

# Perceptions of Higher Education Students towards E-Learning and Face-to-Face Learning in Pakistani Context

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**Abstract:-** In general, education at all levels is oriented towards the future; students must adapt to a dynamic and swiftly changing environment. These days, student-focused approaches to education are gaining popularity, and Pakistan is no exception. The purpose of this study was to determine how students in higher education perceive e-learning and face-to-face learning. Using empirical statistical techniques, the data was collected, normalized, and analyzed. As a representative sample, 202 students were included in this study. The researcher created the instrument to assess students' perceptions of e-learning and face-to-face learning in higher education. SPSS (Statistical Package for the Social Sciences) was utilized to analyse the data. In comparison to e-learning, students have a favorable opinion of face-to-face learning, according to the findings. It was determined that there is no significant difference between male and female pupils' perceptions overall. Additionally, there is no significant difference based on location. To gain a deeper comprehension of the phenomenon, it is suggested that a qualitative approach be adopted. Future research may either confirm or refute the results of this study.

**Keywords:-** Higher Education Students, Perception, E-Learning, f2f Learning

## I. INTRODUCTION

As COVID-19 spread around the world, numerous nations asked for the closure of all educational institutions. All educational institutions were forced to close in order to protect their pupils from the virus. The coronavirus impeded the development of e-learning, but few institutions in developing nations are adequately prepared to teach online effectively, as the transition from face-to-face to online learning was a significant one. Traditionally, face-to-face learning was considered superior to e-learning. It is primarily due to the need for social presence, social cooperation, and student fulfilment.

With an innovative advancement, students now require quality projects that they may access at any time and from any location. As a result of these requests, e-learning has become a realistic and appealing option for professionals, and other such populations. Besides from flexibility and availability, numerous other claimed value advantages, including as program selection and time efficiency, have raised the appeal of e-learning ([Wladis, Conway, & Hachey, 2015](#)). On the other hand, traditional approach is a well-known teaching medium wherein an instructional methods and Organization has been refined over time. Face-to-face training has some advantages that online instruction does not. ([Xu & Jaggars, 2013](#)).

In the last ten years, there has been emotional growth and diverse advantages when it comes to using e-learning in teaching ([Allen, 2017](#)). A massive number of pupils are attending their classes online, prompting educators to create online courses to improve teaching and learning effectiveness ([Evans, 2014](#)). Several studies have shown that e-learning can improve student collaboration, improve communication quality, and enhance online intelligence.

Due to various technological developments, "Digital tools like as WebCT, eCollege, and Blackboard" ([Halawi, McCarthy, & Pires, 2009](#)) are used in online learning programs. In light to technical, sociological, and economic developments, schools and the number of online course offerings at colleges has grown at an exponential rate. over the last decade ([Ozerbas, Erdogan, & Society, 2016](#))

Most of the overall assistance opt for synchronous and asynchronous internet teaching techniques: coordination of activities is where offers courses at a pre-planned time as part of splendidly having to learn courses, whereas the nontraditional approach refers to the workforce attempting to provide the course without the students' participation. There is no interaction between the professor and the students.

This study is aimed at investigating the higher education students' perception regarding e-learning and face-to-face learning in Pakistani context. This study findings may help to validate the existing literature.

## II. LITERATURE REVIEW

### A. Student Perception

Man's fundamental form of cognitive engagement with the world around him is perception. Even though all conceptual understanding is founded on or derived from this fundamental kind of consciousness and to the research on perception has always had special significance in science and philosophy.

Perception is the method of gaining consciousness or comprehension of one's surroundings through the organizing and processing of sensory information (Lenka & Ravi, 2012). For the present research perception means awareness among students about e-learning and face-to-face learning.

### B. Blended Learning

(Delialioglu, Yildirim, & Society, 2007) claimed that the systematic and deliberate integration of ICT technology into academic courses results in an innovative methodology to instructional goals. This educational technique is also known as collaborative learning, hybrid education, browser instruction, and web-enhanced instruction. According to (Gulbahar, Madran, & learning, 2009), Blended learning is similar with hybrid instruction, which blends the advantages of web-based learning alongside those of traditional classroom approaches.

In the recent decade, technology has played a significant part in the learning program (Almahasees & Jaccopard, 2020). To deal with rapid advances in technology, educational methods, approaches, and strategies have been improved. Many online platforms have been created by technical firms because of the technology being integrated into all aspects of daily life (Al-Azawei, Parslow, & Lundqvist, 2017). Technology has dominated our social, commercial, and educational lives. The Internet plays an important role in information sharing through online classrooms (Silva & Cartwright, 1993). Education has been turned towards an innovative environment during COVID-19. The change should relate to strategies to reduce the effect of the shift on the usual learning experience (Gurukkal, 2020).

(Akkoyunlu & Soyly, 2006) investigated students' perspectives on mixed learning environments and discovered that students appreciated engaging in a blended learning environment that combined face-to-face and online classes. Furthermore, they underlined the importance of communication and engagement in online education for optimal learning. Another BL theorist, (Rovai, Jordan, & Learning, 2004) underlined the importance of developing courses in blended learning as a flexible method. The advantages of face-to-face connection are evident, and their presence can improve the quality of both online and traditional classes.

Students' opinions regarding conducting the active classes both online and face-to-face are comparable. Students performed as well in both online and face-to-face collaborative courses; it was determined. Face-to-face instruction relies on constant class attendance, however interactive classes focus on compelling worksheets. As a result, educational content, mode of distribution, and completion % impact the success of online and face-to-face learning. (Nemetz, Eager, & Limpaphayom, 2017). Web based learning has been regarded as a vital tool for training due to less cost, accessibility, and capacity to provide world-class education (de la Varre, Keane, & Irvin, 2010). In both schools and higher institutions, face-to-face instruction has given way to online instruction due to COVID-19 (Strielkowski, 2020).

In Malaysia, a survey was carried out to assess male and female students' satisfaction with E-learning portals. He observed a strong link between user satisfaction and E-learning. The quality of the E-service determines the level of satisfaction of both participants, as illustrated in the report (Shahzad et al., 2021). The benefits of online learning include flexibility, ease of access, and connection between students and lecturers (Almahasees, Mohsen, & Amin, 2021). The role and benefits of digital learning have highlighted that it has issues such as data security. Students' private details is at threat since students use internet portals via mobile phones and computers. Schools should teach their faculty and students about privacy and data security (Almahasees et al., 2021).

### C. Use of EdTech Tools

The invasion of COVID-19 confronted the field of education in such a way that the quality of education everywhere became simply uncertain, and the learnings were at risk, as educational institutions were unintentionally shut down, and no one's approval was even required for this accident. Naturally, the ability of a nation's economy is proportionate to significant expansion in educational institutions, provision of excellent education, and subsequent employment. As the country's economy suffered because of the pandemic, it was inevitable that education would suffer as well. At this point, it is worth contemplating the introduction of various Edtech tools into higher education, such as Padlet, Edpuzzle, and Flipgrid.

Padlet is a digital online whiteboard that students use to submit notes on a shared page and teachers use to stimulate real-time engagement and assessment (Fuchs, 2014). Padlet improves academic writing and provides pupils with writing abilities that will help them cope with academic responsibilities. Padlet's most astonishing feature is that users do not need to register beforehand. Padlet is regarded as an excellent online solution for real-time collaboration in a virtual setting.

Edpuzzle includes a simple user interface and a video sharing site, with the goal of assisting teachers in increasing student engagement and fostering learning through video courses (Tabassum & ISSN, 2020). EdPuzzle assists teachers in creating video lessons for use in the classroom. Its best feature is the ability to import any video from any available source. Users can quickly submit their videos to YouTube before importing them into EdPuzzle (Половін, 2019).

There is a gap in the understanding of higher education students’ perception about e-learning and face-to-face learning especially based on gender and locale. The present study is an attempt to fill in those gaps.

➤ *Objectives of the Study*

The objectives of the study were:

- To investigate relationship on students’ perception about e-learning and face-to-face learning at university level
- To investigate the students’ perception based on gender
- To investigate the students’ perception based on locale

➤ *Research Questions*

To achieve the research objectives of study the following questions were explored

- Q1. Is there any significant difference between the perceptions of students about e-learning and face-to-face learning?
- Q2. Is there any significant difference between the perceptions of male and female students about e-learning and face-to-face learning?
- Q3. Is there any significant difference between the perceptions of urban and rural students about e-learning and face-to-face learning?

**III. METHODOLOGY**

➤ *Research Design*

The quantitative approach was used in this research. In order to get an in-depth knowledge of the students’ perception about e-learning and face-to-face learning in Pakistan online surveys were conducted. Cross-sectional survey designs are considered as cross-sectional survey design has the advantage of that it can measure students’ perception toward e-learning and face-to-face learning in a short amount of time. This study was designed to find out the perceptions of students about e-learning and face-to-face learning at university level. Therefore, the study was descriptive in nature.

➤ *Population and Sampling*

The population comprised of students studying in the private and government sector universities. Statistical sampling technique was selected to choose the sample from all over the population. The researcher selected universities students who have experienced both e-learning and face-to-face learning. This study was delimited to the university level students and total of 202 students were included in the study. The 81 (40.1%) males and 121 (59.9%) females were included in this study. The number of urban students were 149 (73.8%)

and rural were 53 (26.2%). According to this data, urban students were more than rural students who included in this study. The number of public sector students were 173 (85.6%) and the number of private sector students were 29 (14.4%). According to this data, public sector students were more than private sector students who included in this study as shown in Table 1.

Table 1 Distribution of participants based on gender, locale, and sector:

Gender	Frequency	Percent	Cumulative Percent
Male	81	40.1	40.1
Female	121	59.9	100.0
Urban	149	73.8	73.8
Rural	53	26.2	100.0
Private	173	85.6	85.6
Public	29	14.4	100.0

Note: N = 202

➤ *Instrument*

The data was collected online through closed-ended questionnaire based on five-point Likert-type scale. The types of Likert scale used to express the degree of agreement or disagreement to the items are 5=Strongly Agree, 4= Agree, 3=Neutral, 2=Disagree, and 1=Strongly Disagree. This tool was developed by researcher (Farooq, 2019) for this study. The tool consists of thirty statements which are divided into 2 sections. 15 items for e-learning subscale and 15 items for face-to-face learning subscale.

In addition to the statements, there were five statements to gather demographic information based on programs, age, semester, gender, and locale. Pilot testing shows the instrument was highly reliable for e-learning ( $\alpha = .933$ ) and for f2f learning ( $\alpha = .930$ ). Moreover, the validity of the instrument was established by experts.

Table 2.1 shows the mean and standard deviations of each statement from the sub-scales; e-learning and face-to-face learning. The total statements are 15 about e-learning to know the students’ perceptions and 15 about face-to-face learning. The total numbers of students were 202. The minimum response which recorded is 1 and the maximum response which recorded is 5 in both subscales. In the preference of e-learning and face-to face, the total minimum responses are 15 and maximum responses are 75. The total mean of each response which about preference of e-learning are 49.09 and the total SD about preference of e-learning are 17.363. The statement “I would prefer e-learning instructions” has the lowest mean score which is 2.95 while, “E-learning saves my time” has the highest mean score which is 3.67. The total mean of each response which about preference of f2f learning are 58.75 and the total SD about preference of f2f learning are 15.561. The statement “The face-to-face learning saves my time” has the lowest mean score which is 3.31 while,

“I would prefer face-to-face learning instructions” has the highest mean score which is 4.20.

Students’ responses for the Sub-Scales

Table 2.1 Students’ Responses for Sub-Scale 1: E-learning

Statements	Min	Max	M	SD
I would prefer E-learning instruction.	1	5	2.95	1.293
E-learning instruction would be a more effective way for me to learn content.	1	5	3.13	1.177
E-learning instruction would be a better way for me to learn content material.	1	5	3.21	1.193
E-learning instruction would help me learn more.	1	5	3.36	1.121
The instructor understands the E-learning environment and makes it easy to learn.	1	5	3.21	1.149
The E-learning experience aids my understanding of the course materials.	1	5	3.33	1.072
The e-learning approach would enhance my overall course satisfaction.	1	5	3.15	1.141
An online environment makes it easier for me to communicate with my instructor.	1	5	3.14	1.152
I feel more interactive to myself in E-learning.	1	5	3.22	1.195
E-learning works well with my schedule.	1	5	3.50	1.130
E-learning saves my time.	1	5	3.67	1.099
E-learning enables to attend classes more frequently.	1	5	3.37	1.135
E-learning makes me able to submit my assignments on time.	1	5	3.64	1.121
I can more concentrate in E-learning.	1	5	3.16	1.204
E-learning makes me more comfortable to interact with my class fellows.	1	5	3.05	1.181
Preference of e-learning	15	75	49.09	17.363

Note: N = 202

Students’ responses for the Sub-Scales

Table 2.1(continue) Students’ Responses for Sub-Scale 2: Face-to-Face learning

Statements	Min	Max	M	SD
I would prefer face-to-face learning instruction.	1	5	4.20	.964
Face-to-face learning instruction would be a more effective way for me to learn content.	1	5	4.10	.952
Face-to-face learning instruction would be a better way for me to learn content material.	1	5	3.93	1.063
Face-to-face learning instruction would help me learn more.	1	5	4.05	.981
The instructor understands the face-to-face learning environment and makes it easy to learn.	1	5	4.07	.975
The face-to-face learning experience aids my understanding of the course materials.	1	5	3.89	1.026
The face-to-face learning approach would enhance my overall course satisfaction.	1	5	4.00	1.010
The face-to-face learning environment makes it easier for me to communicate with my instructor.	1	5	4.11	1.028
I feel more interactive to myself in face-to-face learning.	1	5	4.00	1.025
The face-to-face learning works well with my schedule.	1	5	3.63	1.108
The face-to-face learning saves my time.	1	5	3.31	1.182
The face-to-face learning enables to attend classes more frequently.	1	5	3.79	1.118
The face-to-face learning makes me able to submit my assignments on time.	1	5	3.58	1.131
I can more concentrate in face-to-face learning.	1	5	4.05	1.026
The face-to-face learning makes me more comfortable to interact with my class fellows.	1	5	4.05	.972
Preference of f2f learning	15	75	58.75	15.561

Note: N = 202, M = Mean, SD = Standard Deviation



### ➤ Data Analysis

The study is based on primary data which was gathered through a survey through a survey questionnaire. The questionnaire was sent to the students for the purpose of data collection through online Google Form Link via Email.

The survey questionnaire was distributed among different private and government sector universities in Islamabad, and Lahore. They were instructed by the researcher to carefully fill all the required items. 202 responses were received. The 85.6% were private sectors students and 14.4% was from public sectors students. Each questionnaire was then checked to ensure that no relevant information was missing.

Table 3 Distribution of sample according to responses:

	Gender	Locale	Sector
Valid	202	202	202
Missing	0	0	0

Statistical Package for Social Sciences (SPSS) version 23 was employed to analyze data. Frequency, percentage, mean, and standard deviations were calculated by using descriptive statistical techniques, t-test was applied by using inferential statistical techniques to find out the perceptions of higher education students about e-learning and face-to-face learning.

### ➤ Ethical Approval

The researcher selected university students who had participated in both e-learning and face-to-face learning. It was survey-based study so, no ethical approval was required. Author confirms that informed consent was obtained from all participants for only experiments. This information will not be used for any other purpose.

## IV. FINDINGS

Following are the main findings of the study:

### ➤ Overall Students' perceptions about e-learning and f2f learning Scores

- The overall mean score of students' perceptions about e-learning is 46.62 and the standard deviation about e-learning is 11.524.
- The total mean score of students' perceptions about f2f learning is 58.23 and the standard deviation about f2f learning is 10.303.
- The total mean score for male students' perception about e-learning is 46.85 with a standard deviation of 11.89.
- Female student's perceptions about e-learning have a mean score of 45.50 and standard deviation of 11.40.
- The total mean score for male students' perception about f2f learning is 57.44 with a standard deviation of 9.70.
- Female student's perceptions about f2f learning have a mean score of 58.65 and standard deviation of 10.63.
- The total mean score for urban students' perception about e-learning is 46.62 with a standard deviation of 11.85.

- Rural student's perceptions about e-learning have a mean score of 45.59 and standard deviation of 10.42.
- The total mean score for urban students' perception about f2f learning is 58.18 with a standard deviation of 10.61.
- Rural student's perceptions about f2f learning have a mean score of 58.41 and standard deviation of 9.31.

### ➤ Difference in Students' perceptions about e-learning and f2f learning based on Gender

- The total mean score for male students' perception about e-learning is 46.85 with a standard deviation of 11.89.
- Female student's perceptions about e-learning have a mean score of 45.50 and standard deviation of 11.40.
- There is no significant difference in SP about e-learning on the basis of gender  $t(148) = 0.17, 0.86 > 0.05$ .
- The total mean score for male students' perception about f2f learning is 57.44 with a standard deviation of 9.70.
- Female student's perceptions about f2f learning have a mean score of 58.65 and standard deviation of 10.63.
- There is no significant difference in SP about f2f learning on the basis of gender  $t(148) = -0.68, 0.49 > 0.05$ .

### ➤ Difference in Students' perceptions about e-learning and f2f learning based on Locale

- The overall mean score of students' perceptions about e-learning based on locale is 46.92 in urban areas and 45.59 in rural areas and the standard deviation is 11.85 and 10.42 respectively.
- There is a no significant difference in SP about e-learning on the basis of locale  $t(148) = 0.59, 0.55 > 0.05$ .
- The total mean score of students' perceptions about f2f learning based on locale is 58.18 in urban areas and 58.41 in rural areas and the standard deviation is 10.41 and 9.31 respectively.
- There is a no significant difference in SP about f2f learning on the basis of locale  $t(148) = -0.11, 0.91 > 0.05$ .

## V. DISCUSSION

The study was proposed to know about the perception of higher education students about e-learning and face-to-face learning. To determine the higher education students' perception about e-learning and face-to-face learning questionnaire was used. It consisted of 5 demographic variables which were program, age, semester, gender, and locale. It measured on the base of gender and locale. The 30 statements were about to students' perceptions about e-learning and face-to-face learning. There are two sub-scales; "Perception of higher education students about e-learning" and "Perception of higher education students about face-to-face learning."

For the analysis of the collected data, descriptive statistical techniques were applied; Mean and Standard Deviation were determined to compute the averages of the respondents according to the demographic variable. In

inferential Statistics, independent sample t-test was applied to determine the difference between higher education students about e-learning and face-to-face learning based on gender, and locale.

The results of the study were astonishing. It was determined after analysis there is no significant difference in the opinion of male and female students, but there are significant differences occur on the base of locale. The results of the study show the students have relatively more positive perception regarding face-to-face learning as compared to e-learning. In the past, a very few numbers of studies have been conducted on e-learning and face-to-face learning. The work conducted in this study was more special in Pakistan in this regard. Therefore, this empirical study's findings could be an important addition to this knowledge.

## VI. CONCLUSION AND SUGGESTION

This investigation was intended to study the higher education students' perception about e-learning and face-to-face learning. This study also looked at the gender and locale bases differences. The approach to research was quantitative. It is also seen that there is significant difference in the perception of higher education students based on locale and there is no difference in the perceptions of male and female students.

The population comprised of all the higher education students. A total of 202 students were included in this study. Multistage sampling technique was used to pick a sample. The data was collected online through Google form.

Results concluded that students 'perception about e-learning and face-to-face learning is generally high. It was determined that a significant difference does not exist in overall male and female students about e-learning and face-to-face learning. Moreover, no significant difference exists based on gender and locale.

Followings are some of suggestions based on Students' perceptions about e-learning and face-to-face learning at university level.

- This investigation was quantitative. To better understand the phenomenon, researchers advise to use a qualitative approach.
- Future research work on this subject should consider the mere memorization of the facts and the true understanding of the concepts. These can affect the results significantly.
- This research was limited to students at the higher education level. More work in other academic institutes to assess if students' perception about e-learning and face-to-face learning is different from area is also recommended. Further research can verify or reject this study's results.
- There is lack of studies related to e-learning in Pakistan. The researchers recommend further research in this field to improve our understanding of these phenomena.

- The results of this study showed no significant students' perceptions about e-learning and face-to-face learning. To some extent, these findings are unexpected. Further research with a larger sample size is suggested by researchers. In future studies, the results of this study can be supported or rejected.

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## Declaration of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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#### APPENDIX-A QUESTIONNAIRE

##### Higher Education Students' Perception about E-learning and Face-to-Face learning

Name of Respondent: - \_\_\_\_\_

Program: - \_\_\_\_\_

Semester: - \_\_\_\_\_

Age: - \_\_\_\_\_

Gender: -Male/Female

Locale: - Rural/Urban

The researcher is intended to collect information related to perception of higher education students. Please feel free to respond all statement. The information you provide, will make us able to know the perception of higher education students regarding e-learning and face-to-face learning. The information provided will be kept confidential and anonymous. Your cooperation will be highly appreciated. There are five options against each statement. Select your preference according to your choice.

SA = Strongly Agree

A = Agree

N = Neutral

D = Disagree

SD = Strongly Disagree

Sr. #	Statements	SA	A	N	D	SD
<b>Factor:1 E-learning</b>						
1	I would prefer e-learning instruction.					
2	E-learning instruction would help me to understand the course concept better.					
3	E-learning instruction would be a more effective way for me to learn content.					
4	E-learning instruction would help me learn more.					
5	The instructor understands the e-learning environment and makes it easy to learn.					
6	E-learning experience aids my understanding of the course materials.					
7	E-learning approach would enhance my overall course satisfaction.					
8	An online environment makes it easier for me to communicate with my instructor.					
9	I feel more interactive to myself in e-learning.					
10	E-learning works well with my schedule.					
11	E-learning saves my time.					
12	E-learning enables to attend classes more frequently.					
13	E-learning makes me able to submit my assignments on time.					
14	I can more concentrate in e-learning.					
15	E-learning makes me more comfortable to interact with my class fellow.					
<b>Factor 2: Face-to-Face Learning</b>						
16	I would prefer face-to-face learning instruction.					
17	Face-to-face learning instruction would be a more effective way for me to learn content.					
18	Face-to-face learning instruction would be a better way for me to learn content material.					
19	Face-to-face learning instruction would help me learn more					
20	The instructor understands the face-to-face learning environment and makes it easy to learn.					
21	The face-to-face learning experience aids my understanding of the course materials.					
22	Face-to-face learning approach would enhance my overall course satisfaction.					
23	Face-to-face learning environment makes it easier for me to communicate with my instructor.					
24	I feel more interactive to myself in face-to-face learning.					
25	Face-to-face learning works well with my schedule.					
26	Face-to-face learning saves my time.					
27	Face-to-face learning enables to attend classes more frequently					
28	Face-to-face learning makes me able to submit my assignments on time.					
29	I can more concentrate in face-to-face learning.					
30	Face-to-face learning makes me more comfortable to interact with my class fellows.					