70

Table 3: Average score of students' e-learning dimensions through e-learning

Variable	Mean±SD	Minimum	Maximum
Continuous skills and communication	29.58±8.24	9	45
Motivation	8.30±3.18	3	15
Access to technology	10.65±3.54	3	15
Ability to learn through the media	9.29±3.60	3	15
Internet group chats	9.55±3.41	3	15
Important issues for success in e-learning	10.93±4.06	4	20
Total score	78.11±21.48	25	125

Table 4. Relationship between age, average score and number of virtual sessions and the total score of e-learning

Variable	Statistical index	Total score
Age	Spearman correlation coefficient	-0.01
	Significance level	0.82
Mean	Spearman correlation coefficient	0.14
	Significance level	0.003[*]
Number of virtual sessions	Spearman correlation coefficient	0.182
	Significance level	<0.0001[*]

[*]p-value<0.01

Table 5: Relationship between dimensions of e-learning and its total score

Variable	Statistical index	Total score
Continuous skills and communication	Spearman correlation coefficient Significance level	0.89 <0.0001[*]
Motivation	Spearman correlation coefficient Significance level	0.72 <0.0001[*]
Access to technology	Spearman correlation coefficient Significance level	0.75 <0.0001[*]
Ability to learn through the media	Spearman correlation coefficient Significance level	0.82 <0.0001[*]
Internet group chats	Spearman correlation coefficient Significance level	0.75 <0.0001[*]
Important issues for success in e-learning	Spearman correlation coefficient Significance level	0.76 <0.0001[*]

DISCUSSION

The Virtual Learning Center of Jiroft University of Medical Sciences, which is one of the universities in the southeast of Iran, started e-learning and production of course content required by students from the very beginning of the closure of universities due to the epidemic of COVID-19 disease. Considering the novelty of the virtual education center of this university and the importance of students' learning through the e-learning system, the present study was conducted to investigate the learning of students via the e-learning system. With the spread of the COVID-19 virus and the outbreak of the epidemic, the US Center for Disease Control and Prevention (CDC) stated that the most important way to prevent the spread of the disease is to maintain distance between people. This proposed prevention method led to home quarantine of individuals and also to the closure of schools and universities throughout Iran. To compensate for the effects of this epidemic on the education system, the use of e-learning was recommended. Alhadi et al. (2020) showed that COVID-19 disease has a significant impact on the medical education system, and out of 3348 students surveyed in this study, more than half (65%) stated that during the COVID-19 Epidemic, they use the Internet and online education for study and discussion (25). In Iran, many educational institutions and centers use this system to increase the success rate and improve the quality of their services. One of the most important advantages of this method is the provision of educational services based on the needs of students, which has made it possible for them to easily teach without any time or space restrictions. The e-learning mean score of students of the University of Medical Sciences through e-learning in the epidemic of COVID-19 was 78.11 ± 21.48, which indicates that the rate of e-learning of students of this university through e-learning is low to moderate. As mentioned, e-learning has just started at this university; as a result, weaknesses in this system are not unexpected. According to the students of this university, motivation, access to technology, internet discussions, ability to learn through the media, and important issues for success in e-learning are, respectively, dimensions that have led to a decrease in students' learning through the virtual education system. Alhadi et al. (2020) surveyed students at 13 medical universities and found that a significant percentage of students reported high financial costs and technical problems when using e-learning systems. In addition, they (especially final year medical students) were very concerned about how e-

learning could be used for clinical learning, and lack of computer and information technology skills, lack of acceptable Internet access, fourth-generation services, and smartphone applications reduced their learning and satisfaction with e-learning (25). In the present study, the relationship between motivation, access to technology, Internet chats, the ability to learn through the media, and important issues for success in e-learning and overall learning rate of students was significant. This shows that the students in this university did not have the necessary motivation and readiness to start virtual education, access to the necessary technology such as Internet, mobile, tablet, laptop, and the ability to learn through virtual education systems before and at the beginning of virtual education. Not paying attention to these requirements before starting e-learning can be one of the weaknesses of any university's e-learning system. Wang et al. (2020) conducted a study in China to evaluate relationship between medical students' previous education experiences and learning and their satisfaction of e-learning during the COVID-19 epidemic and revealed that medical students in China Medical students in China have more experience learning offline through recorded courses but less experience with live streaming courses and online training platforms. This shows that educators in formal medical educations prefer traditional methods of education, such as face-to-face lectures and experiential education, and although online education has attracted worldwide attention, it is still not popular in formal medical education in China (26). Wang's study also found that students' previous learning experiences were positively correlated with their learning, assessment, and satisfaction with online education during the COVID-19 epidemic. In fact, Wang showed that the higher the students' readiness and ability to work with e-learning systems, the higher their learning rate, which confirms the findings of the present study. Similaarly, Otarkhani et al. (2012) and Wu et al. (2011) showed that many factors are involved in students' learning and satisfaction of virtual education, but the most important factors include access to the required technology, Internet quality, and the usefulness and ease of use of support services (23, 27). Also, Mir Moghtadaei et al. (2020) qualitatively examined the factors related to e-learning in medical sciences and demonstrated that factors such as students' abilities, teacher competencies, access to various aspects of technology, up-to-date educational topics, and Internet support services are among the most important factors that managers and administrators of virtual

education systems should pay attention to satisfy and increase efficiency and student learning (28). University as an organization annually   accept new students and graduate other students, which attention to educational quality is especially significant in this on-going cycle. In the nursing field, also, students are accepted every year, which paying attention to the factors affecting their learning and academic success   can promote success rate in these fields. Psychologists and educational experts have always considered learning and academic success and their effective factors. In recent years, they attempt to identify the variables, by help of which they can promote academic success (29).

In different studies, different factors have been pointed out, and the reason for this difference can be related to the cultural, indigenous conditions, virtual infrastructure of universities, and the type and sample size of each study. Students are among the main human capitals that make the future of the society, and classroom is the structure in which the student and professor with different cultures and values and needed to play a role. One of the great goals of institutions   in different countries is the use of techniques for   increasing productivity and reducing educational   misbehaviors among learners(30). Another finding of the present study is a significant relationship between the number of virtual sessions and the average overall score of e-learning. This finding manifests that with increasing the number of virtual sessions, students' experience and ability to use virtual education systems increases, and on the other hand, over time, education officials and professors also identify and eliminate the strengths and weaknesses of the e-learning system to contribute to students' learning.

CONCLUSION

In the present era, e-learning has been able to create a fundamental change in education by employing advanced tools in the field of information technology. Therefore, many educational centers and institutions, especially medical training centers that have a very special role in educating the medical staff and ensuring the health of the community, have used the e-learning system to increase the success and improve the quality of their services. One of the most important advantages of this method is providing educational services based on the needs of students, which paves the way for people to learn and teach. Therefore, considering the pivotal role of students in the e-learning system, it is recommended to presume achievement of a high level of learning and students' satisfaction as the end customers as one of the primary priorities of managers and designers of this system. Since the end of the COVID-19 pandemic is not yet clear, it is recommended that the administrators of various universities take the necessary measures to improve the conditions of e-learning to minimize the problems of this educational method and its impact on medical education and students' progress. Due to different educational infrastructures and cultural and indigenous conditions of the students of each university, the education officials of different universities are recommended to conduct further studies and find the strengths and weaknesses related to

this educational system and share their experiences about e-learning with other universities.

Limitations: The cross-sectional study of e-learning is a limitation to the current study, and certainly more follow-up and monitoring and at different intervals will possibly reflect a better report on e-learning rate of students. On the other hand, the use of the standard e-learning questionnaire of Watkins et al. (2004) alone may not be a sufficient tool to assess students' e-learning, so there is a need for other complementary assessment methods such as interviews, clinical survey, and the need for studies in research environments and different cultures with a statistical population.

Conflict of interest: The authors declare no conflict of interest.

REFERENCES

1. Watkins R, Leigh D, Triner D. Assessing readiness for e-learning. Performance Improvement Quarterly. 2004;17(4):66-79.
2. Wang Z, Chen X, Lu Y, Chen F, Zhang W. Clinical characteristics and therapeutic procedure for four cases with 2019 novel coronavirus pneumonia receiving combined Chinese and Western medicine treatment. Bioscience trends. 2020.
3. Jiang S, Shi Z, Shu Y, Song J, Gao GF, Tan W, et al. A distinct name is needed for the new coronavirus. The Lancet. 2020;395(10228):949.
4. Al-Balas M, Al-Balas HI, Jaber HM, Obeidat K, Al-Balas H, Aborajooh EA, et al. Distance learning in clinical medical education amid COVID-19 pandemic in Jordan: current situation, challenges, and perspectives. BMC medical education. 2020;20(1):1-7.
5. Kumar G, Singh G, Bhatnagar V, Gupta R, Upadhyay SK. Outcome of online teaching-learning over traditional education during covid-19 pandemic. International Journal. 2020;9(5).
6. Nemati M, Ebrahimi B, Nemati F. Assessment of Iranian Nurses' Knowledge and Anxiety Toward COVID-19 During the Current Outbreak in Iran. Archives of Clinical Infectious Diseases. (In Press).
7. Mian A, Khan S. Medical education during pandemics: a UK perspective. BMC medicine. 2020;18(1):1-2.
8. Sajed AN, Amgain K. Corona virus disease (COVID-19) outbreak and the strategy for prevention. Europasian Journal of Medical Sciences. 2020;2(1):1-3.
9. Viner RM, Russell SJ, Croker H, Packer J, Ward J, Stansfield C, et al. School closure and management practices during coronavirus outbreaks including COVID :19- a rapid systematic review. The Lancet Child & Adolescent Health. 2020.
10. Olum R, Atulinda L, Kigozi E, Nassozi DR, Mulekwa A, Bongomin F, et al. Medical Education and E-Learning During COVID-19 Pandemic: Awareness, Attitudes, Preferences, and Barriers Among Undergraduate Medicine and Nursing Students at Makerere University, Uganda. Journal of Medical

Education and Curricular Development. 2020;7:2382120520973212.

11. Ahmed H, Allaf M, Elghazaly H. COVID-19 and medical education. The Lancet Infectious Diseases. 2020.

12. Khoramian Tusi S, Sheikh Fathollahi M, Rahnamaye Tamrooyee F, Akbari Javar M. Study of the effect of podcasting on learning and satisfaction in dental students. Journal of Mashhad Dental School. 2015;39(3):229-38.

13. Shahzad A, Hassan R, Aremu AY, Hussain A, Lodhi RN. Effects of COVID-19 in E-learning on higher education institution students: the group comparison between male and female. Quality & quantity. 2020:1-22.

14. Kh AA, Moradi R. Perceptual Characteristics of Students in e-Content of the Curriculum Mashhad University of Medical Sciences. Education Strategies in Medical Sciences. 2015;8(3):179-85.

15. Azimi SA, Zamani BE, Soleimani N. Investigating the quality of assessment system of students' performance in virtual education in Iran and Russia. Education Strategies in Medical Sciences. 2016;9(3):214-23.

16. Islami K, Kaveh, Coty, noori A. Various methods of virtual science education in medical sciences used in Iran and their effectiveness, review review. Educational Development of Judishapur. 2016;7(2):128-37.

17. Liaw S-S. Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system. Computers & education. 2008;51(2):864-73.

18. Mukhtar K, Javed K, Arooj M, Sethi A. Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. Pakistan journal of medical sciences. 2020;36(COVID19-S4):S27.

19. Shahraki A, Heidarzadegan A. Feasibility Study of Implementing the E-Learning-Teaching System in Secondary Schools. Journal of Economic & Management Perspectives. 2017;11(3):845-54.

20. Noori A, Kouti L, Akbari F, Assarian M, Rakhshan A, Eslami K. A review on different virtual learning methods in pharmacy education. Journal of pharmaceutical care. 2014:77-82.

21. König J, Jäger-Biela DJ, Glutsch N. Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. European Journal of Teacher Education. 2020;43(4):608-22.

22. Zamani BE, Nikoonezhad S. Comparison between Interaction and Social Presence of Students Enrolled in Actual and Virtual Programs in Terms of Demographic Factors and Academic Achievement. Journal of Applied Sociology (1735-000X). 2014;55(3).

23. Otarkhani A, Delavari V. Measuring students' satisfaction with e-learning systems. Business Management Perspective. 2013.

24. Ahangar saleh nabi v. Investigating the impact of knowledge management and e-learning processes [Investigating the impact of knowledge management and e-learning processes]: Islamic Azad University, Central Tehran Branch; 2014.

25. Alsoufi A, Alsuyihili A, Msherghi A, Elhadi A, Atiyah H, Ashini A, et al. Impact of the COVID-19 pandemic on medical education: Medical students' knowledge, attitudes, and practices regarding electronic learning. PloS one. 2020;15(11):e0242905.

26. Wang C, Wang W, Wu H. Association between medical students' prior experiences and perceptions of formal online education developed in response to COVID-19: a cross-sectional study in China. BMJ open. 2020;10(10):e041886.

27. Wu J-H, Tennyson RD, Hsia T-L. A study of student satisfaction in a blended e-learning system environment. Computers & Education. 2010;55(1):155-64.

28. Mirmoghtadaie Z, Kohan N, Rasouli D. Determination and Comparison of the Factors Related to Effective Blended Learning in Medical Sciences from the Viewpoints of Instructors and Learners. Advances in Medical Education and Practice. 2020;11:205.

29. AkbariLakeh M, Naderi A, Arbabisarjou A (2018) Critical Thinking and Emotional Intelligence Skills and Relationship with Students' Academic Achievement. Prensa Med Argent 104:2. Doi: i: 10.4172/0032-745X.1000280.

30. Zeinaly Ghasemi F., Arbabisarjou A., Arbabisarjou T. Investigating educational misbehavior in students of Zahedan University of Medical Sciences: A case study, Drug Invention Today2019, ,12(11):2812-2817.