

**Relationship of Online Teaching Effectiveness with Students Achievements at the
University Level: A Correlational Study**

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Abstract



The purpose of the study was to measure the correlation between online teaching effectiveness and students' academic achievements at the university level. The key aim of the study was to ascertain the link between online teaching effectiveness and student learning achievement in an online-based learning environment at the university level. The methodology of the study was quantitative. All the students of the public and private sector universities were taken as the population of the study. Convenient sampling techniques were employed to select samples from universities. The sample size was [n=300]. The questionnaire was used to collect data from the respondents (150 Male and 150 Females). Descriptive and inferential statistics were used to analyze the gathered data. The findings of the study showed a large correlation between online teaching effectiveness and student academic achievement at the university level.

Keywords: Online Teaching, Teaching Effectiveness, Academic Achievement.

Introduction

Education is requested in an assortment of ways that incorporate time, exertion, and responsibility. Educators plan understudies for the employment market and the financial advancement of each country. They are needed to show great characteristics and oblige the scholarly, social, and feelings of their understudies (Williams, 2003). The energy they have is reflected through their adequacy. While in the study hall, they adjust to different learning styles and homeroom elements by utilizing better homeroom board procedures and establishing a sound homeroom climate that is protected, creative and profitable. Showing quality, as seen by the understudy, is firmly connected to understudy commitment measures, and the connections work principally in anticipated ways (Hannum, 2011). For instructive goals, huge constructive outcomes are seen for understudies who report that instructors care for understudies, treat understudies reasonably, and support questions. Huge negative impacts are seen among understudies who report that instructors relegate loads of schoolwork and consistently address it in class.

Teachers are at the center of each learning framework and consequently, the nature of the teachers in each educational system reflects and impacts the general nature of the educational system and the capability of the understudies inside the framework (Darling-Hammond, et al., 2009; Hickman et al., 2008). Instructors, as deep-rooted students, outfit students with the aptitudes and assets expected to accomplish achievement scholastically and socially. Notwithstanding, achieving this requires more steady and powerful projects which sufficiently plan teachers and give them the information, aptitudes, and assets expected to effectively draw in understudies and increment scholastic accomplishment (Intrator, & Kunzman, 2006).

Pakistan like other South Asian countries started its distance education program truly to give mass training and education to individuals. The Concept of Online-learning is the cycle to learn whenever any place by utilizing a personal computer (PC). E-learning is an overall term for schooling, preparing and data conveyed by PCs. It puts the accentuation on the get-together of aptitudes and information. There are numerous names for various types of e-learning, for example, PC-based

preparing, electronic preparing, and video conferencing which are different means to continue online teaching for the improvement of learners' performance.

Statement of the Problem

Nations can change their destiny through the spread of training as it is the solitary changing specialist on the planet. In Pakistan, with the movement of time, online instruction has become a rove of high capability preparation of learning patterns. Fortunately, the online instruction pattern is seen as the assessment while online training is presented in Pakistan. Right when we express that online schooling has taken up the picture of training in our country, all the while we need to examine the procedure for online instruction grasped by different educational foundations. It is imperative to guarantee the nature of instructing and realizing when numerous colleges have begun online classes through various Learning Management systems. The problem of the time to explore the expected relationship between online teaching effectiveness and students' academic achievements at the university level, investigate the effectiveness of online content delivering methodology at the university level, and also sightsee the effectiveness of online teaching at the university level in Pakistan.

Objective of the study

1. To measure correlation between online teaching effectiveness and students' academic achievements at the university level.
2. To find out sector-wise comparison between online teaching effectiveness and students' academic achievements at the university level.
3. To examine gender-wise comparison between online teaching effectiveness and students' academic achievements at the university level.

Research Hypothesis

- There exists no significant correlation between a relationship between online teaching effectiveness and students' academic achievements at the university level.
- There exists no significant sector-wise difference between online teaching effectiveness and students' academic achievements
- There exists no significant gender-wise difference between online teaching effectiveness and students' academic achievements

Delimitation of the study

The current study was delimited to only six universities in Punjab due to the social distancing, shortage of resources, and time in the recent fatal epidemic disease spread worldwide. Further, it was delimited to students of Session 2020-2021.

Significance of the Study

The study is significant for students and teachers in the era of the Covid-19 Pandemic. It is also worth mentioning for the curriculum designers and policymakers to take into account online teaching in the future to prepare teachers and students for any kind of dire and challenging circumstances. It is also vital for future researchers to get factual data from this document in their investigation.

Literature review

Education is requested in an assortment of ways that incorporate time, exertion, and responsibility. Educators plan understudies for the employment market and the financial advancement of each country. They are needed to show great characteristics and oblige the scholarly, social, and feelings of their understudies (Williams, 2003). The energy they have is reflected through their adequacy. While in the study hall, they adjust to different learning styles and homeroom elements by utilizing better homeroom board procedures and establishing a sound homeroom climate that is protected, creative and profitable. Showing quality, as seen by the understudy, is firmly connected to understudy commitment measures, and the connections work principally in anticipated ways (Hannum, 2011). For instructive goals, huge constructive outcomes are seen for understudies who report that instructors care for understudies, treat understudies reasonably, and support questions. Huge negative impacts are seen among understudies who report that instructors relegate loads of schoolwork and consistently address it in class.

In the report "Needs and Strategies for Education" (1995), the World Bank managed instruction strategy issues and mentioned the accompanying objective fact concerning quality-in training is hard to characterize and quantify. A satisfactory definition should incorporate understudy results. Most instructors would likewise remember for the definition the idea of the instructive

experience that helps to deliver that result - the learning climate (World Bank, 1995). Quality can't be viewed as a fixed idea. Quality and principles are indeed relative issues - comparative with the specific time and place and to specific students and their conditions. One significant part of the value is the pertinence of the subjects instructed and the destinations of schooling. Quality training is schooling that furnishes understudies with the instruments to manage and discover answers to the difficulties confronting humanity (Jafri, & Hussain, 2019).

Quality consequently is an idea that takes on various implications under various circumstances; nonetheless, it is fundamental for powerful instructing and learning for meeting instructive objectives. According to Darling-Hammond (2000), factors perceived to be characteristic of educators' capability have been inspected for their relationship to understudy learning incorporate proportions of scholastic capacity, long stretches of schooling, long stretches of showing experience, proportions of the topic and showing information, confirmation status, and showing practices in the homeroom. In any case, the aftereffects of these investigations have been blended; with certain patterns arising lately.

Due to the advancement in technology, online education is necessary in the present era (Adekunmisi, 2013). For this, digital statistics have been proven to become an essential piece of book management (Weinstein, et.al, 2004). Because of a portion of points of interest of libraries are compelled in electronic assets to address the new difficulties of the new computerized period.

Learner Awareness about Online Information Sources

Data proficiency programs are a lot of critical to giving mindfulness about online data assets. Mindfulness interfaces the web clients to their necessary material. It's likewise significant that the clients should realize the proper however accessible rescuers to satisfy their data needs.

Hardly any investigations have been directed and identified with attention to online data resources stated by (Markwei, 2005), which explores establishes through examination results that personnel and graduates of the University of Ghana are very much aware of online data resources however the utilization of resources is extremely restricted. These creators led investigation knowing about the mindfulness about online data sources specific- World Wide Web Browsing (WWWB)", have found that academic joins staff and students have great familiarity with email and internet (WWWB). Any remaining sources are very few famous among the respondents. In contrast with understudies, employees have great mindfulness about online data sources and many reasons pointed out by the specialist and allied staff which normally associate with other employees for preparing and gathering data for this purpose.

The findings of different studies examine additionally and are affirmed by different investigations like (Applebee, et al., 2009) stated that generally scholars know and utilize online library access for education and data purposes. Additionally, WWW was used to getting mindful about meeting and employment declarations. (Jefferies and Hussain 1998) stated that generally educators are aware of web resources and they frequently use the web to convey introductions and to accumulate information for research purposes. (Madhusudhan et al., 2007) illustrated in his study that generally scientists were very much aware of web use in their exploration and there was a need to grow more consciousness among analysis to utilize web sources in an adept manner. To give more emphasis to online data sources; college organizations can assume a significant job in such a manner. According to (Ibrahim 2004) has been directed research to know about "utilization and client impression of online education in the UAE" and examine to reflect that most employees of UAE are not aware of and utilize online educational sources.

The study likewise demonstrates that the library has rich assets yet concerned library experts ought to coordinate such preparation to give accessible online education resources. The concerns of (Borrego et al. 2006) examines through studies the discoveries of (Ibrahim 2004). The results of (Borrego et al., 2006) showed employees of Catalan University have much information about online sources. In addition, 98 percent of respondents proclaimed that they are much aware of the online teaching and pieces of information through college library sites.

The previous writing shows that despite the fact of instructors and allied staff is much aware of the accessibility of online data resources. The researcher is not able to find that the paper identified with attention to attain online data sources by the Scholars of MS and Ph.D. of Punjab in Pakistan. The attention to educator is simply restricted to exploring information bases yet as worried about full content computerized assets, the writing isn't accessible.

Role of Teacher's Experience in Online Teaching

Experience is another basis utilized regularly to quantify instructor quality. Berliner (1976) is of the view that experience aggregated throughout the years is the most significant vital condition for skill. Numerous examinations have demonstrated a connection between instructors' viability and their long stretches of involvement was found that unpracticed educators with fewer than 3 years of involvement are not viable as more senior instructors but rather the advantage of involvement seem to level off after around five years.

Institutional Support in Online Teaching

A basic mainstay of internet learning quality is solid institutional help. Institutional help depends on plentiful assets, yet additionally on the contribution and vision of institutional pioneers. Since virtual administration frameworks are consistently overhauled, programs have continually arising issues, and the specialized capacities of beneficiary associations are liable to visit floods and incidental blackouts, unwavering quality takes significant institutional assets to oversee. 24-hour specialized experts should have the option to fix issues within the space of minutes or hours, instead of days (Roby et al., 2013).

Specialized help is immediate and circuitous help of both workforce and understudy clients by innovation specialists and instructional planners. Direct help incorporates workforce admittance to specialists for investigating and an assistance work area with huge internet showing ability for the two understudies and staff. Roundabout help incorporates self-improvement recordings, proactive correspondences about online administration framework. Great specialized help is expected and scarcely seen, yet is profoundly angering while lacking. Desperate is the institutional arrangement of preparing for internet education. Most college personnel have restricted preparing in training systems besides as assistant action in their doctoral examinations, to a great extent realizing by what they see as fruitful acts of their own educators as opposed to through a cognizant arrangement of showing abilities improvement (Baran, & Correia, 2014).

Personnel need to prepare at various focuses in their vocations and need to deal with online courses at various times of years. Getting a minimum staff for preparing projects can be troublesome except if preparing is commanded or boosted. One-on-one preparing is effective, yet is asset concentrated regarding faculty, and seldom is directed as extensively as in gathering preparing. Division-wide activities have higher achievement rates which may reflect disciplinary contrasts (Arbaugh, 2013), and strengthening techniques are significant for staff imagination and inspiration (Swan et al., 2014). Regardless, Brinkely-Etz Korn (2018) cautions staff improvement preparation may influence workforce insights and certainty more than understudy discernments, and coordinating instructional methods with innovation is troublesome.

A backhanded component of institutional help is institutional authority. A conspicuous part of institutional authority is ensuring the broad assets vital are accessible as online projects are assembled and created Dhanarajan, (2001) makes note, nonetheless, of the regular "low degree of assets put resources into distance training arrangements." A subsequent component is to guarantee there are departmental or college discussions about quality, shared assets, community-oriented showing activities, and open doors for greatness. Numerous heads don't comprehend online instruction well, and many battles to give the specialized and visionary help a developing instructive framework request.

Motivational factor for Students and Teachers in Online Learning

Inspiration to grasp online schooling incorporates expanded adaptability for personnel and understudies, increased understudy openness, and an extended cluster of showing instruments, among others. Nonetheless, these positive elements can be overpowered by negative viewpoints examined before, so upgrading outward personnel inspiration to dominate web-based instructing is significant (Lin, & Ha, 2009). A convincing vision, motivating forces, acknowledgment, and an enthusiasm for the difficulties of encouraging on the web are talked about here. Personnel is the same as others in associations in that they need to realize that change is advantageous and very much arranged. In this manner, convincing reasoning just as a convincing arrangement for doing so is important. Reasons commonly given to staff incorporate those examined above identified with online training openings: diminishing distance difficulties of understudies and workforce, expanding comfort and adaptability, coordinating advanced aptitudes in the educational program, and the chance of utilizing extra

instructing devices to improve education. Similarly, as significant is ensuring the real arrangement tends to staff concerns, examined underneath.

Change activities will in general be more fruitful when joined by impetuses to make up for difficult work, vulnerability, and bother. Regardless of how unobtrusive, motivating forces every now and again are seen as demonstrating a shared as opposed to forced test for both staff and organization. Acknowledgment of the teacher's significance experimentation and upgrade can be a straightforward, non-compensation system (Horvitz et al., 2015).

To the point of being indistinguishable, it is useful if staff is recognized for the internet instructing grants. Personnel touchy with the nature of their understudy assessments (i.e., educators and junior workforce) can be off guard in contrast with eye-to-eye classes, were more grounded social presence impacts understudy insights (Windes, & Lesht, 2014). Furthermore, the more grounded self-appreciation education in the flipped study hall approach will in the general push down "educator commitment to learning. Online courses are not at a sole understudy assessment inconvenience overall, little classes will in general improve assessments than bigger. While assessing the understudy impression of education, workforce boards of trustees in the instructing and advancement cycle should represent the unobtrusive focal points or detriments when making decisions to stay away from a significant disincentive for some staff to just show specific sorts of courses, including on the web courses (Cohen, 1981). For instance, a huge, required, thorough online class will perpetually have assessments second rate compared to a little eye-to-eye elective in which virtually every understudy does well indeed.

At long last, systems must be deliberately coordinated to suit the order and material. On the off chance that personnel worries about understudy infringement of execution principles are not recognized by the organization, (for example, perhaps requiring an on-location testing part), the workforce might be disinclined to instructing on the web. Also, with the end goal for personnel more certain of scholastic honor codes being followed, preparing to lessen the chance of cheating, in any case, should happen (Wilkinson, 2009).

Determination for the use of Online Information in Current Era

Past studies show that the utilization of computerized assets is enhanced. It incorporates the utilization of the web and the utilization of online data assets. A few academicians, scientists, understudies, and researchers access the web to satisfy their scholarly, research, and recreational necessities. Some entrance web to associate with others, gatherings, and organizations. Utilization of web/PC additionally relies upon kind of data assets like (Obaje, & Camble, 2008) discovers in their investigations that generally understudies and employees in their period of examination, in exploration venture or to set up their summary, postulation or paper. They ordinarily incline toward ICT-based information for data and information.

Email is significant to a segment of the web and pretty much every individual has to get/give direction to another companion, partner, or student. Before interpersonal interaction sites were just sources to associate with individuals and networks. It is found that to ask, choose or recover data, email is utilized in great proportion. Libraries likewise give online assistance to their clients and give online data assets to their demographics through messages. The online library support work area likewise manages clients' inquiries through authentic email addresses. There are numerous motivations to utilize the web like scholastic, research, educating, learning, diversion, relaxation, extending business, or associating with others and gatherings. Be that as it may, feature after purposes behind utilizing the web data assets. Generally, clients (70%) utilize electronic assets to satisfy their examination needs. To know the motivation behind the utilization of online data stated by Borrego et al. (2007) directed exploration and establishes that 53.6 percent of staff and understudies in Catalan Universities, utilize online data assets for their examination and instructing ventures.

Javed and Bhatii (2013) detailed through their list of items that separated from books that the postgraduate understudies, additionally utilized online assets for their exploration and scholarly requirements. The respondents asserted that they are a lot happy with the accessible online data assets yet they additionally grievance that moderate speed of the web, power load shedding, and absence of full content articles are the significant obstacles to getting to the advanced assets. Educators and examination understudies specific in agricultural nations are utilizing the web as large wellsprings of data. The utilization of online data assets may vary in regard to their control. Affirms this exploration

with their discoveries that understudies of software engineering, innovation, and associated fields want to utilize digital books.

Role of Methodology in Content Delivery

Indeed, even with institutional help, personnel inspiration, internet showing norms, and understudy availability, courses will shift impressively in excellence however, don't ensure, great course conveyance. Course conveyance is quite influenced by variables (Baran, & Correia, 2014; Shaa, Li, & Pickett, 2006).

Practices that may impact social presence decidedly incorporate quick reaction to questions or issues, expanding correspondence recurrence and quality, giving educator foundation recordings instead of dry educational program vitae or rundown memoirs (Martin, et al., 2018), empowering presentations in class or little gathering meetings.

Techniques of Evaluation and Results and its Impacts on Learner

Assessment and results fall into four classifications: solid learning accomplishment, understudy discernments, personnel insights, and institutional results. Assessment of learning accomplishment asks: how does the authority of the material shift as indicated by the learning process? Why do online understudies learn less, or more than their eye-to-eye partners, taking everything into account? Learning accomplishment is estimated by similar grades, equivalent evaluations, and practically identical measures which is a solid execution measure.

Assessment by students' insights asks how students see or feel general internet showing involvement and problems, for example, outstanding burden, changed jobs (e.g., teacher-centered to understudy-centered), understudy assessments, and so on? How significant are the accommodation and adaptability offered in the web-based instructing setting? Assessment of institutional outcomes for example, understudy impression of comfort and online quality just as the components restricting it, for example, course accessibility and view of online help for troublesome points?

Students Observation about Online Teaching

According to different studies on general fulfillment and experience, educator commitment to learning, and so forth, understudies regularly rate online guidance and online teachers lower. Understudies' feeling of study hall social presence is not as much as what personnel sees, however exceptionally essential to understudies, so they are extremely incredulous of what they see as any disarray or muddled organizing (Oncu, & Cakir, 2011).

Faculty Observation about Online Teaching

Nevertheless, staff with negative starting encounters will in general oppose further web-based education, causing backing and preparing basic so they "to don't abandon training on the web before they pick up this self-viability" (Horvitz et al. 2015). Moreover, personnel when all is said in done are more reproachful of internet education than eye to eye for some comparable and some unexpected reasons in comparison to understudies (Mansbach, & Austin, 2018). Like understudies, they regularly miss the extravagance of vis-à-vis understudy presence and responses. They likewise as often as possible don't feel the authoritative and calculated difficulties are generous, and they need to roll out the improvements, nor is there adequate help. Junior resources in some cases dread the results of web-based showing assessments for advancement and residency (Bangert, 2008). At last, numerous employees are unconvinced the learning accomplishment is the same.

Learner faced Challenges in Online Learning

The difficulties of online training are similarly critical to consider and address (Austin, 2018). Five distinguished here will fill in as components to be tended to in a mode of value online training. At the point when online training is ineffectively perceived or when there are ridiculous desires, much of the time of advanced education, a progression of institutional help issues happens. Web-based education requires new aptitudes and showing systems, and without power, and excellent preparation, it is likely the workforce will sub streamline their showing abilities (Frazer et al., 2017). Organizations regularly offer too minimum specialized help to staff and understudies, unavoidably keeping such assets incorporated to lessen costs yet causing the help to appear to be far off for educators (Prinsloo et al., 2016). Establishments are likewise regularly lured to place more accentuation on showcasing than on help in a drive to upgrade the monetary advantages of internet instructing.

The second arrangement of issues has to do with workforce concerns and inspiration (Asartaet al., 2017). Since web-based instructing requires new aptitudes and online courses set aside huge forthright speculations of effort to "construct," staff is worried about adequate, convenient preparation

and the occasion to give satisfactory energy ahead of time of showing another course even with different commitments (Halverson et al., 2014; Paechter et al., 2010)

Related is a test of diminishing the generic idea of the advanced web-based learning experience. By and large, called social presence, this normally includes educator to-teacher presence, yet additionally, understudy to-understudy presence.

Methodology

The current research study was purely quantitative in nature. A questionnaire was used as an instrument to obtain valid information. The population of the study was all male and female students of public and private sector universities from Punjab via a convenient sampling technique. The sample was selected from Universities in the province of Punjab. The sample size was 300 students (150 Males and 150 Females). The questionnaire was employed for collecting data from participants. Experts validated the research instrument. The reliability of the questionnaire was tabulated through the Cronbach alpha technique and was awarded the reliability coefficient was .793.

Data Analysis

Table 1: Percentage &Frequency of Students Gender

Gender	Frequency	Percentage	Valid Percent
Male	139	49.11	49.11
Female	144	50.89	50.89
Total	283	100.0	100.0

Table1 revealed that in this survey total number of students was 283. Female informants were in the majority at 50.89 % whereas male informants were at 49.11 %.

Table 2: Percentage and Frequency of Students Age.

Age	Frequency	Percentage	Valid Percent
18-21	67	23.67	23.67
21-24	175	61.84	61.84
24-27	30	10.60	10.60
27-30	11	03.89	03.89
Total	193	100	100

Table 2 exposed that in this survey total number of students was 283. Participants aged 21-24 were the majority 61.84% whereas the student in the age group (18-21) was 23.67 %.

Table 3: Percentage and Frequency of Students regarding Institute type

Institute Type	Frequency	Percentage	Valent
Public Universities	211	74.56	74.56
Private Universities	72	25.44	25.44
Total	193	100.0	100.0

Table 3 showed that in this survey total number of students was 283. Public universities students were in majority 74.56 % whereas Private universities students' were 25.44 % of the total.

Table 4: Convenience and flexibility are the most common advantages of online classes at the university level.

Scale	Frequency	Percentage
SA	200	70.67
A	60	21.20
UD	09	03.18
DA	07	02.47
SDA	07	02.07
Total Students	283	100

The values of table 4 indicated that the total number283 students partook in a research survey. (70.67 %) students strongly agreed that Convenience and flexibility are the most common advantages of online classes at the university level. The results, furthermore, showed that (23.31%) students agreed with this statement.

Table 5 Infrastructure & Access facilities are available for learner in online education.

Scale	Frequency	Percentage
Strongly agree (SA)	199	70.31
Agree (A)	61	21.55
Undecided (UD)	09	03.18
Disagree (DA)	07	02.47
Strongly Disagree (SDA)	07	02.47

Total Students	283	100.00
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The values of table 5 indicated that a total of 283 students partook in a research survey. (70.31 %) students strongly agreed that infrastructure and access facilities are available for learners in online education at the university level. The results, furthermore, showed that (21.55%) of students agreed with this statement.

Table 6 Online lectures are delivered using a learning management system for effective learning.

Scale	Frequency	Percentage
SA	189	66.78
A	71	25.09
UD	09	03.18
DA	08	02.83
SDA	06	02.12
Total Students	283	100.00

The statistics in table 6 indicated that in this survey total number of students was 283 partook in this research. (66.78%) students strongly agreed that online lectures are delivered using an LMS (learning management system) for effective learning at the university level. The results, furthermore, showed that (25.09%) of students agreed with this statement.

Table 7 Online lectures are well prepared by those who delivered them.

Scale	Frequency	Percentage
SA	191	67.49
A	69	24.39
UD	09	03.18
DA	07	02.47
SDA	07	02.47
Total Students	283	100

The values of table 4.5 indicated that the total number of 283 students partook in a research survey. (73.57%) students strongly agreed that online lectures are well prepared by those who delivered them at the university level. The results, furthermore, showed that (17.61%) of students strongly agreed with this statement.

Table 8 Online lectures are well prepared by those who delivered them.

Scale	Frequency	Percentage
SA	181	63.96
A	68	24.02
UD	11	03.89
DA	13	04.59
SDA	10	03.54
Total Students	283	100.00

The values of table 9 indicated that the total number of 283 students partook in a research survey. (53.37%) students strongly agreed that online lectures are well prepared by those who delivered them at the university level. The results, furthermore, showed that (27.46 %) students agreed with this statement.

Table 9 Online teaching lecture duration is adequate.

Scale	Frequency	Percentage
SA	167	59.01
A	88	31.09
UD	16	05.65
DA	07	02.47
SDA	05	01.78
Total Students	283	100

The values of table 9 specified the total number of 283 students shared in a research survey. (59.01 %) students strongly agreed online teaching lecture duration is adequate at the university level. The results, furthermore, showed that (31.09 %) of students agreed with this statement.

Table 10 Online teaching saves a great deal of time on finding learning resources rather than formal education.

Scale	Frequency	Percentage
SA	190	67.14

A157	73	25.79
UD	09	03.18
DA	06	02.12
SDA	05	01.77
Total Students	283	100

The values of table 10 indicated that the total number of 283 students participated in a research survey. (69.43 %) students strongly agreed that online teaching saves a great deal of time on finding learning resources rather than formal education at the university level. The results, furthermore, showed that (13.99 %) of students agreed with this statement.

Table 11 Online teaching encourage learner to take an active part in learning.

Scale	Frequency	Percentage
SA	154	54.42
A	81	28.62
UD	14	04.94
DA	17	06.01
SDA	17	06.01
Total Students	283	100

The values of table 11 indicated that the total number of 283 students shared in a research survey. (54.42%) students agreed that online teaching encourage learner to take an active part in learning at the university level. The results, furthermore, showed that (28.62%) of students agreed with this statement.

Table 12The number of credits per class varies by course.

Scale	Frequency	Percentage
SA	199	70.31
A	61	21.55
UD	09	03.18
DA	07	02.47
SDA	07	02.47
Total Students	283	100

The values of table 12 indicated that the total number of 283 students partook in a research survey. (70.31%) students strongly agreed that the number of credits per class varies by course at the university level. The results, furthermore, showed that (18.65 %) of students agreed with this statement.

Table 13 Online lectures are delivered using a learning management system for effective learning.

Scale	Frequency	Percentage
SA	178	62.90
A	88	31.10
UD	04	01.41
DA	10	03.53
SDA	03	01.06
Total Students	283	100

The values of table 13 indicated that the total number of 283 students participated in a research survey. (69.43 %) students strongly agreed that online lectures are delivered using a learning management system for effective learning at the university level. The results, furthermore, showed that (31.10%) of students agreed with this statement.

Table 14

Ho 1:- There is no significant relationship of online teaching effectiveness with learners' academic achievement at the university level

Relationship of online teaching effectiveness with learners' academic achievement at the university level

Correlations		Online teaching effectiveness	Students' academic achievement
Online teaching effectiveness	Pearson Correlation	-	0.513**
	Sig. (2-tailed)		.000
	N		283
Students' academic achievement	Pearson Correlation		-

	Sig. (2-tailed)		
	N	283	283

**, Correlation is significant at the 0.01 level (2-tailed)

Table 16 displayed a large correlation of online teaching effectiveness with learners' learning achievement with $r=0.472$ and the $p=.020$ for $n=193$. Therefore, the null hypothesis is rejected.

Table 15

Ho 2:- There is no sector-wise comparison of online teaching effectiveness and learners' academic achievement at the university level

Sector-wise comparison of online teaching effectiveness and learners' academic achievement

	Type of organization	Mean	Group Statistics			
			Std. Deviation	Mean differences	t value	Sig level
online teaching effectiveness	Public	21.7654	.40013	1.9031	13.656	.000
	Private	19.8623	1.311183			
learners' academic achievement	Public	24.6183	1.25130			
	Private	24.1405	1.23428	.47780	4.462	.000

The above table illustrates the mean differences and t value of the online teaching effectiveness and students' academic achievement from the sector-wise perspective. The mean difference on the first component was 1.9031 with a 13.656 t value which is highly significant as shown by the significant level (.000). These values show that those public university respondents show more online teaching effectiveness than private respondents. Similarly, on learners' academic achievement the mean difference is .47780 with a 4.462 t value, these values are highly significant as the significant level of .000 which is lower than 0.05 and shows that respondents of public universities have more academic achievement than private students. Therefore, the null hypothesis is rejected.

Table 16

Ho 3:- There is no gender-wise comparison of online teaching effectiveness and learners' academic achievement at the university level

Gender-wise comparison of online teaching effectiveness and learners' academic achievement

	Gender	Mean	Group Statistics			
			Std. Deviation	Mean differences	t value	Sig level
online teaching effectiveness	Male	17.76874	2.10925	-2.10780	-5.500	.000
	Female	19.7654	.17277			
learners' academic achievement	Male	17.2118	1.36849	-.44579	-2.478	.001
	Female	17.6577	1.42962			

The above table illustrates the mean differences and t value of the online teaching effectiveness and students' academic achievement from the gender-wise perspective. The mean differences on the first component was -2.10925 with a -5.500 t value which is highly significant as shown by the significant level (.000). These values show that those female university respondents show more online teaching effectiveness than male respondents. Similarly, on learners' academic achievement the mean difference is -.44579 with a -2.478 t value, these values are highly significant as the significant level .000 which is lower than 0.05 and shows that female respondents have more academic achievement than male students. Therefore, the null hypothesis is rejected.

Findings

1. It was found that the total number of students was 283. Female informants were in a majority with 50.89 % whereas male informants were 49.11 %. (Table 1)
2. It was exposed that participants aged 21-24 were in majority 61.84% whereas the student between the ages group of (18-21) was 23.67 %. (Table 2)
3. It was found that public university students were in majority with 74.56 % whereas private universities students' were 25.44 % of the total. (Table 3)
4. It was revealed that (70.67 %) of students strongly agreed that Convenience and flexibility are the most common advantages of online classes at the university level. (Table 4)
5. It was reflected that (70.31 %) of students strongly agreed that infrastructure and access facilities are available for learners in online education at the university level. (Table 5)

6. It was found that (66.78%) of students strongly agreed that online lectures are delivered using an LMS (learning management system) for effective learning at the university level. (Table 6)
7. The finding that (73.57%) of students strongly agreed that online lectures are well prepared by those who delivered them at the university level. (Table 7)
8. It was indicated that (53.37%) of students strongly agreed that online lectures are well prepared by those who delivered them at the university level. (table8)
9. It was found that (59.01 %) of students strongly agreed online teaching lecture duration is adequate at the university level. (Table 9)
10. It was disclosed that (69.43 %) of students strongly agreed that online teaching saves a great deal of time on finding learning resources rather than formal education at the university level. (Table 10)
11. It was found that (54.42%) of students agreed that online teaching encourages learners to take an active part in learning at the university level. (Table 11)
12. It was exposed that (70.31%) of students strongly agreed that the number of credits per class varies by course at the university level. (Table 12)
13. It was found that (69.43 %) of students strongly agreed that online lectures are delivered using a learning management system for effective learning at the university level. (Table 13)
14. The mean differences on the first component were 1.9031 with a 13.656 t value and .477880 with a 4.462 t value which are highly significant at a significant level (.000). These values show that those public university respondents show more online teaching effectiveness and academic achievement than private sector universities' students. (Table 14)
15. The mean differences on the first component were was -2.10925 with a -5.500 t value and -.44579 with a -2.478 t value, which is highly significant at the significant level (.000). These values show that those female university respondents show more online teaching effectiveness and academic achievement than male students. (Table 15)
16. Findings indicated a large correlation of online teaching effectiveness with students' academic achievements with $r=0.513$ and the $p=.000$ for $n=283$ (tables 16)

Discussion

The finding of the study was that a large correlation was found between online teaching effectiveness and learners' academic achievement. This finding was favored by the studies of (Van Wart et al, 2019; Asartaet al., 2017; Jacob, & Lefgren, 2004). Significant sector-wise and gender-wise differences were found among the respondents that public sector universities students are better than private sector universities and female students are better than male students in their academic achievement. These findings were supported by the investigations of (Fareed et al, 2018; Jafri, & Hussain, 2019; Madge et al, 2019). Findings that online lectures are delivered using a learning management system for effective learning at the university level; the number of credits per class varies by course at the university level; convenience and flexibility are the most common advantages of online classes at the university level; infrastructure and access facilities are available for learners in online education at the university level; online lectures are delivered using an LMS (learning management system) for effective learning at the university level; online lectures are well prepared by those who delivered them at the university level; online lectures are well prepared by those who delivered them at the university level; online teaching lecture duration is adequate at the university level; online teaching saves a great deal of time on finding learning resources rather than formal education at the university level, and online teaching encourage the learner to take an active part in learning at the university level. These findings were backed by the studies of (Roby et al., 2013; Swan et al., 2014; Windes, & Lesht, 2014).

Conclusion

The study was steered to measure the relationship between online teaching effectiveness and students' academic learning achievements in the province of Punjab-Pakistan. The researcher concluded that a large correlation was found between online teaching effectiveness and learners' academic achievement. It was also concluded that a significant difference was existing between the students of public and private sector universities. It was noted that gender-wise difference was found in the male and female students. Female students were far better than males. The researcher made an evaluation of the emerging trend of online teaching which has a great influence on performance and students' academic achievements based on their use, usefulness,

and positive impact. This research disclosed use of online teaching has a large relationship between online teaching effectiveness and students 'academic achievement.

Recommendations

On the basis of findings and conclusions, subsequent suggestions are presented.

- Teachers in web-based education should give compulsory preparation and reequipping of ICT projects to give them viable and practical information on the PC, web, and related zones of ICT.
- Providers of online schooling ought to attempt to utilize quality and solid ICT equipment and programming sustained by remarkably talented staff furnished with information and aptitudes expected to guarantee that the framework runs easily.
- The Government of Pakistan ought not just to permit the continuation of open and distance learning; it should be upheld with satisfactory subsidizing.
- The Government ought to guarantee that the electric force supply in the nation is made accessible nonstop. Country regions without power supply should be provided with power on the grounds that countless forthcoming understudies are provincial occupants.
- The quality circle approach should be received in the planning obviously substance and learning materials to guarantee quality in course content conveyance.
- Online evaluation of understudies works and end obviously assessment should be empowered in web-based instructing and learning. This will check assessment misbehaviors and consequently, improve the nature of the evaluation of the understudy's exhibition.

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