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STUDENTS PERCEPTIONS ABOUT FLIPPED LEARNING DURING COVID-19 PANDEMIC AT HIGHER EDUCATION IN ISLAMABAD

Fiza Bibi [1]

Affiliations:

[1] Research Scholar,
Federal College of Education,
Islamabad

[1] fizabibi786786@gmail.com

Corresponding Author/s Email:

[1] fizabibi786786@gmail.com

Abstract

This study was aim to find the "perception of students (male and female) towards flipped learning during COVID- 19 Pandemic in Islamabad. In this study researcher was check the perception of flipped learning during covid-19. In this study researcher have work on two objectives. The first one is to assess perception of students about flipped classroom during covid-19. And the second one is to investigate whether there is any difference in perception of students according to gender basis. For this, researcher used opinionnaire to find out the male and female students perceptions about flipped learning. Sample of present study consisted of two universities, Researcher selected universities on the bases of convenient sampling technique. After selecting the universities, 1-8 semester students of BS-computer science department from each university were selected on the basis on random sampling technique. Researcher personally visits the BS-computer science department of Quaid-i-Azam University Islamabad and NUML University, Islamabad. According to the target population researcher distribute the questionnaire and collect the data randomly. Researcher used the Statistical Package for Social Sciences (SPSS) for further tabulation and statistical data analysis. The data was analyzed and presented in the form of tables. Independent sample t- test was applied to find out the difference between male and female students perception regarding flipped learning at significant p<.05. The result of the present study shows that there is no significant difference between male and female students perception about flipped learning.

Keywords: Flipped Learning, Student Perceptions, Flexibility, Interactive Learning, Collaborative Learning, COVID-19

Introduction

Education is the development of fast learning or the accomplishment of understanding, techniques, attitudes, ethics, ideas, and behaviors that are referred to as education. In the beginning of covid-19 pandemic Pakistan faced have many problems. One of the most educational institutions was affected. Distance learning was proposed by the government to continue educational activities which can also referred as flipped learning. This study will be the student perceptions about flipped learning during COVID-19 pandemic at higher education. Flipped learning is a strategy that helps teachers that concentrates on Students can learn throughout classroom time by studying course content and introductions online or in class. The foundations of the flipped learning can be understood in two science teachers who have used video lectures to deliver coursework to higher level students who were unable to attend classes (Bergmann & Sams, 2014). The use of the flipped

classroom learning as another way to common leaning environment has been more fascinate the attention of researcher and educators.

According to definitions, flipped learning is defined as flipping the instructional method in the school setting by utilizing innovative technical resources in the preparation and presentation of courses. The role of teacher in this strategy is that of a conciliator or facilitator encouraging pupils to study through provided sources outside of class time. The flipped learning approach is generally classified as a teaching method because it incorporates both learning strategies as well as forms of technology to educate learners Arnold-Gaza (2014). The key idea of the flipped learning method is to ensure improved understanding and retention of knowledge gained through flipped learning beyond the class while completing the facilitator (Herried & Schiller, 2013).

Flipped learning. The flipped learning is a strategy of learning that traditionally narrates and modifies the process of doing homework at home, allowing students to learn and collaborate outside of the classroom. The flipped classroom is a learning model in which traditional face-to-face instruction is adapted for online environment and integrated with distance learning (Demiralay, 2014).

Perception. Student intentions to investigate their perceptions about teaching and learning social sciences are defined as perceptions. The ideas or opinions of students about teaching and learning as social sciences, whether in or out of class are referred to as student's perspectives on teaching and learning social sciences.

Higher Education. Higher education is the higher education after higher secondary education taking place in higher education and institutions of higher learning and often adds students' undergraduate and graduate studies. Higher education gives you an opportunity to review the topic you want to know and may increase job opportunities and career opportunities. The purpose of this study is to examine the study of student perceptions about flipped learning during covid-19 pandemic at higher education at Islamabad.

Rationale of the Study

Flipped classroom clears consequence of student educational achievement (Asiksoy & Ozdamh, 2016). Flipped learning is an impressive solution to some situations of student's hesitation, misunderstanding and content doubts (Halili & Zainuddin, 2015). Using flipped learning as a learning approach will make students accountable to students and knowledge and communication skills will be enhanced when they are provided with videos linked to the lesson Overmyer (2012). Almusawi conducted the purpose of the study to assess the effect of a flexible learning approach on the acquisition of spatial concepts and the development of new thinking among students. After reviewing the previous studies, the researcher did not find the importance of flipped learning during COVID-19. Therefore, this study about the importance of flipped learning during COVID-19. This study about the difficulties to face the teachers and students take the classes through flipped learning during covid-19. This study is perception about the flipped learning during COVID-19 pandemic at higher education. Innovative skills like research project skills vital thinking and artistic skills. To ensure the success of transformed learning the teacher must balance between the three main areas of instructional content delivery includes professional educational activities. In flipped learning only student perception in crucial the success of teaching strategy and learning method.

By examining student perceptions of flipped learning at the higher education level, this study aims to gain valuable insights into the effectiveness and feasibility of this pedagogical approach in a remote or hybrid learning environment. This study aims to address this gap by exploring the significance of flipped learning within the context of pandemic-induced disruptions to traditional education. The successful implementation of a transformed learning approach, such as the flipped classroom, necessitates a balanced approach that integrates effective instructional content delivery with meaningful student engagement and collaborative learning activities. While student perception plays a crucial role in determining the success of any teaching strategy, it is essential to acknowledge that teacher preparedness and professional development are equally vital components of a successful flipped learning implementation.

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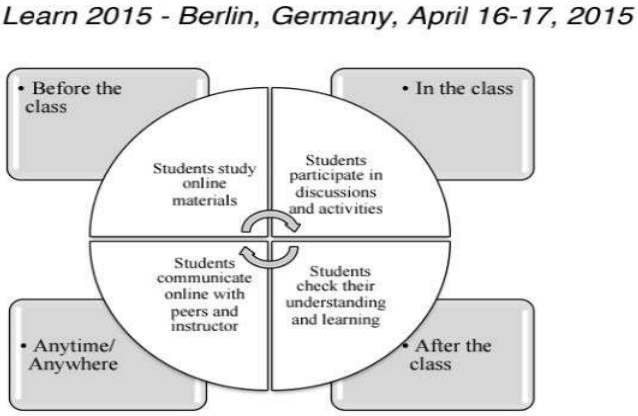
Figure 1
Theoretical Framework



Flipped classroom

A formal definition was provided by the Flipped Learning Network in teaching method is an educational technique in which teaching material is conducted from the group work space towards the personal learning environment or the group that results from flipped learning. The environment is transformed into a dynamic, informative manner. The educator guides the students in a learning setting. Pupils as they apply the concept and participate in activities creatively when it comes to the subjects.

In-class activities. This teaching method involves in-class exercises that emphasize on not only sub-skills such as memorizing, learning, and implementing, but also higher-order cognitive ability such as analyzing, assessing, and inventing.

Out/after the class. The teachers were sent videos on students with educational material. Students were expected to arrive prepared and have watched the given lectures before entering the classroom.

Before the class. Students read the material related to course and also watch the videos before entering the class. If any questions arise in students mind then ask for their teachers and instructor.

Anywhere/Anytime. Due to flipped learning students read and understand the any concept related to the course in the class or outside the class and also anywhere any place.

Statement of the Study

Flipped learning is a teaching technique that helps teachers and students to arrange active learning at class time by assigning students instruction material and presentation to be viewed at or outside of class. Universities all across the worked to raise the value of innovative solutions and the fundamentals of switching from traditional learning ways to new instructional strategies such as the flipped learning approach. COVID-19 pandemic at higher education has effect learning during this academic year or even more on coming days. Higher education teachers start the flipped learning during covid-19. The online system is better for the COVID-19. Then the study will be about the student perceptions about the flipped learning during covid-19 pandemics at higher education.

Objectives of the Study

This study aims to determine;

I. To assess perception of students about flipped learning during covid-19.
II. To investigate whether there is any difference in perception of students according to gender basis.

Research Questions

I. What are the student perceptions of flipped learning?
II. What is the difference in perception of students according to gender basis?

Hypothesis

H0: There is no difference in student perceptions of flipped learning during covid-19.

H1: There is difference in perceptions of students according to gender biases.

Significance of the Study

Flipped learning will help students and teachers. In the help of flipped learning students starts the knowledge on their own. Students are more engaged with classroom or lectures. Absentees are not much a problem as students can take classes from home with the help of flipped learning. During covid-19 flipped learning is very important for both teachers and students.

Because of covid-19 schools, colleges and universities were closed. Due to which education was being disrupted. So, with the help of flipped learning all the classes were done on time. So, it wasted less time of the students. During covid-19 the difficulties face to teachers and students at educational institutions. Therefore, one of the many solutions proposed to address this problem is to change the teaching method from the tried-and-true ancient technique to replace paradigms. Wherever additional stress is going to be placed on the students' ability to grasp ideas deeply and severally. Thus, during covid-19 teachers replaced the traditional learning into flipped learning. During covid-19 flipped learning played an important role in educational institutions.

Research Methodology

Population. The population of this study comprised of BSCS (Computer Science) department students which were selected conveniently from the two HEC recognized universities that are NUML and QAU. The total number of students enrolled in these universities in BS Computer science department was 990. In NUML 350 students were enrolled in BS.CS department. In QAU 640 students were enrolled in above mentioned department.

Sample. Students were selected through proportionate random sampling. A sample size for this study was 278 students which were 35% of the whole population. On the basis of convenient sampling technique, the researcher selected 2 universities in Islamabad which includes NUML and QAU. The researcher selected 98 students from NUML including 49 girls and 49 boys while 180 students selected from QAU including 90 girls and 90 boys for the study.

Research Design. The present study was descriptive in nature.

Research Instrument. A research Opinionnaire was used as research instrument. The researcher got permission from Yousef Al jaraideh to use the opinionnaire for the present study. It is consisting of 21 items.

Data Collection. The researcher collects data through research opinionnaire. The researcher personal visit to the universities and collect the data from computer sciences students through research opinionnaire.

Data Analysis. The data analysis was used statistical tool like Mean and T-test. .A t-test is a type of inferential statistics used to determine if there is a significant difference between the mean of two groups, which may be related in certain features.

Operational Definitions Flipped Learning

Flipped learning is an educational methodology and a type of mixed learning (online and face to face) that reverse the conventional academic management by convey pedagogical topic often online or at home. It incorporates exercises that would normally be expected homework into the classroom. In a flipped learning students watch online educational topics cooperate in online discussion with the instruction of the instructor. (Abeysekera & Dawson, 2015)

Perception. Student intentions to investigate their perceptions about teaching and learning social sciences are defined as perceptions. The ideas or opinions of students about teaching and learning as social sciences, whether in or out of class are referred to as student's perspectives on teaching and learning social sciences.

Higher Education. Higher education is the higher education after higher secondary education taking place in higher education and institutions of higher learning and often adds students' undergraduate and graduate studies. Higher education gives you an opportunity to review the topic you want to know and may increase job opportunities and career opportunities.

Literature Review

Flipped learning

The Flipped learning is a learner-centered education and learning technique. In a flipped classroom, instruction and preparation are completed before class at home, and the classroom contact hours are filled with interactive and collaborative learning opportunities. Students watch these visual representations prior to class, which helps learners spend more time in class solving difficult concepts, answering student questions, involving student-centered learning, and making links to everyday situations. Instructors will notice that their role has shifted from sage on the stage to more of a guide on the side, with students' engagement with the content taking center stage (Rafon & Mistades, 2020).

A flipped classroom is a type of mixed learning in which students gain educational knowledge outside of class and then discuss, apply, and understand the content during class. Flipping is a technique in which students watch online lessons at home as completing exercises take place in class (Johnson, 2012, P.94)

Freed from lecturing in front of the class, the teacher can devote more time to working with individuals and groups of pupils. Carpenter and Pease (2012, p.37).

Characteristics of Flipped Learning

On the aspects of flipped learning, there are numerous variations and opinions. Although there are numerous perspectives on the characteristics of a flipped learning in an academic context, the most effective Flipped Learning approach has three criteria. Firstly, To begin with, in-class learning settings are highly organized, which means that in order to maintain learners involved, the instructor must prepare for every moment of the session. Second, Students should be able to solve problems, take tests, and apply or retrieve information through in-class activities. Knowledge from the flip film. Finally, grading, in-class activities, and educator objectives all encourage students to complete outside-of-class work and attend in-person sessions.

There are four essential factors that contribute to the Flipped Classroom's characteristics. Educators must give exposure prior to class while using the Flipped Classroom method. Exposure can range from reading a textbook to seeing a micro-lecture or video. The instructor can record the micro-lecture or use Video content, Tutorials, or Open Course materials to find videos on the topic. The second characteristic is to provide brief quizzes, worksheets, and other exercises to motivate students to prepare for class. By watching videos and completing the quiz or worksheet, students are informally preparing for the next day's lecture that has been handed to them. Thirdly, instructors must provide a method or technique for determining students' level of understanding of the issue by administering a brief online pre-test. Educators may gain insight into a problem area in which children are having difficulty and which requires special attention. Finally, given that learners acquire basic knowledge outside of class, instructors must devote class time to deeper learning. Students develop critical thinking skills when they participate in engaging activities such as discussions, data analysis, and syntheses (Brame, 2013).

Higher Education

Higher education is the higher education after higher secondary education taking place in higher education and institutions of higher learning and often adds students' undergraduate and graduate studies. Higher education gives you an opportunity to review the topic you want to know and may increase job opportunities and career opportunities.

Higher education is important to the success of society. For centuries, universities have played a key educating future professional, corporate executive, government leaders, socio-religious scholars etc. who serve the public by strengthening its values and establishing its resources (Mustard, 1998).

Importance of Higher Education

In these words, emphasis the value of higher education:

Higher education has become an asset for the state. It must understand the benefits of assuring the success of higher education. Higher education must, in turn, acknowledge this It has a responsibility to society (Dearing Report, 1997).

Higher education is an important investment that is essential to a country's development. The role of institutions of higher learning is to train highly skilled workers and prepare them to play an active role in the nation's progress. Isani and Virk (2005) described the importance of higher education in these words: Higher education is important for socioeconomic progress. Higher education institutions accept responsibility for providing people with the advanced competencies needed for positions of responsibility in government, industry, and occupations. According to the same report, university education development is associated with economic progress, university education registration rates are expected to be 51% in OECD nations, 21% in middle-income countries, and 6% in low-income countries. University education and a country's economic development are interconnected.

Higher education has become more important as a result of the knowledge-based economy and globalization, and the quality of education, in particular, is critical to national growth. The difficulty with developing countries, such as Pakistan, is that higher education has been given low priority. In a report published in, that poor countries will find it more difficult to prosper in the global knowledge-based economy without more and better higher education (World Bank, 2000).

Higher education opens the door to a wide range of possibilities. It's like a gateway to a vast number of pathways, and by learning to be tougher and tougher throughout one's life, one can always enhance one's living standards. Higher education gives a man the specific skills he needs to achieve higher levels of efficiency at work, puts him on an equal basis in this highly competitive environment, improves skills, and opens up chances to help promote and contribute to the economic development of our community.

Higher education serves multiple functions for any country. Higher education's purpose is not restricted to creating and maintaining national economic development and offering options for people; it also promotes multiculturalism, democratic governance, and trade. It is a source of new creating knowledge, and industry allows this knowledge to be shaped into a product.

Importance of flipped learning in higher education

Educational instructors in higher education have a history of transferring course material beyond the classroom. Consider a classroom where learners engage with the concept and then apply the theory in the field. A large number of independent faculty members in higher education have chosen to use the flipped classroom approach in their lessons. Students can work at their own pace, reverse to study sections, and skip beyond elements they already know in short tutorial learning materials, ensuring that they arrive at class ready to manage the software and collaborate on creative projects with their colleagues. The purpose of such projects is to allow learners to choose the learning style that best suits them, so that they can learn major topics in a variety of ways outside of the classroom. Students could use the internet to read a guidebook, see a PowerPoint presentation, or watch a video lecture. This method has proven to be a strong technique that enhances students' reasoning skills in higher education and improving student's achievement.

Students who took part in the study chose recorded lectures to learn in different ways, watch them as many times as they needed, take notes, take tests, and prepare for the next class activity, among other things. Being prepared to apply this approach is a powerful motivator for pupils to enhance their overall performance (Mason et al., 2013). Students say that online courses made it easier for them to become connected with the content and modify it to their specific learning needs. As a consequence of the interactive nature of the classroom, students found the problem-based workshops to be the most beneficial component. When flipped learning was compared to traditional lecturing, students were satisfied (Ponikwear & Patel, 2018).

Perception

Perception is a Latin word meaning the observation and sensory information about the specific field. Different kinds of senses are involved in the process of perception about anything and the perception basically bases on that sense about which is involved in. The whole nervous system is involved while perceiving about and creates the ground for the subject research.

In contemporary philosophy, the term "contents of perception" refers to what is delivered to the topic

by its sensory experiences. Consider glancing into a piano and seeing the arrangement of hammers and strings. When you view these items, they will appear to have a specific shape, color, texture, and arrangement in relation to one another, among other characteristics. Your visual impression of the piano is that it has these characteristics. If you have an illusory experience in some way, the piano will not have all of those properties. However, even then, your experience would have made an impression on you. Crane (2005). Perception is a complex phase and it varies from man to man or woman to woman as everyone has unique intuition about any of the object. Specifically dealing with schools, universities, and colleges plays an important role. Most of the contradiction erupts from the conflict or differences in the perception of different parties. These kinds of conflicts depending upon parents and their children, parents and teachers, teachers and students, having different approaches about the different matters one has to manage these conflicts regarding the strong power of perception and correctness of the matters arises.

Student intentions to investigate their perceptions about teaching and learning social sciences are defined as perceptions. The ideas or opinions of students about teaching and learning as social sciences, whether in or out of class are referred to as student's perspectives on teaching and learning social sciences.

Flipped Learning

Flipped learning is defined by the Flipped Learning Network as an instructional approach in which the instructor shifts the teaching material from the group learning facilities to the individualized learning space, resulting in a flexible, online course in which the teacher enhances learning as individuals, applies new knowledge, and participates creatively in the particular topic. Flipped Learning Network (2014a, p. 1)

The flipped classroom approach emerges from the idea of providing education at home through video viewing rather than traditional classroom instruction. The time spent in class by the educator using various methods to internalize previously given information. This is accomplished through the use of previously provided video recordings. Educators have the opportunity to interact with students on a personal level. In this manner, classroom time is effectively utilized (Zownorenga, 2013).

The flipped learning is a strategy of learning that traditionally narrates and modifies the process of doing homework at home, allowing students to learn and collaborate outside of the classroom. The flipped classroom is a learning model in which traditional face-to-face instruction is adapted for online environment and integrated with distance learning (Demiralay, 2014).

Perceptions of students about flipped learning

Students 'perception towards flipped learning are: The majority of students thought flipped learning was beneficial. I liked flipped learning because it is a more effective pedagogical approach than a conventional lesson or session. With flipped learning lecture videos shows and give us a fine thoughtful of what it is to do in the labs. I liked the quick lectures because they were simpler to focus on and understand than a two-hour lecture. The videos were quite helpful and linked to the content offered in the labs (Murray et al., 2015)

The students' quick understanding of the importance of video lectures in flipped learning proved to be the greatest motivator for them to spend time watching videos outside of class. Students prepared because they believed it would be beneficial. A number of learners said that the clips helped them comprehend the course material. Flipped learning requires high-quality video. Quality video, on the other hand, does not mean higher video or footage shot in a big production. When individuals play an active role, individuals gain more desire, interest, and self-confidence (Hu & Hsu, 2018). The flipped technique has provided us with a new way to engage in educational activities by focusing on the learners' motivation, encouraging meaningful learning, allowing for information sharing, encouraging creativity, and improving digital competence (Colomo-Magaña et al., 2020)

In terms of time video content, the duration of the educational video does not bore students. Students can develop their own time - management skills tactics for studying and reflecting on their work. Flipped learning allows students to plan before in class. Flipped learning allows learners to manage their own schedule. Students are encouraged to explore concepts through flipped learning. Learning videos allow pupils to assess

their own learning skills by allowing them to replay sections that are difficult to comprehend (Musdi et al., 2019, October).

The majority of studies on flipped classroom perceptions found that this new technique improved students' achievement, encouragement, teamwork, and so on. Students say flipped learning gives those good learning environments, more opportunity to engage with others, more control about what they know and how they know, and the flexibility to research topics at their own pace.

Importance of flipped learning during covid-19 pandemic

People who come into contact with the virus are generally regarded "infected" if the infection spreads throughout their body and creates a reaction (e.g., by the immune system). Furthermore, not everyone who has been infected has the same level of symptom intensity. Symptomatic people have a medical diagnostic description, oligo symptomatic people have very minimal symptoms, and unconscious people have no symptoms while being infected. Furthermore, the World Health Organization (WHO) and the European Centre for Diseases Control and Prevention (ECDC) consider a COVID-19 case "confirmed" only after laboratory confirmation, independent of clinical symptoms (Gianicolo et al., 2020).

COVID-19 has resulted in the rapid adoption and development of online teaching in order to minimize disruption to student learning. Telecommunications technologies play a significant role in this, with several institutions implementing online teaching information sessions, experiments, and academic videos.

COVID-19 epidemic has caused a severe disruption in schooling around the world Technology has been utilized in a very quick way to ensure the learning of students. Both students and instructors have been involved. Pushed to reconsider how they teach and gain knowledge.

It's useful for distance learning, and it allows us to maintain our education system throughout the COVID 19 crisis. Our teacher has the authority to turn off our microphones and video cameras. Also, to see if we're paying attention or not. Students that is uncomfortable can easily contact each other via WhatsApp. You can attentively to the lecture and learn quickly and conveniently. Students also learn to be self-directed learners, which would be a crucial skill for promoting lifelong learning (Mukhtar et al., 2020). Around 25 million pupils' educations were disrupted during the virus period. Digital learning allowed these students to continue their education and training. Live classes, online conversations, recorded films, reading texts, activities, and online forums were all used in distance education. The biggest sticking point for online education is assessment and evaluation (Booth, 2020).

The characteristics of students' learning styles must be considered a key factor and used in distance education planning to keep students engaged and successful in this system. Students' learning should be established with this goal in mind, so they should be free to pick suitable learning surroundings.

The learners gain knowledge through the materials provided by the teachers. Students should be provided with additional supporting information such as recordings, handouts, other learning aids, and thorough instructions so that they can understand the lecture content at home. Teachers should then set up online classes. Students are encouraged to raise questions during online sessions in order to clarify the lecture topic that was sent two days prior. This is how an online course might be delivered.

It is possible that a flipped class will not be equivalent to a face-to-face class.

Everything has some benefits then also has a disadvantage. So, they some disadvantages of the flipped learning are as follows in according to previous studies. The one that comes to mind is online content creation, which takes up the majority of instructors' time. Students feel hopeless and their motivation suffers if the instructor does not actively engage with them outside of class. Students who are accustomed to the traditional model may find it challenging to shift to and adapt to the new approach. If the movies that professors have prepared for students to watch lead them to have difficulty grasping the contents (Talbert, 2012; 2). For example, audiovisual and literature materials should be generated in accordance with classroom activities. The majority of teachers incorporate video into their out-of-class instruction. On the other hand, the instructors involved the study reported that students had difficulty finding high-quality videos. Educators produce a small

number of high-quality videos, which take time to produce (Herreid & Schiller, 2013; 62). This proposal has been met with hostility from learners, instructors, and guardians for a number of reasons. Students are overburdened because they have a lot of work to accomplish at home. They are expected to spend their free time surfing the Internet or on social media, rather than watching pre-recorded instructions (Defour, 2013). Parents and instructors are hesitant since they learned through lectures and believe that their children should be able to as well. They say that lectures are not at all unpleasant (Goodwin & Miller, 2013).

Teachers are concerned about the new model's administration. They believe that capturing a video is more difficult than performing in front of the class. They also have more work to do at home, such as preparing and recording movies (Defour, 2013). Teachers who like quiet classrooms may find it difficult to conduct collaborative evaluations. While cooperation is an important part of flipped learning, students may struggle on standardized assessments separately. The flipped learning does not straight remove learning in the classroom. Instead of spending some time with all learners in the classroom, this technique maximizes the time spent with each student (Hamdan et al., 2013; 15).

The need for technology raises the cost. People who study through videos could not ask questions, have trouble maintaining relationships between topics, and thus struggle to learn even if there's no internet service or computer (Asif et al., 2022; Jenkins, 2012; Duerden, 2013). Students may protest this new strategy because they will be exposed to the course content for the first time beyond the class. They might show up to class unprepared for active learning. This problem can be overcome by studying subjects from recordings or books outside of class, as well as taking online or in-class tests (Herreid & Schiller, 2013; 62).

The foundations of the flipped learning can be understood in two science teachers who have used video lectures to deliver coursework to higher level students who were unable to attend classes (Bergmann & Sams, 2014). The use of the flipped classroom learning as another way to common leaning environment has been more fascinate the attention of researcher and educators.

According to definitions, flipped learning is defined as flipping the instructional method in the school setting by utilizing innovative technical resources in the preparation and presentation of courses. The role of teacher in this strategy is that of a conciliator or facilitator encouraging pupils to study through provided sources outside of class time. The flipped learning approach is generally classified as a teaching method because it incorporates both learning strategies as well as forms of technology to educate learners (Arnold-Gaza, 2014).

The key idea of the flipped learning method is to ensure improved understanding and retention of knowledge gained through flipped learning beyond the class while completing the facilitator (Herried & schiller, 2013).

Flipped classroom clears consequence of student educational achievement Asiksoy & Ozdamh (2016). Flipped learning is an impressive solution to some situations of student's hesitation, misunderstanding and content doubts (Halili & Zainuddin, 2015). Using flipped learning as a learning approach will make students accountable to students and knowledge and communication skills will be enhanced when they are provided with videos linked to the lesson (Overmyer, 2012). Almusawi conducted the purpose of the study to assess the effect of a flexible learning approach on the acquisition of spatial concepts and the development of new thinking among students. After reviewing the previous studies, the researcher did not find the importance of flipped learning during COVID-19. Therefore, this study about the importance of flipped learning during COVID-19.This study about the difficulties to face the teachers and students take the classes through flipped learning during COVID-19. This study is perception about the flipped learning during covid-19 pandemic at higher education. Innovative skills like research project skills vital thinking and artistic skills.

The findings show the flipped learning has a positive perception in education at higher level (university level) in Islamabad. In past there is a lot of work on the flipped learning on different stages. Various studies with the Flipped Classroom learning technique demonstrate its usefulness and promise for enrolled student learning (Brewer & Movahedazarhouligh, 2018). However, the perspectives of a group of university students

who were closely engaged in the event were considered in this study. The perceived value of Flipped Learning has been examined. (Crimmins & Midkiff, 2017; Thai et al., 2017).

The findings demonstrate that the flipped learning was a pleasant and pleasurable environment for the students. At university level mostly students take interests in studies through flipped learning.

Research Methodology

Flipped learning is an activity to recall what has been done outside the classroom, and evaluate the process of learning itself. An objective of methodology of this research consists of the research techniques, which were used for the data collection. A method of solving an issue is known as research methodology. Methodology is involved on the research of those study's tools and methods which will approach be used by researcher throughout field work. Researchers by using quantitative approach.

Research Design

The Present study was descriptive in nature.

Population

The population of this study comprised of BSCS (Computer Sciences) department students which were selected conveniently from the two HEC recognized universities that are NUML and QAU. The total number of students enrolled in these universities in BS Computer science department was 990. In NUML 350 students were enrolled in BS.CS department. In QAU 640 students were enrolled in above mentioned department.

Table 1

Population of the study

Institutions	No. of boys	No. of girls	Total students
Quaid-i-Azam University, Islamabad	395	245	640
NUML University, Islamabad	189	161	350
Total	**584**	**406**	**990**

Sample

Students were selected through proportionate random sampling. A sample size for this study was 278 students which were 35% of the whole population. On the basis of convenient sampling technique, the researcher selected 2 universities in Islamabad which includes NUML and QAU. The researcher selected 98 students from NUML including 49 girls and 49 boys while 180 students selected from QAU including 90 girls and 90 boys for the study.

Sample Frame

The sample was taken by using proportionate sampling technique. The sample was 278 which were the 28% of the total population (990).

Research Instrument

For data collection from students at university level the scale was used which consists of five points, SA (strongly agree), A (agree), N (neutral), D (disagree), and SDA (strongly disagree). 21 items were used. Research opinionnaire was used which is modified according to the objectives of the study.

Data Collection

Data was collected by visiting the selected universities personally. Data was gathered through questionnaire. Data collect in respective universities after taking the permission of administration. Randomly collect data from students 69 for girls and 70 for boys for selected universities.

Pilot testing

Before conducting actual research on sample data, the researcher conducts pilot study on 30 students of BS Computer Science department of COMSAT University.

Reliability

The reliability of the pilot test was analyzed by using the alpha Cronbach's formula. The data was arranged in the SPSS. The result of the data was 0.877.

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Table 2

Reliability Statistics

Cronbach's Alpha Score	No of Items
.877	21

Data Analysis

The collected data was analyzed by different statistical tools like, mean and t-test.

Table 3

Collected Data through Questionnaire

Sr. No.	Items	SDA	D	N	A	SA	Mean	Std. Dev
1	I feel that watching videos and taking notes contribute efficiently to video learning.	12	25	32	103	106	3.94	.81
2	With flipped learning model, I feel more prepared for my exam.	14	36	79	69	80	2.89	.56
3	I like watching the lessons on video	16	28	47	96	91	3.1	.65
4	I try to learn as much as possible while watching the videos.	10	20	48	113	87	2.91	1.0
5	I frequently pause or repeat parts of the videos to increase my understanding of material.	8	14	37	117	102	3.9	1.01
6	Learning foundational content prior to class greatly enhances my understanding of material.	9	17	71	93	88	3.15	1.0
7	Flipped learning gives me the opportunity to ask more questions inside the classroom.	20	38	72	68	80	3.46	.96
8	Flipped learning attracts my attention to learning and teaching process.	18	39	61	64	96	2.34	.85
9	Flipped learning can improve interest in exploring topics.	15	43	60	69	91	3.35	.85
10	I felt prepared to complete course tasks in class after listening to the video content.	14	26	69	86	83	3.28	.99
11	Flipped learning gives me less time to practice the concepts of course.	20	30	74	87	67	3.45	.81
12	Flipped learning reduces the effort to understand the basic knowledge of the subject matter.	21	39	67	70	81	3.45	1.02
13	I am more motivated to learn the concepts of course via the flipped learning.	21	42	71	62	82	3.48	.86
14	Flipped learning improved collaborative learning.	16	31	41	66	124	3.09	.81
15	Flipped learning can improve interest in class.	16	39	54	97	72	3.38	.79
16	I got the ability to self-pace my learning with flipped courses.	14	22	73	86	81	3.28	.81
17	Flipped learning gives me greater opportunities to communicate with other students.	19	36	68	72	84	3.39	.93
18	I feel that mastering learning through flipped learning improved my academic achievement.	22	47	60	64	85	2.48	.94
19	Flipped courses did not limit my interaction with instructors.	20	46	71	63	78	3.52	.95
20	I feel that mastering learning through classroom improved my understanding.	18	36	60	72	92	3.33	.89
21	Flipped classroom learning has reduced my dependency on the instructor.	26	36	66	68	82	3.48	1.07

The table above presents the results of a survey investigating student perceptions of flipped learning. Which indicates strong agreement among respondents regarding the effectiveness of watching videos and

taking notes in video-based learning and also reveals strong agreement that the flipped classroom model enhances exam preparation. Third item shows that a majority of respondents prefer learning by watching video lessons and also highlights that a significant number of students actively engage in learning while watching videos. Most of the respondents in our study frequently pause and replay videos to improve their understanding this indicates that learning foundational content before class significantly enhances students' understanding. Flipped learning provides students with more opportunities to ask questions in the classroom and reveals that the flipped classroom model effectively attracts student attention to the learning and teaching process.

The flipped learning improves student interest in exploring course topics and suggests that students feel well-prepared to complete course tasks in class after watching video content. The flipped learning provides students with sufficient time to practice course concepts and suggests that flipped learning reduces the effort required to understand basic subject matter. The flipped learning significantly motivates students to learn course concepts and also indicates that flipped learning improves collaborative learning among students. Flipped learning enhances student interest in class and also indicates that flipped learning provides students with the ability to pace their learning effectively and increases opportunities for student-to-student communication. Students perceive flipped learning as effective in improving academic achievement and indicates that flipped courses do not limit student-instructor interaction. The flipped learning enhances student understanding of course material and indicates that flipped learning reduces student dependence on the instructor.

The table above showcase the positive reception of flipped learning among students. The data consistently reveals strong agreement with statements highlighting the effectiveness of video-based learning, improved exam preparation, increased engagement, and enhanced understanding. Students reported benefiting from greater control over their learning pace, increased opportunities for interaction, and improved motivation. Furthermore, the flipped classroom model was perceived as fostering collaborative learning and reducing reliance on instructors. The findings suggest that students overwhelmingly favor flipped learning as an effective pedagogical approach.

Table 4

Descriptive Analysis

Gender	N	M	Std. Dev	t	Df	p-value
Male	139	49.72	13.793	1.205	276	.229
Female	139	47.76	13.266			

P<0.05**

Table shows that the mean of male was 49.72 and mean of female was 47.76. The p (.229) value was insignificant at p<.05. So that our null hypothesis that was there is no significant difference between male and female student's perceptions of flipped classroom during covid-19 was accepted and alternative hypothesis was rejected.

Summary

This study was aim to find the "perception of students (male and female) towards flipped learning during COVID- 19 Pandemic in Islamabad. In this study researcher was check the perception of flipped learning during covid-19. In this study researcher have work on two objectives. The first one is to assess perception of students about flipped classroom during covid-19. And the second one is to investigate whether there is any difference in perception of students according to gender basis. Flipped learning is the alternative of COVID- 19 Pandemic, which is an electronically aided method of learning. It is new way of enhancing the education system to a more inter-mutually approaches in which students the students and teacher co create the learning environment. For this, researcher used opinionnaire to find out the male and female students perceptions about flipped learning. Total number of students in BS- computer science department is nine hundred ninety. Sample of present study consisted of two universities, Researcher selected universities on the

bases of convenient sampling technique. After selecting the universities, 1-8 semester students of Bachelor of Sciences in computer science department from each university were selected on the basis on random sampling technique.

Researcher personally visits the BS- computer science department of Quaid-i-Azam University, Islamabad and NUML University, Islamabad. According to the target population researcher distribute the questionnaire and collect the data randomly.

Researcher used the Statistical Package for Social Sciences (SPSS) for further tabulation and statistical data analysis. The data was analyzed and presented in the form of tables. Independent sample t- test was applied to find out the difference between male and female students perception regarding flipped learning at significant $p<.05$. The result of the present study shows that there is no significant difference between male and female students perception about flipped learning.

Findings

The analysis of student perceptions regarding flipped learning, as presented in Tables 3, reveals a strong overall positive response. Students expressed significant agreement with the effectiveness of video-based learning, its contribution to exam preparation, and its ability to enhance student engagement. The findings also indicate that students value the flexibility and control afforded by the flipped learning model, including the ability to pace their learning and actively engage with course content. Furthermore, the data suggests that flipped learning fosters a more interactive and collaborative learning environment while simultaneously reducing student dependence on instructors. Notably, Table 1 indicates no significant difference in perceptions of flipped learning between male and female students during the COVID-19 pandemic.

Discussion

The findings show the flipped learning has a positive perception in education at higher level (university level) in Islamabad. In past there is a lot of work on the flipped learning on different stages. Various studies with the Flipped Classroom learning technique demonstrate its usefulness and promise for enrolled student learning (Brewer & Movahedazarhouligh, 2018). However, the perspectives of a group of university students who were closely engaged in the event were considered in this study. The perceived value of Flipped Learning has been examined. (Crimmins & Midkiff, 2017; Thai et al, 2017).

The findings demonstrate that the flipped learning was a pleasant and pleasurable environment for the students. At university level mostly students take interests in studies through flipped learning. The result of this research is work has been proved according to students flipped learning has positive consequences at higher education. The research has also found that there was no difference in point of view of male and female of students about flipped learning. According to this mostly students were agreed that flipped learning has a positive perception during COVID-19.

Conclusion

The conclusion drawn on the result of findings.

- Mostly university students have strongly agreed to perceptions about using the flipped learning during the COVID-19. Both students know about the flipped learning.
- Most of the students were agreed to use the flipped learning during COVID-19.
- Some minority students were not agreed to use flipped learning during COVID-19. But overall majority of students are strongly agreed to use of flipped learning during COVID-19.
- The findings also showed that the null hypothesis was accepted.
- It means that there is no gender base difference found in male and female.

Recommendations

The researcher proposed the following recommendations:

- It has been observed that during COVID-19 pandemic traditional classes turned to digital classes. So, it is suggested that possible solutions and effectives plans higher education commission to implement

the remote learning at higher education.

- The perception of the changes in the learning via online has affected the learning process, quality of education and learning performance. In this current study, students believed that digital learning is favorable to ensure the continuity of learning.
- Some students and also teachers don't know how to use the digital learning tools, so researcher suggested the take some time to students and teachers to give the training about use the digital learning tool. It will help to minimize the loss of education during COVID-19 or any causes which the universities were closed.

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