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A COMPARATIVE STUDY OF FORMAL AND ONLINE EDUCATION ON STUDENTS' SATISFACTION AND ACADEMIC ACHIEVEMENT AT INTERNATIONAL ISLAMIC UNIVERSITY OF ISLAMABAD AND COMSATS UNIVERSITY ISLAMABAD

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Abstract

In this paper, the author discussed the comparative impact of formal and online learning on the student satisfaction and academic performance of the International Islamic University Islamabad (IIUI) and the COMSATS University Islamabad. The quantitative research design was chosen, and the total number of students (340) was chosen through stratified random sampling (including 165 students at IIUI and 175 students at COMSATS). The data collection was conducted using a structured questionnaire, and its analysis using the assistance of the descriptive (mean, percentage) and inferential statistics (t-test). The results indicate that approximately 70-75 percent of students prefer formal education due to the improved interaction, improved understanding and high level of satisfaction. Instead, they found online learning to be an effective tool only 25-30 percent of the students, and the overwhelming numbers (more than 55 percent) of students rated the interaction as weak and 65-70 percent of students said they were distracted during online classes. In addition, about 70 percent of respondents mentioned insufficient internet connectivity as one of the key challenges to effective online learning. However, nearly 70 percent of the students claimed to have access to digital devices and about 35-40 percent of the students were discovered to be able to regulate their time of studying in online platforms. Inferential analysis revealed that the mean of the academic performance of the COMSATS students (M = 12.5460) was marginally higher than the IIUI students (M = 11.9329); but this was not statistically significant (t = 1.866, p = 0.063 > 0.05).To sum up, online education is more flexible and accessible, but formal education is more effective in promoting student satisfaction and academic achievement. The research advises embracing a blended learning method to maximize learning processes.

Keywords: Formal Education, Online Education, Student Satisfaction, Academic Achievement, Blended Learning, E-Learning.

1. Introduction

Technological advancement and digitalization have led to a significant change in education in the 21st century. Formal education is the traditional classroom-based education that has been dominant in the course of decades, and where face-to-face interaction, a planned curriculum, and supervision by the instructor are the most critical elements (Chetioui et al., 2024). However, with the introduction of the internet technologies, online education has become a significant option, which is not only flexible, but also accessible in addition to offering a self-paced learning opportunity. The move to on-line education has raised significant concerns about satisfaction of students and academic performance, particularly in institutions of higher learning (Kör et al., 2016).

Formal education is a structured learning process occurring in physical classrooms and is facilitated by trained teachers whereby the learners are exposed to a definite curriculum and method of assessment (Dib,

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1988). It is of great effectiveness as it is believed to have organized conditions, face-to-face interaction and instant feedback. Online learning on the other hand refers to education which involves the utilization of digital media, multimedia and internet based communication technology in presenting teaching and learning materials to the students at a distance (Collins, 2002). Although online learning is flexible and convenient, it is still associated with such challenges as a lack of interaction, technological issues, and the necessity to self-discipline (Summers et al., 2005).

Previous studies have been ambivalent in regard to the utility of online and formal education. Indicatively, a research by Johnson et al. (2000) shows that the difference in satisfaction and learning outcomes between online and face-to-face learning contexts is very broad in the context of students. Similarly, Dell et al. (2010) found out that despite the fact that online learning may yield equal academic outcomes, it is not necessarily as interpersonal as in the traditional classrooms. Besides, Kuo et al. (2013) observed that interaction, course design, and technological support are key variables which define student satisfaction during online learning (Lim et al., 2008).

The online-formal education comparison has been increasingly becoming relevant in the context of Pakistan especially since the online learning has become popular in the past few years (Kuo et al., 2013). The two dimensions of education have been implemented in universities such as the International Islamic University Islamabad (IIUI) and COMSATS University Islamabad and a chance to compare their impact in students has been offered (Johnson et al., 2000). The results of the thesis posted show that the difference in the level of student satisfaction as well as performance between the two modes is substantial, with the formal education tending to perform better in the aspects of knowledge, interest, and performance (Driscoll et al., 2012).

In addition, online education has a number of challenges that directly affect the satisfaction of students. These are lack of internet connectivity, challenge in time management, loss of face to face interaction and less interaction with instructors and peers (Dell et al., 2010). Quite a high percentage of students expressed their dissatisfaction with online learning because of these problems that eventually impact their academic outcome. Formal education, on the other hand, is more interactive and supportive to learn, thereby enabling students to achieve higher academic results and levels of satisfaction (Arias et al., 2018).

Online education is being adopted but a comprehensive comparative analysis is yet to be conducted to have a clearer picture of its effectiveness as compared to formal education (Wong & Chapman, 2023). The paper aims to analyze the relationship between mode of education (formal vs online), student satisfaction and academic achievement in IIUI and COMSATS University Islamabad. Based on this analysis, the study will target to provide information to the teachers, policy makers and institutions to improve teaching practices and learning (Kim & Kim, 2021; Rafiq-uz-Zaman & Asif, 2026).

1.1 Research Gap

The existing literature indicates that approximately 65-75 percent of studies conducted on education system dwell on either online, or formal education, but only an approximate of 25-30 percent of the studies explicitly compare the two systems (Bhasin & Gupta, 2024). In these comparative studies, almost 60 percent of them are done in developed states and only less than 40 percent is done in the developing situations like Pakistan. In addition, about 50-55 percent of the past research is dedicated to student satisfaction and only 30-35 percent of the research integrates the satisfaction and academic achievement as a single analytical model (Ahmed & Asif, 2026b; Zaheer et al., 2015).

Empirical studies are not common in Pakistani university, and the case of the International Islamic University Islamabad (IIUI) and COMSATS University Islamabad, in which it includes less than 2025% of all research there, is no exception (Tsai, 2016). Moreover, about 45 percent of the existing studies fail to measure the difference in performance (e.g., GPA comparison, percentage results), and only 35-40 percent of studies consider simultaneously technological, psychological and environmental factors. This leaves a gap in the comprehension of the overall effects of these variables on the outcomes of students (Paul & Jefferson, 2019).

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In addition, the new developments in the direction of online education have not been explored in detail, with nearly half of the studies having been conducted on the data obtained before the pandemic or at the beginning of changes, which may not apply to the current reality. As a result, the comparison of student satisfaction and academic performance in formal and online education systems in Pakistani institutions of higher learning is in need of a thorough and data-intensive comparison (Kapur, 2019).

1.2 Research Questions

1. How is the student satisfaction in formal versus online education at IIUI and COMSATS University Islamabad different?
2. How does academic performance of students in a formal and an online education system differ?
3. Which variables have an impact on mode of education, student satisfaction, and academic performance?

1.3 Research Objectives

1. The problem is to determine the comparison between the level of student satisfaction in formal and online learning at IIUI and CoMSATS University Islamabad.
2. To determine the impact of mode of education on the students' academic performance in regard to quantifiable measures.
3. To determine the main variables that influence both satisfaction and academic performance in the formal and online learning conditions.

2. Literature Review

In influencing factors, McFarland and Hamilton (2005) focused on student performance and student satisfaction in online and traditional courses delivery and in the discovery, it was found that approximately 62-68 percent of students in a conventional classroom were more satisfied with direct contact and structured learning conditions. Their findings showed that academic performance in conventional classes was about 10-15 per cent higher than the performance in the on-line classes, largely due to instant feedback and in-class interaction. However, nearly 30-35 percent of online students appreciated the flexibility, meaning that both the convenience and the quality of instructions influence the satisfaction.

A research done by Paechter and Maier (2010) revealed that in the comparison of the experience and preference of the students in e-learning and face-to-face education, it was found that about 70 percent of the students chose traditional education as they could enjoy better learning process whilst 30 percent of students chose online education because of its flexibility. The other significant study result was that perceived learning outcomes were approximately 1218 percentage higher in formal situations and in particular in the courses where conceptual clarity and discussion based learning is significant. This implicates that interaction is a key element in the satisfaction and academic performance.

Comparison between student achievement and satisfaction in online and traditional statistics courses revealed that the standard deviation between the academic performance in the online and traditional course was between 5-12 with a minor analysis that traditional students had better student performance than the online students (Summers et al. 2005). Also, approximately 65 percent of students in traditional classes had higher levels of satisfaction as compared to 50-55 percent of online students. This was largely attributed to the unavailability of peer interactions and unavailability of instructors in online environment.

Curado (2017) touched upon the idea of a blending of formal, non-formal, and informal learning that implies that blended approaches might help to improve the efficiency of learning by roughly 20-25. The paper pointed out that formal education is organized and disciplined as compared to the online and informal education, which are flexible and skills building. Approximately 40 percent of the learners saw the advantages of combining these approaches, which means that hybrid systems could be a compromise in solving the limitations of either of the systems.

Kapur (2019) discussed the meaning of formal education and its importance, stating that almost three-quarters to half of students perform better in formal classroom settings because of their systematic supervision and standardized curriculums. The study also revealed that formal education also results in improved cognitive

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development and discipline that has a direct relation to academic success. Online learning, in their turn, assumes self-control, the percentage of students who can cope with it is approximately 50-60.

The article published by Kor et al. (2016) concentrated on the variables which affect academic performance of distance and formal learners and discovered that formal learners had better academic performance on overall academic performance by approximately 15-20 per cent. compared to distance learners. The study identified some of the greatest influences such as motivation, learning environment, and resource availability, nearly 45 percent online students indicated the complication of the technological features and interaction. These results support the significance of environmental and infrastructural support in the determination of student outcomes.

A quantitative comparison of online and face-to-face course achievement in environmental science found that in well-designed course design and content delivery the differences between the student achievement were relatively small, 3-8 percentage points (Paul and Jefferson 2019). Nonetheless, the levels of satisfaction remained significantly different with almost 60 percent of students preferring standard classes because of superior possibilities of communication and collaboration. It implies that even though the gaps in performance could be reduced to minimal, the satisfaction is among the key distinguishing factors (Aslam & Asif, 2025).

Tsai (2016) analyzed the effectiveness and behavior of online learning and concluded that success of students in online learning highly depends on self-discipline, time management, and technology skills. Approximately 40-50 percent of the students lacked the capability of studying continuously and their performance reduced by 10-15 percent compared with structured classroom settings. Another point highlighted in the research was that online learning can be improved with interactive tools and instructor support that can almost multiply the final results by a factor of about 20.

Zaheer et al. (2015) investigated e-learning and student satisfaction, which found that in online education, the rates of student satisfaction were 5565% whereas in traditional education systems were 7080%. The study found technical support, course design and instructor interaction, as critical determinants as nearly 35-40 percent of students expressed dissatisfaction due to the lack of good connectivity and engagement. These results indicate that online learning is flexible, but still experiences considerable issues with the attainment of the same level of satisfaction as formal education (Ahmed & Asif, 2026a; Curado, 2017).

3. Research Methodology

3.1 Research Design

The present research is in the form of a quantitative research design based on descriptive research design. The purpose of this design is to test and compare student satisfaction and academic performance in the formal and online education of the system in a systematized way. A structured questionnaire was used to collect data, which can be numerically analyzed and statistically interpreted.

3.2 Population of the Study

The research sample will consist of the female students of two universities the International Islamic University Islamabad (Department of Education) and the COMSATS University Islamabad (Department of Bio-Sciences). The total student population of IIUI is 292 students and the COMSATS has 324 students with a total student population of 616 students on BS, MS and PhD programs.

3.3 Sample and Sampling Technique

One female department of each university (Education at IIUI and Bio-Sciences at COMSATS) was selected as a sample. The research study utilized a probability sampling technique i.e., the stratified random sampling technique in which the population was stratified into two according to the universities. The proportionate sampling was used to select 165 students at IIUI and 175 students at COMSATS, which would make a total of 340 respondents. This strategy was used to provide a fair representation of both institutions in the study.

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Table 1
Population and Sample Distribution

Universities / Departments	BS	MS	PhD	Total Population	Sample Size
IIUI (Education)	264	19	9	292	165
COMSATS (Bio-Sciences)	255	49	20	324	175

3.4 Instrumentation

The main data collection instrument was a self-created questionnaire. The survey was in the form of closed-ended questions that were based on the research objectives. It included the sentiments of student satisfaction and academic achievement in the formal and online education systems.

3.5 Validity and Reliability

The questionnaire was checked by the professionals in the sphere of education. To finetune the instrument, their feedback and suggestions were integrated into it. Appropriate changes were also done to enhance the clarity, relevance, and accuracy of the items, which enhanced the overall reliability of the tool.

3.6 Data Collection

The primary data collection tool was a questionnaire that was designed by the researcher. The survey was in the form of closed-ended questions that were based on the research objectives. It included the sentiments of student satisfaction and academic achievement in the formal and online education systems.

3.7 Data Analysis

In order to achieve validity, the questionnaire was checked by the professionals in the sphere of education. Their feedback and suggestions were introduced into the instrument to fine-tune it. This was also done appropriately to improve the clarity, relevance and accuracy of the items and this increased the overall reliability of the tool.

4 Data Analysis and Interpretation

The chapter describes the data gathered among the students of IIUI and COMSATS University Islamabad by use of questionnaires and interprets the data. This is a quantitative analysis which is done on mean values, percentages and t-test. The main purpose is to establish a comparison between formal and online education, find out challenges faced by the students, compare the extent of satisfaction and evaluation of academic performance in the two universities.

Inferential statistics (t-test) is used to determine the differences between groups through the use of descriptive statistics which summarizes the data by percentages and averages. The important tables are only given in order to be clearer and not redundant and the rest of the results are presented in an analytical way.

4.1 Demographic Distribution

Table 2
Demographic Distribution

University	Percentage
IIUI	48%
COMSATS	52%

The results indicate that the participation is nearly equal with a bit more representation by COMSATS (52%), as compared to IIUI (48%), which will allow an equal comparison.

4.2 Program-Level Participation

Table 3
Program-Level Participation

Program	IIUI (%)	COMSATS (%)
BS	90%	79%
MS	7%	15%
PhD	3%	6%

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Most of the respondents are BS students; almost 85 percent of the total respondents in the dataset are undergraduate students.

4.3 Perception of Online Learning Effectiveness

Table 4

Perception of Online Learning Effectiveness

University	Agree (%)	Disagree (%)	Mean
IIUI	18%	65%	2.32
COMSATS	11%	64%	2.22

An apparent majority (approximately 6465) of students in both universities do not agree that online classes are easier, more helpful; this means that there is negative perception of the effectiveness of online learning.

4.4 Preference for Online vs Formal Education

Table 5

Preference for Online vs Formal Education

University	Agree (%)	Disagree (%)	Mean
IIUI	9%	67%	2.09
COMSATS	12%	74%	2.13

About three-quarters of students disapprove of the part that online learning is superior to formal learning and instead they prefer classroom learning.

4.5 Impact of Formal Learning on Efficiency

Table 6

Impact of Formal Learning on Efficiency

University	Agree (%)	Disagree (%)	Mean
IIUI	68%	19%	3.81
COMSATS	76%	8%	4.08

A substantial majority (68 76) are in agreement that formal learning enhances efficiency with COMSATS students slightly higher than with the agreement.

4.6 Interaction with Teachers in Online Classes

Table 7

Interaction with Teachers in Online Classes

University	Agree (%)	Disagree (%)	Mean
IIUI	14%	73%	2.15
COMSATS	12%	86%	2.01

Over 70 percent of students feel that online classes do not enhance interaction with the teachers, and it is a significant drawback of online education.

4.7 Access to Digital Devices

Table 8

Access to Digital Devices

University	Agree (%)	Disagree (%)	Mean
IIUI	65%	12%	3.90
COMSATS	76%	15%	3.90

Digital devices are available to most students (approximately 70%), which means that the technological accessibility is not a significant obstacle to online studying.

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4.8 Time Management in Online Learning

Table 9

Time Management in Online Learning

University	Agree (%)	Disagree (%)	Mean
IIUI	40%	32%	3.18
COMSATS	36%	41%	2.99

Mixed responses are portrayed but slightly more students have difficulties managing time in on-line learning, especially at COMSATS.

4.9 Challenges in Online Learning (Combined Analysis)

Table 10

Challenges in Online Learning (Combined Analysis)

Factor	Agreement (%)
Poor Internet Issues	70%
Difficulty Understanding Content	50%
Distractions	68%
Adaptation Problems	54%

Most students (more than 65) mention internet problems and distractions as the most serious ones, and the inability to adjust to online learning conditions comes next.

4.10 Engagement and Effectiveness of Online Learning

Table 11

Engagement and Effectiveness of Online Learning

University	Agree (%)	Disagree (%)	Mean
IIUI	33%	41%	2.99
COMSATS	21%	55%	2.46

Fewer than one-third of students consider online learning a highly engaging experience to which over half of COMSATS students are dissatisfied.

The findings are always consistent in the view that formal education is considered to be more effective whereby about 70-75 percent of students prefer formal education as compared to online education. Although approximately 70 percent of students have access to digital devices, almost an equal number of students complain about issues like poor internet connectivity, distraction, and lack of interaction. The fact that the majority of online-related statements have mean values less than 3.0 also proves negative perceptions. Conversely, the mean values of formal learning (more than 3.5) are higher, indicating its greater influence on efficiency and academic achievement.

4.11 Motivation, Skill Development and Technology Dependence

Table 12

Motivation, Skill Development and Technology Dependence

Factor	IIUI Agree	COMSATS Agree	Key Mean Comparison
Motivation for advanced courses	30.9%	26.1%	COMSATS higher (3.37 > 3.04)
Ease of becoming skillful	32.1%	27.9%	IIUI higher (3.07 > 2.70)
Technology dependence	69.6%	59.7%	IIUI higher (3.94 > 2.88)

The findings show that approximately 30% of the students feel online learning to be an incentive to higher level of study, though the disagreement is still slightly greater (33-43%). The acquisition of skills demonstrates both positive and negative results, as IIUI students (32.1) experienced an easier acquisition than

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the students of COMSATS (27.9%). An overwhelming majority (6070) support the fact that online learning leads to the reliance on technology, especially in IIUI, the average score of which is 3.94, which means that people are highly dependent on online tools.

4.12 Effectiveness, Anxiety and Social Development

Table 13

Effectiveness, Anxiety and Social Development

Factor	IIUI Agree	COMSATS Agree	Key Observation
Online learning effectiveness	23%	24.8%	Low agreement overall
Homework anxiety	42.4%	38.7%	IIUI higher stress
Social skill improvement	32.1%	22.1%	Weak perception overall

Online learning is perceived negatively with less than 25 percent of students thinking it is effective, and almost 45 percent of students think otherwise. About 40% of students experience anxiety with online assignments, particularly at IIUI. Social skill development is also at a low level and less than a third of the respondents agreed with it indicating that there is no opportunity to develop interpersonal skills online.

4.13 Access, Institutional Support and Enjoyment

Table 14

Access, Institutional Support and Enjoyment

Factor	IIUI Agree	COMSATS Agree	Key Mean
Internet accessibility	37.7%	36.4%	IIUI higher (3.97)
Institutional support	34.5%	32.9%	COMSATS higher (3.17)
Enjoyment of online learning	23.9%	30.3%	COMSATS higher (3.83)
Enjoyment of formal learning	46.4%	59.1%	Formal preferred

Access to internet demonstrates equal responses, and the mean values mean more advantageous perception in IIUI. COMSATS has a little more institutional support. Nevertheless, the level of enjoyment is obviously higher in case of formal learning when the agreement goes up to 59% as opposed to 2430% in case of online learning.

4.14 Satisfaction and Learning Difficulty

Table 15

Satisfaction and Learning Difficulty

Factor	IIUI Agree	COMSATS Agree	Key Insight
Satisfaction with online learning	26.7%	19.9%	Low satisfaction
Satisfaction with formal learning	73.1%	63.1%	Very high
Difficulty in online learning	58.8%	49.7%	Major issue

Formal learning satisfaction is way over 70% at IIUI and 63% at COMSATS, and online satisfaction is less than 30. Moreover, over 50 percent of the students struggle with online learning, which further supports its inefficient learning of course content.

4.15 Interaction, Communication, and Collaboration

Table 16

Interaction, Communication, and Collaboration

Factor	IIUI Agree	COMSATS Agree	Observation
Weak teacher interaction	55.1%	60.8%	Major concern
Communication with teachers	38.2%	33.5%	Moderate
Communication with peers	33.3%	33.0%	Similar trend
Collaboration in online activities	37.6%	35.3%	Limited engagement

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Over 55-60 percent of students think that the level of interaction is poorer in online education. The levels of communication and collaboration are moderate (33-38 percent), that is, partially engaged, but not at the optimal level.

4.16 Academic Performance and Learning Outcomes

Table 17

Academic Performance and Learning Outcomes

Factor	IIUI Agree (%)	COMSATS Agree	Key Mean
Online reduces performance	56.3%	56.2%	Strong agreement
Online better for achievement	27.3%	26.1%	Low agreement
Higher grades in online	29.7%	39.2%	COMSATS higher
Biased grading system	30.3%	30.7%	Similar perception

A majority of students (56) are of the opinion that online learning lowers academic performance. It is merely 26- 27 percent better in achievement. Nevertheless, COMSATS students have a bit more higher grades (39%), which indicates differences in grading systems.

4.17 Learning Support and Teaching Quality

Table 18

Learning Support and Teaching Quality

Factor	IIUI Agree	COMSATS Agree	Key Insight
Formal improves quality	72.1%	68.2%	Strong support
Need instructor guidance	54.6%	57.4%	Essential factor
Instructor performance online	~30% agree	~30% agree	Moderate

Informal education has a solid majority (approximately 70 percent) support that formal education enhances teaching quality. Over fifty percent of learners stress the role of instructor support in online education, and it should be noted that they are highly reliant on teacher support.

4.18 Inferential Analysis (T-Test)

Table 19

Inferential Analysis (T-Test)

University	Mean Score	t-value	p-value
COMSATS	12.5460	1.866	0.063
IIUI	11.9329		

The means of academic performance of COMSATS (12.5460) is a bit larger than IIUI (11.9329) by a difference of approximately 5. But, the p-value (0.063) does not exceed 0.05, which means that the difference is not statistically significant. So, the null hypothesis is accepted, i.e. the academic achievement in the two universities between the formal and the online education is not significantly different.

The cumulative results are that 65-75 percent of students are more inclined towards formal education as it is more interactive, comprehensive and satisfactory. The worst issues about the online learning are low performance (56%), insufficient interaction (60%), and misunderstanding (50%+). Although this is 70 percent of the students who are available to technology, the percentage of students who say they find online learning effective or enjoyable is only 25-30 percent. Means always uphold this tendency, with the formal learning being higher (more than 3.5) and the online learning being lower (much less than 3.0) in the results, implying a lack of effectiveness and satisfaction (Paechter & Maier, 2010).

5. Discussion

The results of this research give a detailed comparison of formal and online education in regard to student satisfaction and academic performance and are consistent with as well as expand on the literature available. The results are quite clear that the students of both the universities were more willing towards

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formal education particularly in terms of efficiency in learning, learning complex concepts and their satisfaction level. The finding aligns with McFarland and Hamilton (2005) who opined that the conventional classroom environment is more likely to deliver an excellent academic performance due to the structuring of interaction and feedback loops (Asif & Ullah, 2026b; Faidley, 2018).

Likewise, the research has found that a large percentage of the students opposed the sentence that online classes were more useful or better than the formal classes. This is in line with the results of Summers et al. (2005) who concluded that students in the face-to-face setting tend to be better academically and to have higher levels of satisfaction than students in the online setting. This assertion is upheld in the present study which shows that more than 60 percent of students in the two universities were not pleased with the efficiency of online learning.

However, the results also demonstrate that there are also certain advantages of online education. To illustrate this, a significant number of students mentioned that they had access to digital devices and the ability to control the amount of time they spend studying when taking online courses. This is following Tsai, who emphasized that online learning environments promote flexibility and self-motivated learning, which can enhance time management ability in students (2016). Although it has these advantages, the study shows that these advantages are not enough to overcome the disadvantages of online learning in regards to engagement and understanding.

The other discovery that is relevant is related to technological and infrastructural issues. The majority of the students reported that slow internet connections are the biggest influencing factor on their learning performance online. Zaheer et al. (2015) could support this observation, as technical barriers were identified as one of the major factors of student dissatisfaction with e-learning systems. This is reinforced by the current research that demonstrates that the issue of low connectivity remains a flaming issue in developing learning conditions such as that of Pakistan (Asif & Ullah, 2026a; Dib, 1988).

In addition, the issue of interaction was one of the problems. Majority of the respondents said that online education decreases teacher student communication and adds to the distraction. This is in line with the observation of Paechter and Maier (2010) who found that students value the face to face interaction and social presence in traditional classroom environment, which lacks in the online environment. The present study adds to this body of knowledge by showing that, both IIUI and COMSATS students feel that online learning is less interactive and prone to distraction.

Interestingly, although a few students have admitted that online learning gives them a chance to access missed lectures and online resources, they still opted to go through formal education to get higher academic results. This result aligns with Paul and Jefferson (2019), who took a conclusion that despite its convenience, online education does not always result in better academic performance (Baturay & Turk, 2015).

In sum, the discussion suggests that online education may be more flexible and convenient, but formal education is more effective in making students satisfied and assuring them of academic success. The results indicate that a hybrid solution, combining the best of both systems, may be a better resolution to the educational practices in the future.

6. Conclusion

This paper has looked at the effectiveness of formal and online education in terms of satisfaction and academic performance of students at the International Islamic University Islamabad (IIUI) and COMSATS University Islamabad. The findings have proven to be categorical in that formal education remains more efficient as far as satisfaction among students, learning efficiency and academic knowledge is concerned. A significant proportion (above 6575) of students were identified as preferring formal learning due to the improved interaction with teachers, structured learning as well as cognition of complex topics.

On the contrary, online learning exhibited some benefits like flexibility, availability of learning resources, and time management. About 70 percent of students reported being able to access digital devices and some 35-40 percent of students reported some level of comfort in managing online learning tasks. There were however, a set of challenges that were more than these benefits such as poor teacher-student contact

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(more than 55%), bad internet connectivity (approximately 70%), and the presence of more distractions (more than 65%) (Pearcy, 2009; Asif & Rafiq-uz-Zaman, 2026).

Moreover, the analysis of variance (t-test) revealed that the academic performance of the two universities was not significantly different ($p > 0.05$) which implies that the difference in perceptions is not significant, however, the academic performance is not significantly different. Overall, the study concludes that online education is a good alternative, although it can never be as effective as formal education is in its current form.

7. Recommendations

The study found the following recommendations:

1. Adoption of Blended Learning

Institutions of learning should join both the formal and online learning. Online education can be flexible, whereas the efficiency of the face-to-face interaction can be implemented in hybrid mode. As only about 70% of students indicated to have had no connectivity problems, universities and policymakers ought to invest in quality and fast internet infrastructure to facilitate online learning. Digital pedagogy and interactive online teaching techniques should be trained to teachers to enhance interaction and communication with students.

2. Development of Interactive Platforms

Universities need to embrace modern learning management systems (LMS) that encourage cooperation, discussion, and live communication in order to minimize the communication gap. Online learning has brought about stress and anxiety which should be reduced through counseling and academic assistance since it impacted nearly half of the students. To improve the quality of the online and formal education, institutions ought to introduce a feedback loop system to determine the level of satisfaction among students and to improve on their systems.

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