Pakistani secondary students' learning performance and satisfaction amidst COVID-19 outbreak: Sequential explanatory research

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ABSTRACT

The COVID-19 outbreak has affected educational system and left some implications for the world of education, one of which is online learning activity. However, as a new habit of learning in post COVID-19 era nowadays, online learning should be taken as a serious consideration for conducting an effective learning environment, particularly in the context of secondary schools in Pakistan. Addressing this issue, the present study aims to explore Pakistani secondary students' performance and satisfaction toward the practice of online learning activity in post COVID-19 era. Creswell's Sequential explanatory research, in which qualitative data were gathered to support the finding of quantitative data, was adopted in this study. A set of questionnaires measured using five-point Likert scale and three open-ended questions were employed to collect the data from 335 secondary students in Federal Government Schools of Wah Cantt, a district in Punjab province Pakistan. The data were further analyzed using descriptive statistics by means of SPSS version 24 and thematic analysis. The results depicted that the outbreak of COVID-19 has extremely affected the students' academic performance during the online learning activity. In terms of satisfaction, the results further demonstrated that the students possessed low level of satisfaction toward the online learning activity. Notwithstanding this fact, a strong positive correlation was proven between students' academic performance and the level of learning satisfaction toward online learning in post COVID-19 era. Drawing on the results, this study provides implication that teachers and education stakeholders should offer dynamic and comprehensive online services, as well as supportive assistance and offensive feedback to enhance students' performance and satisfaction toward online learning activity.

Introduction

The COVID-19 pandemic spread out unexpectedly around the world, affecting every sector of society, including educational institutions. It has a great impact on the teaching-learning activity and academic environment (Bozkurt et al., 2022; Crawford & Cifuentes-

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Faura, 2022), including in Pakistan, where this study was conducted. Responding to the COVID-19 outbreak, Pakistani government ensures the closure of schools and universities, and moves the education activities to digital spaces (Khan & Abid, 2021; Rafique et al., 2021). Federal and provincial governments in Pakistan, including Wah Cantt in Punjab province have acted quickly to start airing curricular content for K-12 via television channels and other digital media (Khawar et al., 2021). The closure of schools due to the COVID-19 pandemic had proven successful to minimize the transmission rate of infection as well as to flatten the peak of the outbreak (Pfefferbaum, 2021). This strategy appeared to be very effective to reduce the direct contact among students and related school stakeholders, but it afflicted the daily routine of the students especially in terms of learning habit and style (Buchanan et al., 2022). However, as a result of the global school closures, it has become immediately clear that students were experiencing significant learning losses due to the unexpected change from face-to-face learning to distance learning (Ullah et al., 2021). During the year of 2020 and 2021, schools in Wah Cantt Punjab province Pakistan administered exams only in some elective subjects with a reduced syllabus for secondary level students (Zafar et al., 2022). A number of students were living in underprivileged and remote areas that lacked smooth internet facilities, and it significantly affected their final grades and academic performances.

As technology-assisted learning has progressed over the last decade, educational stakeholders have begun to embrace online learning platforms to enhance self-directed learning and assessment among students (Karaoğlan Yılmaz, 2022; Makruf et al., 2021; Sinclair, 2016). Amidst the COVID-19 outbreak, online learning seems to be the best solution and a promising alternative to ensure the sustainability of teaching-learning activity (Mutiaraningrum & Nugroho, 2020; Retnaningsih et al, 2022). Asynchronous (e-mail and discussion boards) and synchronous (video conferencing, audio channels, and online chat rooms) model of digital learning can be used to provide online courses (Jung et al., 2022; Moorhouse & Wong, 2022). Nowadays, we have to be aware of the significant impact of COVID-19 outbreak on education system, in which online learning through digital platforms is becoming a new habit and style of learning, even in the post COVID-19 era. In this context, students' perspectives toward learning and motivation are highly influenced by their interactions during the academic activities (Baber, 2020). One of the crucial components to determine student academic performance and learning satisfaction is the quality of teacher-learner interaction (Chen et al., 2022). Teachers are required to create course frameworks that can promote social interaction among students, while adhering to rigorous academic concepts and cultivating self-directed learning capabilities (Henriksen, 2020). This is a great challenge and not an easy task for teachers when the classes are conducted in an online learning environment.

Since students' academic performance and learning satisfaction are two crucial factors of successful teaching-learning activity, fostering the two aspects is a must, even when having online learning environment. Academic performance is considered as a crucial aspect of education (Atlam et al., 2022; Iglesias-Pradas et al., 2021). It is seen as the central pole, and the entire educational system revolves around student achievement (Lugosi & Uribe, 2022). Education institutions' success or failure is highly determined by students' academic performance (Al-Rahmi, et al., 2022). Their academic achievements have a direct impact on the country's socio-economic progress (Gopal et al., 2021). Moreover, learning satisfaction is also a crucial aspect of a success education (Zhang & Lin, 2020). Learning satisfaction is a result of good academic performance and quality of services provided by educational institutions, including in online learning environment (Bervell et al., 2020). Successful academic outcomes increase students' learning satisfaction which is measured by motivation, retention, and assurance (Aldhahi et al., 2022). In the era of technology advancement, online learning has gained its popularity, and students' academic performance (learning outcomes) and learning satisfaction still become crucial aspects of a successful education (Azmat & Ahmad, 2022). Hence, it is crucial and a worth trying to examine students' academic performance and learning

satisfaction toward online learning activity in the context of post COVID-19 era, where it is becoming a new habit of learning.

Research on academic performance and learning satisfaction toward online learning activity amidst COVID-19 outbreak has been conducted for years with various results. Jou et al. (2022) and Khawar et al. (2021) examined the psychological impacts of COVID-19 and satisfaction from online classes of 2220 students from several universities in Pakistan. The results reveal that approximately 41% of the students were facing severe psychological distress while about 65% were found unsatisfied with online classes. Oducado and Estoque (2021) and Wang et al. (2022) investigate students' stress, satisfaction, and academic performance during online learning in the era of COVID-19 outbreak. Drawing on a cross-sectional and descriptive-correlational study, the results depict that the undergraduate students considered online learning during the COVID-19 outbreak to be stressful (44.4%) and very stressful (47.2%). In terms of learning satisfaction, the students had low level of satisfaction (37%) and moderate satisfaction (46.3%) toward the online classes. Their academic performances were also affected by the situation of COVID-19 outbreak and resulted in poor (37%) to fair (50%). On the other hand, Basith et al. (2020), Gopel et al. (2021), and Kim et al. (2022) hinted a different result. These studies scrutinized students' online learning satisfaction during COVID-19 pandemic, and its relation to their academic performances. The results showed that the students' learning satisfaction on online learning was at high level, meaning that the students were satisfied with the practice of online learning amidst COVID-19 pandemic. Moreover, the students' learning satisfaction was positively associated to academic performance, meaning that the higher the level of students' satisfaction toward learning activity, the better their academic performances.

From the previous studies, it can be concluded that students' academic performance and learning satisfaction play crucial role in ensuring the success of education. In the context of secondary schools in Wah Cantt district Punjab province Pakistan, no exams were conducted at the year of 2020 and only exams on elective courses were administered at the year of 2021 due to the COVID-19 outbreak. The results of the exams showed that students' academic performance decreased in terms of scores compared to that of before the COVID-19 pandemic. This is a serious problem and becomes a challenge for education stakeholders in Pakistan. Their academic performance, in turn, is potentially associated to learning satisfaction. Hence, examining the impacts of online learning in post COVID-19 pandemic on the secondary students' academic performance in Pakistan is crucial to do. Moreover, their learning satisfaction toward online learning activity in the era of post COVID-19 is also crucial to be explored. Last but not least, the empirical connection between academic performance and level of learning satisfaction of secondary students in Wah Cantt Punjab province Pakistan remains unexplored.

This study is undertaken based on the primary issue that there have been no research examining the secondary students' academic performance and learning satisfaction toward online learning activity in post COVID-19 era. Since the two aspects are crucial for successful learning, this study aims to examine the impact of online learning due to COVID-19 outbreak on the Pakistani students' academic performance, as well as to explore their learning satisfaction toward the online learning environment. Furthermore, this study also depicts the relationship between students' academic performance and their level of learning satisfaction. To ensure the objectives, this study is guided by three research questions: (1) Do online learning in post COVID-19 era affect Pakistani secondary students' academic performance?, (2) To what extent are Pakistani secondary students satisfied with online learning activity?, and (3) Is there any relationship between Pakistani secondary students' academic performance and level of satisfaction toward online learning activity?. This study is expected to offer some implications both in theoretical and practical aspects, especially providing a clear description of Pakistani secondary students' opinions on their academic performance and learning satisfaction during the online learning activity at the time of COVID-19 outbreak.

Method

Research Design and Study Area

The current study is conducted to examine academic performance and learning satisfaction of Pakistani secondary students toward online learning activity during and in the post COVID-19 era. This study was based in Wah Cantt, a district in Punjab province Pakistan, in which the number of COVID-19 patients was categorized high as compared to other districts in Punjab. Therefore, online learning activity became the best choice, even at the time of post COVID-19 recovery. To reach this study's objective, a sequential explanatory research design (Creswell et al., 2003) was adopted in this study. This design enables researchers to gather qualitative data to support the finding of quantitative data (Liem, 2018). In this study, the quantitative data were collected using a five-point Likert scale questionnaire, and was followed by three open-ended questions to depict more in-depth understanding through qualitative data to support the delineation of the quantitative data.

Respondents

The population of this study was secondary students in Federal government schools of Wah Cantt district Punjab province Pakistan. The total population is 2600 students. Among them, a total of 335 students were randomly selected as respondents of this study. A simple random sampling was chosen to ensure that all students who belong to the population had equal probability of being chosen as a respondent for this study. During the COVID-19 outbreak, they were experiencing online learning activity through digital platforms. In 2020, they did not have exam tests since the schools implemented that policy due to the severe global pandemic. In 2021, they had exams, but only for elective courses such as Mathematics, Biology, Computer, Physics and Chemistry. It resulted in a significant effect on their academic performance and learning satisfaction. Therefore, examining the two crucial aspects of education on online learning activity in post COVID-19 era is a wort exploration to depict the current situation of the students' academic performance and learning satisfaction.

Instrumentation and Data Collection

A questionnaire was utilized for data collection. The questionnaire consisted of four parts. The first part dealt with the introduction and identity of the respondent including orientation about the research and personal identification. The second part examined the potential impacts of online learning amidst and in post COVID-19 on the students' academic performance. This part consisted of 20 items (see Table 2) measured using five-point Likert scale starting from 1 (strongly disagree) to 5 (strongly agree). Moreover, the third part of the questionnaire consisted of 19 items scrutinizing the students' level of satisfaction toward the online learning activity (see Table 3), and were also measure using the same five-point Likert scale as the second part. Furthermore, the last part of the questionnaire consisted of three open-ended questions in which the students were required to write their responses on the provided spaces. These questions were about their satisfaction toward the only implementation of elective subject exams during the online learning in COVID-19 outbreak, their opinion about the syllabus used during the online learning, and the effect of online learning in COVID-19 era on their performance and learning satisfaction.

Before the questionnaire was delivered to the respondents, it was piloted to a group of college students (N=30). The results of pilot study were used as input enhancement to ensure the practicality and reliability of the questionnaire. After several stages of revision, the questionnaire was distributed to the secondary students in Wah Cantt Punjab province Pakistan who were as the respondents in this study. The reliability of the questionnaire was ensured using Cronbach's Alpha value (0.931 > 0.07), meaning that all items were highly reliable. The data collection was conducted by administering the

questionnaire directly to the students. The researchers physically visited all the targeted schools and distributed the questionnaire to the students. During the period of data collection from March to June 2022, a total of 335 responses were obtained and used for the sake of data analysis.

Data Analysis

The 335 responses from the respondents were further analyzed in two ways. First, the quantitative data (second and third parts of the questionnaire) were firstly analyzed using descriptive statistics in terms form Mean and Standard Deviation to depict general perception of the students about their academic performance and learning satisfaction toward the online learning activity (RQ 1 & RQ 2). The analysis was conducted by means of SPSS program version 24. The mean score of each item was put on the average and generalized based on the classification of scoring as depicted in Table 1. Moreover, Pearson's correlation test was administered to see the potential relationship between students' academic performance and learning satisfaction (RQ 3). Second, the qualitative data obtained from the open-ended questions were analyzed using thematic analysis. The themes were based on the questions about students' satisfaction toward the only implementation of elective subject exams during the online learning in COVID-19 outbreak, their opinion about the syllabus used during the online learning, and the effect of online learning in COVID-19 era on their performance and learning satisfaction. The steps of qualitative data analysis consisted of coding, data classification based on themes, data reduction, and conclusion drawing. The qualitative findings were then used to support the delineation of quantitative findings by presenting some relevant excerpts in the results section.

Table 1. Scoring Classification of Five-point Likert Scale

Level	Scale	Interval
Strongly Disagree	1	1–1.80
Disagree	2	1.81 – 2.60
Neutral	3	2.61- 3.40
Agree	4	3.41–4.20
Strongly Agree	5	4.21-5

Results

RQ 1: Impact of Online Learning in COVID-19 Era on Students' Academic Performance

To answer the RQ 1, descriptive statistical analysis was conducted using SPSS version 24 in terms of Mean (M) and Standard Deviation (SD). The results are presented in Table 2. Table 2 demonstrates the result of data analysis on the effects of COVID-19 outbreak on the academic performance in online learning activity of Wah Cantt Pakistani students. The mean score of most items is 2.38, which means that the majority of respondents disagreed with the statements about academic performance of online learning during the COVID-19 pandemic. The online learning has caused sudden changes on the model of teaching-learning from face-to-face to virtual classes, and it affects the students' academic performance. Students disagreed that all activities were not successfully completed during the COVID-19 outbreak. They did not acquire more knowledge by taking online classes. Even students did not complete the online assignments assigned by the teacher on time. They faced fear and anxiety during COVID-19 period, which affected their study plan. It was not a good decision to take the exams of just elective subjects. Although syllabi were reduced, majority of students did not achieve good grades. Thus, the results in Table 2 clearly demonstrate that the students disagreed with their academic performance.

Table 2. Impact of Online Learning amidst COVID-19 on Academic Performance

Statements (20)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D
The online session was completely enjoyable.	115	94	25	86	15	2.38	1.307
Feel good about doing well in the course.	146	89	10	48	42	2.26	1.452
Online education was a good way to advance studies.	119	84	14	82	36	2.50	1.449
Online education has caused sudden changes in academic performance.	36	82	12	108	97	3.45	1.400
Taking an online course helped me get closer to my job ambitions.	146	89	10	48	42	2.26	1.452
All activities were successfully completed during the COVID-19 outbreak.	76	92	26	68	73	2.59	1.507
Time was managed to do every task during the COVID-19 pandemic.	115	94	25	86	15	2.38	1.307
Grades improved during the COVID-19 outbreak.	115	94	25	86	15	2.38	1.302
More knowledge is acquired by taking online classes.	115	94	25	86	15	2.38	1.307
Communication skills are improved by taking online classes.	119	84	13	83	36	2.50	1.507
Creativity skills improved during COVID-19 outbreak.	115	94	25	86	15	2.38	1.307
The existing functions of the online teaching platform can meet the learners' needs.	115	94	25	86	15	2.38	1.307
Actively answered the teacher's questions and participated in classroom learning.	115	94	25	86	15	2.38	1.307

Statements (20)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D
Completed the online assignments assigned by the teacher on time.	119	84	14	82	36	2.50	1.449
Faced Problems in online classes.	119	84	14	82	36	2.50	1.449
Fear and anxiety during the coronavirus lockdown affected the study plan.	119	84	14	82	36	2.50	1.449
Difficulty communicating with teachers during COVID-19.	36	82	12	108	97	3.44	1.402
Faced technical problems in using the Zoom app.	43	59	09	142	82	3.48	1.366
It was a good decision to take the exams of just elective subjects.	115	94	25	86	15	2.38	1.307
Achieved good marks due to the reduced syllabus.	115	94	25	86	15	2.38	1.307

The quantitative data through the Likert questionnaire revealed that majority of the students were at low level of perception on their academic performance (average score 2.58) during the online learning activity. This finding is supported by the qualitative data obtained from the open-ended questions. They stated that the policy of only administering elective courses in final exams was not effective since they considered the elected courses (e.g. Mathematics, Biology, Physics, Chemistry) as difficult, and consequently their scores were not satisfied. Moreover, online learning activity provided them with a number of challenges such as lack of internet connectivity, quality of learning interaction, and learning motivation. Below are some of the students' responses.

Student 36: During COVID-19 outbreak, my school implemented elective courses in the final exam. So, only the subjects such as Mathematics, Biology, Physics, and Chemistry were tested. Whereas, we see that these are very difficult, and other subjects that are in our opinion easy are not tested in the exam. This makes me dissatisfied with my scores.

Student 02: I am not happy with online learning since I live in a disadvantage area where internet connection is poor. Moreover, I do not feel comfortable with the interaction during the online learning. It is limited and we do not have enough exposure to the materials.

RQ 2: Students' Learning Satisfaction toward Online Learning Activity

Table 3 elicits the students' satisfaction level with online learning activity during the COVID-19 outbreak. Students were not satisfied with online classes. As depicted in Table 3, most of the items reached below 2.38 on average, meaning that they were not satisfied with the online courses. The majority of students did not have adequate technical support from home. They were not satisfied with fair compensation or incentives from online classes. They were not satisfied with the online teaching policies that have been implemented by the schools. They were not satisfied with the assessment made by the teacher in online courses, as well as did not have a fast internet connection for online classes. It was also portrayed that they were not satisfied with the examination system

conducted as the effect of COVID-19 outbreak. Moreover, they were not satisfied with reduced syllabus and marking criteria that were implemented due to the pandemic. That's why they faced problems at the time of college admission. The mean score of the majority of items showed that students were not satisfied with their academic performance and the online classes.

Table 3. Students' Learning Satisfaction on Online Learning Activity

Statements (19)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D
Satisfied with the zoom/WhatsApp classes.	115	94	25	86	15	2.38	1.307
Satisfied with the instructors' follow-up in each session of online teaching.	146	89	10	48	42	2.26	1.452
Satisfied with the instructors' various online teaching approaches.	115	94	25	86	15	2.38	1.307
Online classes helped to achieve the course learning outcomes.	114	87	21	67	46	2.53	1.470
Satisfied with teachers' motivation in online courses.	115	94	25	86	15	2.38	1.307
Interactions with teachers are satisfying in online teaching.	146	89	10	48	42	2.26	1.452
Satisfied with the convenience of the online learning environment.	119	84	13	83	36	2.50	1.450
Online courses allow students to access a wide range of resources.	115	94	25	86	15	2.38	1.307
Adequate technical support from home.	146	89	10	48	42	2.26	1.452
Satisfied with fair compensation or incentives from online classes.	108	97	12	36	82	2.66	1.600
Satisfied with the online teaching policies that have been implemented by the school.	115	94	25	86	15	2.38	1.307
Work well together with teachers and students in online courses.	146	89	10	48	42	2.26	1.452
Satisfied with the assessment made by the teacher in online courses.	146	89	10	48	42	2.26	1.452

Statements (19)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	S.D
Satisfied with the quality of the syllabus of online courses.	115	94	25	86	15	2.38	1.307
Satisfied with the internet connection provided for online classes.	115	94	25	86	15	2.38	1.307
Satisfied with the examination system conducted due to COVID-19.	146	89	10	48	42	2.26	1.452
Satisfied with only giving exams on elective subjects.	115	94	25	86	15	2.38	1.307
Satisfied with the marking criteria that follow due to COVID.	146	89	10	48	42	2.26	1.452
Faced a problem at the time of college admission.	115	94	25	86	15	2.38	1.307

Furthermore, the qualitative findings obtained from open-ended questions demonstrated that students were not satisfied with the implementation of online learning. Their dissatisfaction was in terms of digital platforms used, teacher-student interaction, learning method, and assessment. Moreover, they were encountering some problems during the online learning such as electricity stability, availability of learning facilities, and lack of internet resources. These factors seem to contribute to the low level of students' satisfaction toward the online learning activity. In addition, this situation affects the students' academic performances to foster their active involvement in online learning activity. The following are some of the students' responses.

> **Student 05**: I am not satisfied with the online learning implementation. Some inconveniences come up such as the use of digital platforms which is not effective, poor interaction among students and teacher-student, uninteresting learning method, and unfair assessment (final exams). Not only me, but also most of my friends are experiencing similar inconveniences. This situation has significant effect on us, especially in terms of academic scores. So, we are not satisfied with the online learning activity since it is occurring in response to the global pandemic.

> **Student 19**: This sudden implementation of online learning activities causes shocks among the students. Not only the students, school and teachers seem have not yet ready to conduct effective online learning. I face a lot of problems during the online learning activity, such as unstable internet connection and electricity since I live in disadvantage area, lack of learning facilities, and internet resources. This condition does not support me to reach good performance in my academic activities. As a result, I am not feeling satisfied with my grade and the overall learning activity conducted in online mode.

In short, Table 4 illustrates the overall mean scores of students' opinions on the academic performance and learning satisfaction toward the online learning in secondary schools of Wah Cantt Pubjab province Pakistan. The result shows that the average score of the questionnaire on students' academic performance is 2.58 (SD= 1.342), and their learning satisfaction is 2.36 (SD= 1.372). This result means that students disagreed with their academic performance and were not satisfied with the online learning activity during and in post COVID-19 era in Pakistan (refer to Table 1).

Table 4. Average Mean Score

	N	Mean	Std. Deviation
Academic Performance	335	2.58	1.342
Level of satisfaction	335	2.36	1.372
Valid N (listwise)	335		

RQ 3: The Correlation between Students' Academic Performance and Learning Satisfaction

As for the potential connection between students' academic performance and learning satisfaction with online learning activity, a Pearson correlation analysis was administered (see Table 5). As shown in Table 5, it indicates that the P-value is less than the alpha value (P = 0.000 < 0.05). Therefore, it is considered to be significant and can be concluded that there is a strong positive correlation between the academic performance of students and their level of satisfaction with online learning activity implemented during and after the COVID-19 outbreak.

Table 5. Pearson Correlation Test

Variables	N	Academic Performance	Level of Satisfaction
Academic Performance	335	1	0.99**
Level of Satisfaction	335	0.99**	1

In terms of this empirical connection, the qualitative data further yielded that students' academic performance was closely related to their learning satisfaction. Most students confessed that their satisfaction went hand-in-hand with academic scores obtained from the exams and the whole process of online learning activity. Below are some of their responses.

Student 25: I feel satisfied with my learning activity when I get good score in the exams.

Student 31: Yes, they have close relationship. Satisfaction will be obtained if we perform good score in the learning process.

Discussion

The present study aims to primarily examine how the COVID-19 pandemic affected Wah Cantt Pakistani students' academic performance and their learning satisfaction in the context of secondary level online instruction. Additionally, it sought to determine how students' academic success and level of satisfaction were related. The findings show that students' have low levels of perceptions on the academic performance and learning satisfaction toward online learning activity during and in post COVID-19 outbreak. This findings are based on the analysis of data obtained from the questionnaire. It is further revealed that academic performance has been proven to have a positive connection to learning satisfaction. Moreover, the qualitative data obtained from open-ended questions support the quantitative data in terms of the findings of three research questions in this study.

The first research question sought the answer if online learning activity during COVID-19 outbreak had any effect on the academic performance of Wah Cantt Pakistani students. According to the data obtained from the questionnaire, COVID-19 had a detrimental effect on students' ability to execute successfully in each course activity, their performance on assignments, and their grades. It is consistent with the findings of research conducted by Atlam et al. (2022) and Gopal et al. (2021) which found that COVID-19 pandemic had an impact on students' academic performance. In contrast to this finding,

a study conducted by Novikov (2020) found no significant effects of COVID-19 outbreak on Russian students' academic performance. Meanwhile, the study of Oyinloye (2020) have confirmed that COVID-19 has had a negative impact on Nigeria's educational system, particularly on student performance. When looking at the overall data on the effects of COVID-19 outbreak on Wah Cantt Pakistani students' academic performance, it was found that the global pandemic had a detrimental effect on secondary students' academic achievement. Comparing the results of this study to the other previous studies (Atlam et al., 2022; Gopal et al., 2021; Novikov, 2020; Oyinloye, 2020), we are informed the different effects of COVID-19 outbreak on various contexts and situation. It is very interesting. An argument to explain these findings might be the locus and situation where the studies were conducted. For some developed countries, in which technology and information are already advanced, conducting online learning is not a difficult task. Hence, they have already been ready facing the impact of COVID-19 outbreak. However, this condition is not experienced by the developing or even underdeveloped countries where the issue of lack of online learning facilities is still becoming urgent. Therefore, future research is suggested to explore in-dept understanding of the different results.

In terms of the second research question, the students express extreme level of dissatisfaction toward online learning activity amidst the COVID-19 outbreak. The result of data analysis shows that the students were not satisfied with the overall implementation of the online classes during COVID-19 outbreak, the teaching and learning method, the facilities used, the teacher-student and student-student interaction, and the assessment. This result is consistent to the finding of Baber (2020), Khawar et al. (2021), and Oducado and Estoque (2021) that online learning activity in response to emergency remote learning due to COVID-19 outbreak is conducted without well preparation. As a result, the quality of teaching-learning activity does not meet teachers' and students' expectation. However, this condition does not happen in all countries in the world. For instance, the finding of Abuhassna et al. (2020), Almusharraf and Khahro (2020), and Novikov (2020) shows that COVID-19 outbreak does not provide significant impact on the quality of teaching and learning activity. We would say that it depends on the current situation of these countries. Some countries have already been prepared to conduct online learning and digitalization in many academic aspects, while some other countries have not ready yet.

Regarding to the third research question, which examined if the academic performance has a connection to the learning satisfaction, the result depicts that there was a significant relationship between Pakistani students' academic scores and the level of satisfaction toward online learning activity during COVID-19 outbreak. This finding supports previous studies (Aldhahi et al., 2022; Gopal et al., 2021) that academic performance affected learning satisfaction. If students can achieve good performance in academic aspect, they will tend to possess high level of learning satisfaction, and vice versa. In the context of this study, when the situation of COVID-19 outbreak has a negative effect on Pakistani students' academic performance, their satisfaction on the online learning activity as resulted by the COVID-19 situation also decreases. On this basis, students are expected to obtain convenient and effective situation of online learning activity, which in turn, they will be able to perform better in academic aspects, and it will results in a high level of learning satisfaction.

To the best of the authors' knowledge, this study appears to be the first research exploring the academic performance and learning satisfaction of secondary students in Wah Cantt Pakistan toward online learning activity in response to the COVID-19 outbreak. The major strength of this study is its sample that reached 335 secondary students around Wah Cantt Punjab province Pakistan. The results have a number of ramifications and recommendations for the Federal Government schools at secondary level in Pakistan and other parties involved, including how to improve the effectiveness and capacity of online instruction in unexpected and emergency situations, as well as how to improve students' academic performance and satisfaction with online learning instruction. As a result, it is

advised that schools and all other relevant stakeholders offer virtual resources, Wi-Fi facilities, affordable internet packages, expert training for using online teaching tools, and online teaching applications to support the practice of online teaching and learning. Students faced difficulties due to the sudden change in the education system and due to new model of learning. This study found a positive association between academic performance and satisfaction level, which suggests that poor performance is associated with high levels of discontent with online instruction.

Conclusion

This study aims to explore Wah Cantt Pakistani secondary students' academic performance and their learning satisfaction toward online learning activity amidst the COVID-19 outbreak. Moreover, the empirical connection between academic performance and learning satisfaction is also examined. Drawing on sequential explanatory research, the results depict that secondary students in Wah Cantt region Punjab province Pakistan have greatly affected by the situation of COVID-19 outbreak in terms of academic performance. As a result, this study further demonstrates that the students possess low level of satisfaction toward online learning activity during the emergency remote learning, especially the quality of syllabus and learning method. Moreover, this study reveals the empirical connection between academic performance and learning satisfaction, which means students tend to have a feeling of satisfaction if the learning activity is conducted effectively and they can perform good achievement during the learning process.

This study offers pedagogical implication. By the results of this study, secondary teachers in Wah Cantt Pakistan are required to provide dynamic and comprehensive online learning services, as well as supportive instruction and constructive feedbacks to enhance students' knowledge and skills. It will foster their academic performance and satisfaction toward online learning activity in the future COVID-19 recovery, since online learning mode becomes a new trend nowadays. This study acknowledges that only secondary students in Wah Cantt region Punjab province were enrolled as the respondents. Hence, we encourage future studies to explore secondary students' opinions and preferences in other regions of Pakistan to ensure the generality of this study's findings.

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