Learning Satisfaction Among Students Of A Higher Learning Institution For E-Learning Mode Of Teaching During Covid-19 Pandemic

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Abstract

Background: During the pandemic situation of COVID-19, the majority of institutions were facing challenges in the teaching, and learning process. This impact hampered the quality of education globally. Most of the academic institutions shifted to the E-learning mode for the fulfilments of teaching and learning. However, due to a lack of available resources and direct contact with students, it is not possible to manage every academic institution. This study was conducted to evaluate the satisfaction of e - teaching and learning among students during the COVID-19 at Prince Sultan Military College of Health Sciences, Dhahran, Saudi Arabia.

Methods: A Course Evaluation Survey was conducted during the academic year 2020-2021 among the students of Prince Sultan Military College of Health Sciences, Dhahran, Saudi Arabia. For this study, a self-administered online-based questionnaire was used through College Survey Management Information system.

Results: For this survey, 1160 students of Prince Sultan Military College of Health Sciences responded to the online survey questionnaire. Nearly 40.08 % was strongly agreed, 41.55 was only agreed, 4.05 was undecided, 7.5% disagreed, and 5.55% strongly disagreed with E-learning during COVID 19 lockdown situation. The satisfaction towards initial instructions, instructors, punctuality, course material relevance, activity during the course, and desirability of assessments was strongly agreed upon by the students. However, it was relatively higher in males than in females. Least number of respondents 5% were not satisfied with the above criteria.

Conclusions: the majority of students viewed E-learning favourably. However, numerous obstacles operate as a deterrent to using electronic technologies in medical education. Better technology will improve the satisfaction of the students with the e-mode of the learning process.

Key-words: E-learning; Satisfaction in the learning process; Satisfaction; Covid-19; learning process.

Introduction

The COVID-19 pandemic has caused an unprecedented disruption in medical education and healthcare systems worldwide [1]. It is a highly contagious viral illness caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [2]. According to the World Health Organization (WHO), viral diseases continue to rise and pose a significant public health problem [3]. It can affect

all boundaries and all religions without any discrimination [4]. The clinical continuum of COVID-19 varies from mild illness with non-specific signs and symptoms of acute respiratory disease to extreme respiratory pneumonia and septic shock [5]. The COVID-19 pandemic is associated with highly significant levels of psychological distress that, in many cases, would meet the threshold for clinical relevance [6]. This clinical relevance has a great impact on teaching and learning methods, which arise due to the complex nature of healthcare professionals' roles and responsibilities, the education of this workforce is multifaceted and challenging [7]. Nowadays, there is a paradigm shift in medical education. This shift occurred following the Covid-19 crisis, and the world uses digital e-learning to support the public health response to this pandemic [8]. However, due to the COVID-19 pandemic, all in-person opportunities for formal and informal learning have ceased and health professional courses have been required to move to exclusive delivery through online education [1]. The impact of this change to teaching and learning, on both learners and teachers, is largely unknown, and online education is the delivery of learning materials using the internet for student-student and student-teacher interaction and for distributing educational materials [9].

Materials and Methods

Study Design: This study was a descriptive cross-sectional type.

Study Setting and Duration

The study was conducted at the Prince Sultan Military College of Health Sciences, Dhahran Kingdom of Saudi Arabia, from April to June 2021.

Study Population

The study targeted all male and female students who were enrolled during semester 2 of academic year 2020-21 at Prince Sultan Military College for Health Sciences. Students who refused to participate in the study were excluded.

Sample size:

Out of the 1160 target sample, 670 male and 490 female students participated. To gather sufficient variables and to allow for the substantial sample size needed to provide an overview of the needs assessment of e-learning, the survey method was clearly the most suitable approach. In particular, surveys are especially suitable when there is a need to study a large number of variables and to manage a large sample size [10].

Sampling Technique

Course Evaluation Survey (CES) is based on 5 domains and 32 questions for the collection of data. CES as sent to every student through College Survey Management Information System [11].

Study Tool

A pretested structured questionnaire was used to record information regarding student satisfaction. Course Evaluation Survey Questionnaire is based on 5 domains and 32 questions for the collection of data [12]. The researcher used a 5-point Likert scale ranging from "strongly agree" to "strongly disagree" to provide their responses on their perception of satisfaction with e-learning. These items are asked such that they are statements of opinion since each is accompanied by 5 response categories: strongly agree, agree, uncertain, disagree, and strongly disagree. A scoring system was developed for each response that ranged from 1 to 5.

Ethical Approval and Consent Procedure

This Course Evaluation Survey study was approved by Scientific Research Committee and Institutional Review Board (SRC/08/0000259) at Prince Sultan Military College of Health Sciences, Dhahran Kingdom of Saudi Arabia during the academic year of 2020-2021. The inclusion criteria comprised all male and female PSMCHS students, who complete their courses. Withdrawn, dismissed, and postpone students were excluded. Written informed consent was obtained from all voluntarily willing participants. Only complete questionnaires were considered**.** Strict confidentiality was maintained during data handling.

Analysis

The researcher has used a number of statistical methods to analyze the collected data. These included quantitative techniques. The data were analyzed by each question asked. The researcher used frequencies, tables, percentages, with suitable diagrams.

Hypothesis testing

H_0. There is no significant difference between the following categories of students (Male & female)

with reference to their e-learning system components needs and H_1. Male & females have significant differences with reference to their e-learning system components needs. To test the above hypothesis a nonparametric test i.e., Mann Whitney- U test was used at a 5% level of Significance. Data entry was done in Microsoft Excel sheet regularly. To ensure the quality of the data, each completed questionnaire was manually checked for completeness and consistency before it was tabulated in Microsoft Excel. The analysis was done using SPSS 15.0 software.

Result and Observation

Satisfaction with respect to clarity of instructions at the start of the course

The course outline (including the knowledge and skills the course was designed to develop) was assessed using the questionnaire. It was observed that 87% of total participants strongly agreed that initial instructions were clearly understood, 2.3 % were undecided and 9.0 were not satisfied with the clarity in instructions. The data showed that the instructions were clearly given to the participants. Instruction clarity did show that the difference is significant with regard to gender ($p<0.05$) using Mann Whitney U test (Table 1).

The things I had to do to succeed in the course, including assessment tasks and criteria for assessment, were made clear to me was assessed using the questionnaire. It was observed that 86 % of total participants strongly agreed that initial instructions were clearly understood, 2% were undecided and 12% were not satisfied with the clarity in instructions. The data showed that the instructions were clearly given to the participants. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 1). Sources of help for me during the course including faculty office hours and reference material were made clear to me and were assessed using the questionnaire. It was observed that 84.6% of total participants strongly agreed that initial instructions were clearly understood, 2% were undecided and 12% were not satisfied with the clarity in instructions. The data showed that the instructions were clearly given to the participants. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 1).

Satisfaction of trainees with regard to Activities during the course

The conduct of the course and the things I was asked to do were consistent with the course outline and were assessed using the questionnaire. It was observed that 86.6% of total participants strongly agreed that consistent with the course outline, 2.8% were undecided and 10.6% were not satisfied with the clarity in instructions. The data showed that the instructions were clearly given to the participants. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 2). My instructor(s) were fully committed to the delivery of the course. (e.g. classes started on time, the instructor always present, material well prepared, etc) was assessed using the questionnaire. It was observed that 86.3% of total participants strongly agreed that committed to the delivery of the course, 2.7% were undecided and 11 % were not satisfied with the clarity in instructions. The data showed that the instructor(s) were fully committed to the delivery of the course. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 2). My instructor(s) had a thorough knowledge of the content of the course and were assessed using the questionnaire. It was observed that 84.8% of total participants strongly agreed with an instructor(s) had a thorough knowledge of the content of the course, 2.7% were undecided and 12.5% were not satisfied with the clarity in instructions. The data showed that the instructor(s) had a thorough knowledge of the content of the course. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 2). My instructor(s) were available during office hours to help me was assessed using the questionnaire. It was observed that 84.3% of total participants strongly agreed that initial instructions were clearly understood, 2.4% were undecided and 13.3% were not satisfied with the clarity in instructions. The data showed that the instructions were clearly given to the participants. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 2). My instructor(s) were enthusiastic about what they were teaching and were assessed using the questionnaire. It was observed that 84.2% of total participants strongly agreed that instructor(s) were enthusiastic about what they were teaching, 2.3% were undecided and 12.9% were not satisfied with the clarity in instructions. The data showed that the instructor(s) were enthusiastic about what they were teaching. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 2).

My instructor(s) cared about my progress and were helpful to me was assessed using the questionnaire. It was observed that 82.9% of total participants strongly agreed that the instructor(s) cared about the participant's progress and were helpful, 3.0 % were undecided and 14.1% were not satisfied with the clarity in instructions. The data showed that the

instructor(s) cared about participants' progress and were helpful. The difference is nonsignificant with regard to gender (p>0.05) using the Mann-Whitney U test (Table 2).

Course materials were up to date and useful. (Texts, handouts, references, etc. was assessed using the questionnaire. It was observed that 83.6% of total participants strongly agreed that Course materials were up to date and useful, 3.0 % were undecided and 13.4 % were not satisfied with the clarity in instructions. The data showed that the Course materials were up to date and useful. The difference is nonsignificant with regard to gender (p>0.05) using the Mann-Whitney U test (Table 2).

The resources I needed in this course (textbooks, library, computers, etc.) were available when I needed them and were assessed using the questionnaire. It was observed that 83.8% of total participants strongly agreed that the resources needed in this course by the participants were available, 3.0 % were undecided and 13.2 % were not satisfied with the clarity in instructions. The data showed that the resources needed in this course by the participants were available. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

In this course, effective use was made of technology to support my learning was assessed using the questionnaire. It was observed that 84.7% of total participants strongly agreed that this course's effective use was made of technology to support participants learning, 3.0 % were undecided and 12.2 % were not satisfied with the clarity in instructions. The data showed that this course's effective use was made of technology to support participants learning. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

In this course I was encouraged to ask questions and develop my own ideas was assessed using the questionnaire. It was observed that 90.3% of total participants strongly agreed that this course was encouraged to ask questions and develop their own ideas of participants, 2.8 % were undecided and 6.8 % were not satisfied with the clarity in instructions. The data showed that this course was encouraged to ask questions and develop the own ideas of participants. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

In this course, I was inspired to do my best work was assessed using the questionnaire. It was observed that 84.1% of total participants strongly agreed that this course participant was inspired to do the best work, 2.8 % were undecided and 13.0 % were not satisfied with the clarity in instructions. The data showed that this course participant was inspired to do the best work. The difference is

significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

The things I had to do in this course (class activities, assignments, laboratories, etc) were helpful for developing the knowledge and skills the course was intended to teach was assessed using the questionnaire. It was observed that 79.0 % of total participants strongly agreed that course activities were helpful for developing the knowledge and skills the course was intended to teach, 2.8 % were undecided and 18.2 % were not satisfied with the clarity in instructions. The data showed that the course activities were helpful for developing the knowledge and skills the course was intended to teach. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

The amount of work I had to do in this course was reasonable for the credit hours allocated was assessed using the questionnaire. It was observed that 82.3 % of total participants strongly agreed that the amount of work had to do in this course was reasonable for the credit hours allocated, 2.8 % were undecided and 14.8 % were not satisfied with the clarity in instructions. The data showed that the amount of work had to do in this course was reasonable for the credit hours allocated. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

Marks for assignments and tests in this course were given to me within a reasonable time and were assessed using the questionnaire. It was observed that 75.8 % of total participants strongly agreed that marks for assignments and tests in this course were given within reasonable time, 2.6 % were undecided and 21.6 % were not satisfied with reasonable time. The data showed that the Marks for assignments and tests in this course were given within reasonable time. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

The grading of my tests and assignments in this course was fair and reasonable was assessed using the questionnaire. It was observed that 82.8 % of total participants strongly agreed that grading of tests and assignments in this course was fair and reasonable, 2.6 % were undecided and 14.6 % were not satisfied with reasonable time. The data showed that the Grading of tests and assignments in this course was fair and reasonable. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

The links between this course and other courses in my total program were made clear to me and were assessed using the questionnaire. It was observed that 76.8 % of total participants strongly agreed that the links between this course and other courses in the total program were made clear to

participants, 4.7 % were undecided and 18.4 % were not satisfied with reasonable time. The data showed that the links between this course and other courses in the total program were made clear to participants. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 2).

Satisfaction for Evaluation of the course content goals

What I learned in this course is important and will be useful to me was assessed using the questionnaire. It was observed that 82.0 % of total participants strongly agreed that this course is important and will be useful to participants, 3.5 % were undecided and 14.5 % were not satisfied with reasonable time. The data showed that this course is important and will be useful to participants. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 3). This course helped me to improve my ability to think and solve problems rather than just memorize information was assessed using the questionnaire. It was observed that 79.2 % of total participants strongly agreed that this course helped to improve participants' ability to think and solve problems rather than just memorize information, 3.2 % were undecided and 17.6 % were not satisfied with reasonable time. The data showed that this course helped to improve participants' ability to think and solve problems rather than just memorize information. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 3).

This course helped me to develop my skills in working as a member of a team was assessed using the questionnaire. It was observed that 78.2 % of total participants strongly agreed that this course helped to develop participants' skills in working as a member of a team, 3.6 % were undecided and 18.2% were not satisfied with reasonable time. The data showed that this course helped to develop participants' skills in working as a member of a team. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 3).

This course improved my ability to communicate effectively was assessed using the questionnaire. It was observed that 83.4 % of total participants strongly agreed that this course improved participants' ability to communicate effectively, 3.7 % were undecided and 12.9% were not satisfied with reasonable time. The data showed that this course improved participants' ability to communicate effectively. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 3).

Satisfaction with regard to Overall Evaluation

Overall, I was satisfied with the quality of this course was assessed using the questionnaire. It was observed that 82.5% of total participants strongly agreed that Overall, participants were satisfied with the quality of this course, 3.0 % were undecided and 14.5% were not satisfied with reasonable time. The data showed that Overall, participants were satisfied with the quality of this course. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 4).

Satisfaction of trainees with regard to Activities during the E-Learning

Time spent on this e-Learning course was appropriate was assessed using the questionnaire. It was observed that 81.8% of total participants strongly agreed that the Time spent on this e-Learning course was appropriate, 4.1 % were undecided and 14.1% were not satisfied with reasonable time. The data showed that the Time spent on this e-Learning course was appropriate. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 5). The instructor started classes on time was assessed using the questionnaire. It was observed that 77.7% of total participants strongly agreed that the instructor started classes on time, 3.9% were undecided and 18.4% were not satisfied with reasonable time. The data showed that the instructor started classes on time. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 5).

The instructor posted the class materials on time was assessed using the questionnaire. It was observed that 82.2% of total participants strongly agreed that the instructor posted the class materials on time, 3.8% were undecided and 14.1% were not satisfied. The data showed that the instructor posted the class materials on time. The difference is significant with regard to gender (p<0.05) using the Mann-Whitney U test (Table 5).

The course material and load were reasonable was assessed using the questionnaire. It was observed that 80.3% of total participants strongly agreed that the course material and load were reasonable, 4.2% were undecided and 15.4% were not satisfied. The data showed that the course material and load were reasonable. The difference is nonsignificant with regard to gender (p>0.05) using the Mann-Whitney U test (Table 5).

The instructor delivered the syllabus efficiently through the online classes was assessed using the

questionnaire. It was observed that 87.2% of total participants strongly agreed that the instructor delivered the syllabus efficiently through the on-line classes, 3% were undecided and 9.7% were not satisfied. The data showed that the instructor delivered the syllabus efficiently through the online classes. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 5).

The instructor delivered the syllabus efficiently through the online classes was assessed using the questionnaire. It was observed that 81.4% of total participants strongly agreed that the overall assessment method of the Quizzes/Tests/Assignments was appropriate, 3.2% were undecided and 15.4% were not satisfied. The data showed that the overall assessment method of the Quizzes/Tests/Assignments was appropriate. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 5).

My instructor gave me relevant and timely feedback was assessed using the questionnaire. It was observed that 90.0% of total participants strongly agreed that the instructor gave relevant and timely feedback, 3.0% were undecided and 6.9% were not satisfied. The data showed that the instructor gave me relevant and timely feedback. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 5).

The quizzes/tests/assignments that cover the material presented in the course were assessed using the questionnaire. It was observed that 94.7% of total participants strongly agreed that the instructor given the quizzes/tests/assignments cover the material presented in the course, 2.2 % were undecided and 2.2% were not satisfied. The data showed that the instructor given the quizzes/tests/assignments cover the material presented in the course. The difference is significant with regard to gender ($p<0.05$) using the Mann-Whitney U test (Table 5).

Discussion and Conclusion

The COVID-19 pandemic forced instructors to integrate new materials and methods into their courses in a very short period to maintain the quality of education under the limitations posed by the pandemic [13]. Advances in information technology, and changes in society, are creating new paradigms for education and training. These massive changes have a tremendous impact on our educational and training systems [14]. The purpose of this investigation/ research was to find out the needs of e-learning components and examine how certain demographic variables (male and female, and teaching-learning subject) affect E-learning needs assessment among students of Prince Sultan Military College of Health Sciences, Dhahran Kingdom of Saudi Arabia. The student's perception was positive (Strongly agree and agree) towards the E-learning, though a very meagre percentage have disagreed and undecided with the mode of teaching. Most of the variables are in the study have found statistically significant difference with respect to gender, which shows gender is independent in opinion with reference to their e-learning system components needs.

Student satisfaction is a critical variable in determining the success or failure of online learners, courses, and programs [15-18]. The findings of Alanazi & Alshaalan (2020) suggest that the use of e-learning tremendously increased after COVID-19 and created greater educational opportunities in Saudi medical and health colleges [2]. The effects of COVID-19 may forever change the future education methods in these colleges. The longer distant learning continues, the more E-learning will benefit. Thus, COVID-19 may be seen as "a blessing in disguise" in the dynamic era of technology. Based on the findings of this study, students, faculty members, and management of colleges of education and educators can plan and conduct needed and related training programs to expand their own knowledge and proficiency in E-learning, Internet technologies lead to more efficient utilization. Moreover, students (as future teachers) should be made aware of the potential of various e-learning technologies for enhancing the teaching and learning process. Clarifying the incentives and eliminating obstacles to fully integrating e-learning is needed. Decision-makers and Heads can decide for the planning and designing workshops and intensive courses. It is suggested that institutions plan and conduct some non-credit courses and intensive workshops in faculties to improve students' acceptance of e-learning.

Table 1. Clarity of instructions at the start of course

Start of The Course

	Instruction clarity at start of course		Instruction clarity regarding activities at start of course		Instruction clarity for office hours and reference material at start of course	
Response	Male	Female	Male	Female	Male	Female
Strongly Agree	309(46.12%)	207(42.24%)	321(47.91%)	181(36.94%)	316(47.16%)	188(38.37%)
Agree	293(43.73%)	210(42.86%)	306(45.67%)	190(38.78%)	298(44.48%)	179(36.53%)
Undecided	16(2.39%)	11(2.24%)	2(0.3%)	21(4.29%)	12(1.79%)	22(4.49%)
Disagree	33(4.93%)	39(7.96%)	26(3.88%)	54(11.02%)	26(3.88%)	54(11.02%)
Strongly Disagree	19(2.84%)	23(4.69%)	15(2.24%)	44(8.98%)	18(2.69%)	47(9.59%)
Total	670(100%)	490(100%)	670(100%)	490(100%)	670(100%)	490(100%)
Mann Whitney U test		0.04*		0.001*		0.001*

Table 2. Satisfaction of trainees with regard to Activities during the course

Response / Domain		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total	Mann Whitney U test
Course conduct as per course outline	Male	305(45.52%)	308(45.97%)	12(1.79%)	26(3.88%)	19(2.84%)	670(100%)	0.008*
	Female	213(43.47%)	179(36.53%)	20(4.08%)	35(7.14%)	43(8.78%)	490(100%)	
Instructor commitment	Male	319(47.61%)	295(44.03%)	12(1.79%)	26(3.88%)	18(2.69%)	670(100%)	0.001*
	Female	182(37.14%)	205(41.84%)	19(3.88%)	41(8.37%)	43(8.78%)	490(100%)	
Content Knowledge of the Instructors	Male	306(45.67%)	297(44.33%)	12(1.79%)	26(3.88%)	29(4.33%)	670(100%)	0.001*
	Female	197(40.2%)	184(37.55%)	19(3.88%)	47(9.59%)	43(8.78%)	490(100%)	
Availability of Instructor	Male	307(45.82%)	297(44.33%)	12(1.79%)	26(3.88%)	28(4.18%)	670(100%)	0.001**
	Female	174(35.51%)	200(40.82%)	16(3.27%)	57(11.63%)	43(8.78%)	490(100%)	
Enthusiasm of Instructor	Male	286(42.69%)	311(46.42%)	14(2.09%)	31(4.63%)	28(4.18%)	670(100%)	0.001**
	Female	197(40.2%)	183(37.35%)	19(3.88%)	47(9.59%)	44(8.98%)	490(100%)	
Concern for progress of trainee	Male	271(40.45%)	310(46.27%)	16(2.39%)	37(5.52%)	36(5.37%)	670(100%)	0.096NS
	Female	198(40.41%)	183(37.35%)	19(3.88%)	50(10.2%)	40(8.16%)	490(100%)	
Update and usefulness of course material	Male	283(42.24%)	294(43.88%)	16(2.39%)	41(6.12%)	36(5.37%)	670(100%)	0.62NS
	Female	218(44.49%)	175(35.71%)	19(3.88%)	36(7.35%)	42(8.57%)	490(100%)	
Availability of resources for course	Male	305(45.52%)	296(44.18%)	16(2.39%)	26(3.88%)	27(4.03%)	670(100%)	0.001*
	Female	172(35.1%)	199(40.61%)	19(3.88%)	56(11.43%)	44(8.98%)	490(100%)	
Use of adequate technology for teaching	Male	311(46.42%)	294(43.88%)	14(2.09%)	31(4.63%)	20(2.99%)	670(100%)	0.001*
	Female	171(34.9%)	207(42.24%)	21(4.29%)	47(9.59%)	44(8.98%)	490(100%)	
Encouragement for doubt clearance	Male	302(45.07%)	314(46.87%)	14(2.09%)	21(3.13%)	19(2.84%)	670(100%)	0.001*
	Female	234(47.76%)	198(40.41%)	19(3.88%)	19(3.88%)	20(4.08%)	490(100%)	
Motivation to put up the best	Male	294(43.88%)	300(44.78%)	14(2.09%)	41(6.12%)	21(3.13%)	670(100%)	0.001*
	Female	191(38.98%)	191(38.98%)	19(3.88%)	47(9.59%)	42(8.57%)	490(100%)	
Course activities were helpful for learning	Male	275(41.04%)	250(37.31%)	14(2.09%)	91(13.58%)	40(5.98%)	670(100%)	0.001*
	Female	193(39.39%)	198(40.41%)	19(3.88%)	39(7.96%)	41(8.37%)	490(100%)	
Amount of work was according to credit hours for a topic	Male	244(36.42%)	320(47.76%)	14(2.09%)	41(6.12%)	51(7.61%)	670(100%)	0.03*
	Female	193(39.39%)	198(40.41%)	19(3.88%)	39(7.96%)	41(8.37%)	490(100%)	
Evaluation marks communicated with in time	Male	308(45.97%)	200(29.85%)	11(1.64%)	81(12.08%)	70(10.44%)	670(100%)	0.001*
	Female	195(39.8%)	176(35.92%)	19(3.88%)	61(12.45%)	39(7.96%)	490(100%)	
Fairness and reasonable grading	Male	309(46.12%)	259(38.65%)	11(1.64%)	31(4.63%)	60(8.95%)	670(100%)	0.001*
	Female	193(39.39%)	199(40.61%)	19(3.88%)	39(7.96%)	40(8.16%)	490(100%)	
Clarity in linking different course modules	Male	220(32.83%)	301(44.93%)	26(3.88%)	76(11.34%)	47(7.01%)	670(100%)	0.001*
	Female	193(39.39%)	177(36.12%)	29(5.92%)	47(9.59%)	44(8.98%)	490(100%)	

Table 3. Satisfaction for Evaluation of the course content goals

Start of The Course

	Usefulness of course		Problem solving and thinking ability enhancement		Skill development as team member		Effective communication ability	
Response	Male	Female	Male	Female	Male	Female	Male	Female
Strongly Agree	293(43.7%)	187(38.16%)	240(35.82%)	196(40%)	293(43.73%)	170(34.69%)	324(48.36%)	190(38.78%)
Agree	282(42.0%)	189(38.57%)	292(43.58%)	191(38.98%)	247(36.86%)	197(40.2%)	277(41.34%)	176(35.92%)
Undecided	16(2.39%)	25(5.1%)	18(2.69%)	19(3.88%)	16(2.39%)	26(5.31%)	16(2.39%)	27(5.51%)
Disagree	46(6.87%)	50(10.2%)	61(9.1%)	47(9.59%)	86(12.83%)	61(12.45%)	26(3.88%)	60(12.24%)
Strongly Disagree	33(4.93%)	39(7.96%)	59(8.80%)	37(7.55%)	28(4.18%)	36(7.35%)	27(4.03%)	37(7.55%)
Total	670(100%)	490(100%)	670(100%)	490(100%)	670(100%)	490(100%)	490(100%)	490(100%)
Mann Whitney U test		0.001**		0.396NS		0.001*		0.001**

Table 4. Satisfaction with regard to Overall Evaluation

Responses	Male	Female
Strongly Agree	304(45.37%)	198(40.41%)
Agree	286(42.69%)	169(34.49%)
Undecided	16(2.39%)	19(3.88%)
Disagree	36(5.37%)	60(12.24%)
Strongly Disagree	28(4.18%)	44(8.98%)
Total	670(100%)	490(100%)
Mann Whitney U test		0.001**

Table 5. Satisfaction of trainees with regard to Activities during the E-Learning course

Response / Domain		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total	Mann Whitney U test
Appropriateness of time spent	Male	281(41.94%)	298(44.48%)	18(2.69%)	41(6.12%)	32(4.78%)	670(100%)	0.02**
	Female	184(37.55%)	186(37.96%)	29(5.92%)	47(9.59%)	44(8.98%)	490(100%)	
Instructors' punctuality	Male		284(42.39%)	16(2.39%)	46(6.87%)	79(11.79%)	670(100%)	0.02**
		245(36.56%)						
	Female	192(39.18%)	180(36.73%)	29(5.92%)	47(9.59%)	42(8.57%)	490(100%)	
Timely availability of class material by Instructor	Male	305(45.52%)	259(38.66%)	18(2.69%)	51(7.61%)	37(5.52%)	670(100%)	0.013*
	Female		197(40.2%)	26(5.31%)	33(6.73%)	42(8.57%)	490(100%)	
		192(39.18%)						
Reasonable workload and class material	Male	263(39.25%)	297(44.33%)	20(2.99%)	46(6.87%)	44(6.57%)	670(100%)	0.167NS
	Female	192(39.18%)	180(36.73%)	29(5.92%)	47(9.59%)	42(8.57%)	490(100%)	
Efficiency of delivering classes in respect of syllabus	Male	291(43.43%)	299(44.63%)	16(2.39%)	36(5.37%)	28(4.18%)	670(100%)	0.012*
	Female		181(36.94%)	19(3.88%)	47(9.59%)	02(0.40%)	490(100%)	
		241(49.18%)						
Assessment through various assessment methods	Male	318(47.46%)	316(47.16%)	18(2.69%)	11(1.64%)	07(1.04%)	670(100%)	0.011*
	Female		224(45.71%)	19(3.88%)	17(3.46%)	04(0.81%)	490(100%)	
		226(46.12%)						
Relevance of timely feed back	Male	334(49.85%)	276(41.19%)	16(2.39%)	36(5.37%)	08(1.19%)	670(100%)	0.002*
	Female		196(40%)	19(3.88%)	33(6.73%)	04(0.81%)	490(100%)	
		238(45.57%)						
Assessments covered course material	Male	317(44.33%)	312(42.09%)	16(2.39%)	06(6.87%)	09(4.33%)	670(100%)	
	Female		229(46.73%)	10(2.04%)	03(0.61%)	08(1.63%)	490(100%)	
		240(48.97%)						

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