# A SURVEY ON THE STUDENT'S SATISFACTION WITH VIRTUAL LEARNING

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Virtual Learning Environments (VLEs) are web-based learning environments. This includes reading materials, online courses, instructive websites with independent skill tests, and other online environments that serve as an add-on to the curriculum. Student happiness with virtual learning is influenced by several factors. Students consider collaboration to be another crucial component of the online learning environment. As organizations and students have shifted to learning through virtual platforms and virtual management systems it have been revolutionized the whole infrastructure of Education system of a country or a particular area lot of studies have explored about the different aspects and different influences but they have not been a study which have able us to understand what kind of impact that is creating on students so in this study I'll be exploring what kind of impact that these virtual platforms have been creating on students. In this study I have used quantity to survey methodology where the survey questionnaires that have been formal from the server tool known as behavioral intentions have shared across the people of sample size of 14 which have been created by professor of the class. And these questions have been shared through Google form from the response collected have been linked to a Google sheet from there have applied Statistical analysis which is known as descriptive statistical analysis the mean after some of the responses as the responses is not clear and not able to get any insight out of them. 71% of sample are above the mean that means these percentage of sampler feeling comfortable using virtual platforms and the mining 29% of sample fields not a comfortable using virtual platforms. In the final results it says that majority of students are feeling comfortable using virtual platforms and minority of students such as students feels uncomfortable using virtual platforms. In conclusion, the majority of students are inclined to watch that they are comfortable using virtual platforms because they are resilience, easy to use and they have made their life easy because of COVID on the other hand the minority of students says that they are uncomfortable because they miss the general way of teaching and they miss human interaction so that their grasping power depends upon the practice that have been done with the help of the teacher.

**CCS CONCEPTS** • Online platforms•

**Additional Keywords and Phrases:** LMS,MooCs

## 1 INTRODUCTION

Effective use of appropriate media to promote interaction between teachers and students as well as among students can have a major impact on achieving the goal of effective outcomes for learning in courses [1]. Support for teaching, learning, and evaluation is the main goal, with an emphasis on coordinating, creating, and enriching these activities. The potential advantages include improved communication, enhanced engagement, and the use of synchronous as well as asynchronous collaborative learning methods. They also encourage the exchange of knowledge across international borders, a common enthusiasm, and the continual improvement of knowledge [2].

In the past, during the pandemic situation of covid 19, most people were used to virtual learning platforms because of the accessibility of online classes, and they gained information though they were in their own places. However, there may be some difficulties due to the internet connectivity issues[3]. Acquiring abilities, principles, and attitudes. To increase

students' capacity for learning, a range of approaches to instruction have been used to transfer knowledge. Virtual learning is a form of distributed education inside the traditional framework, where both in-person and online learning are integral to the educational process [4].

Students can now receive instruction online in different countries. A swift and dramatic response was necessary to stop the coronavirus from spreading further in the past, and this included assessing the following: instruction, the content of the course, student feelings toward the challenge of the material, opinions of students, and final evaluation [5].

Peer interaction is another area where traditional education and e-learning differ significantly. In conventional education, knowledge can be developed in an interdependent manner where behavior is shaped by the learning sources, learning. On the other hand, with e-learning, these kinds of learning opportunities are limited by the features of platforms like chat rooms and forums [6]. Online courses and programs have given virtual education an innovative aspect and brought up theoretical and practical concerns related to the interaction, and distribution of virtual instruction. The opportunities for online learning are growing because of evolving technologies, which are also affecting traditional approaches [7].

Cognitive ability refers to how well students can generate and validate meaning via extended contemplation and discourse, while social presence explains how well students feel socially and emotionally linked with others in an online context [8].

**Previous work**

Researchers have explored studies such as The use of virtual learning has revolutionized teaching methods in such a way that they have been using artificial intelligence applications in these virtual learning platforms [9]. One of these studies concludes that deficiency of using online platforms have been increased and that have made a great impact on student grades. One of the studies concludes that the usage of these virtual learning platforms and virtual learning services has made great impact and which helps the teachers to reduce their workload and the usage of different interfaces makes the students to allure towards them [10].

As institutions and students have shifted to learning through virtual platforms and virtual management systems it have been revolutionized the whole infrastructure of Education system of a country or a particular area lot of studies have explored about the different aspects and different influences but they have not been a study which have able us to understand what kind of impact that is creating on students so in this study I'll be exploring what kind of impact that these virtual platforms have been creating on students.

### 1.1Research Question

How do students feel comfortable and satisfied with the virtual learning environment?

## 2 METHODOLOGY

Using a quantitative survey research methodology that I adapted from the study paper "Software as a Service (SaaS) Cloud Computing: An Empirical Investigation on University Students' Perception," I have conducted this survey [16]. Our professor suggested this paper as a great instance of quantitative analysis.

### 2.1 Sample

The survey questions were chosen as the initial phase in this process. I then carried out the survey among samples. The Fall 2023 semester MSIT students at the University of Cincinnati, were divided up into many groups by our lecturer. There are approximately 140 students in our class. The lecturer used a method known as random sampling to form these groupings. There were 14 samples(N=14) in each group, including me. Thus, 14 out of 100 samples, or 14% of the sample, were chosen to take part in the poll. These samples function as sample frames and provide the data for the survey.

### 2.2 Measures

A questionnaire for the survey was generated to assess the students' perceptions. Incorporating the BI model's statements, I structured the survey using the Behavior Intention (BI) model in this section. The model was modified based on the case study that our instructor gave in a presentation titled "Software as a Service (SaaS) Cloud Computing: An Empirical Investigation on University Students' Perception" [16]. Responses are collected on a 5-point Likert scale in the survey, which was conducted using Google Forms.

### 2.3 Design

All of the samples for the survey received the Google Form, which has sophisticated analytics tools.The Likert scale serves as the framework for the survey, and a 5-point rating system is used to get responses from the samples. With five points, strong agreement is the greatest, while strong disagreement is the lowest, with just one point.Following the design of the Google Form, all participants received it via email, and their comments were properly entered into an Excel to get beneficial findings, a quantitative analysis was then carried out.

### 2.4 Procedure

On October 14, 2023, the Google Form was mailed to each of the chosen participants separately. I also gave the samples some reference articles as part of the distribution. Some improvements were made to the survey based on the initial replies that were received. An email reminder had been sent on October 18, 2023, requesting that participants complete the form faster. On October 23, 2023, final calculations and data processing were completed. Appendix A contains the Google Forms questionnaire used to collect the data. A thorough analysis of all the information gathered from Google Forms was carried out to arrive at a conclusion and required statistical computations.

## 3 RESULTS

A thorough review of the Google Form survey replies was done to gather the data that was required. An Excel sheet was used to carefully go through each participant's response. To present their ideas, participants used an evaluation system

and a questionnaire that were sent. A quantitative analysis approach was used to assess the assertions made, and each response was carefully recorded in an Excel file.

The frequency of each response was calculated during the process of analysis. An overview of the sample frequencies is provided in Table 1 below. Statistical values were then calculated for each of the four behavioral metrics that were supplied.

Table 1: Responses of the sample

| BI questions | Sample - 1 | Sample -2 | Sample-3 | Sample - 4 | Sample - 5 | Sample -6 | Sample -7 | Sample - 8 | Sample-9 | Sample-10 | Sample-11 | Sample-12 | Sample-13 | Sample-14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BI-1 | 5 | 4 | 5 | 5 | 4 | 5 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 5 |
| BI-2 | 5 | 5 | 5 | 4 | 5 | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 |
| BI-3 | 5 | 4 | 5 | 4 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 4 | 4 |
| BI-4 | 4 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 5 | 5 | 4 | 5 | 4 | 5 |
| Total | 19 | 18 | 20 | 18 | 19 | 18 | 16 | 18 | 20 | 18 | 16 | 19 | 17 | 18 |

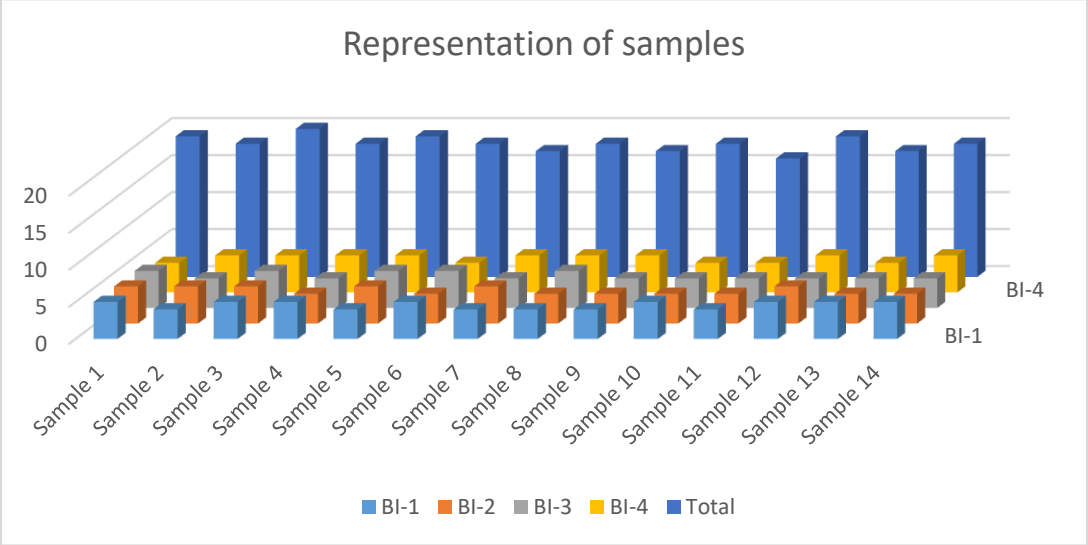


Fig 1 responses of samples

The total of responses of the each sample that we got are 14,16,7,15,18,19,18,16,14,18,11,12,9 where these values are used to asses the compound result of ATT and we will be using mean as a central tendency to be a threshold to calculate the total number of people before doing that I have calucalted different statistical measures such as mean, median,mode, min,max, standard deviation and standard error. All these have been redpresented in the below table 2.

Table 2:- statistical measures

| Statistical term | value |
|---|---|
| Mean | 18 |
| Median | 18 |
| Mode | 18 |
| Standard deviation | 1.22 |
| Standard error | 1.566 |
| Min | 17 |
| Max | 20 |

The behavior intention model was utilized to distribute survey questions to samples, as indicated in Table 2. The frequency data gave the results of the responses to the survey. The results of the values and statistical measures based on these frequencies are calculated and are shown in Table 3. Utilizing the Excel sheet for the quantitative analysis, these statistical calculations were made.

When all of the samples were combined, I found that the sample data repeated two quantitative numbers; the mode, or 18, may be defined as this. Considering this, the sample can display repetitive behavior. I arrived at the mean value of 18.3 by dividing the total number of sample values (183), which we obtained by adding up all the sample values. The data (19,18,20,18,19,18,16,18,20,18) and the formulas on the excel sheet as=STDEV ("sampling range") were utilized to calculate the standard deviation, and the outcome was 1.2516656. Using the formula =var("sampling range"), we also computed the variance; the outcome was 1.5666667.

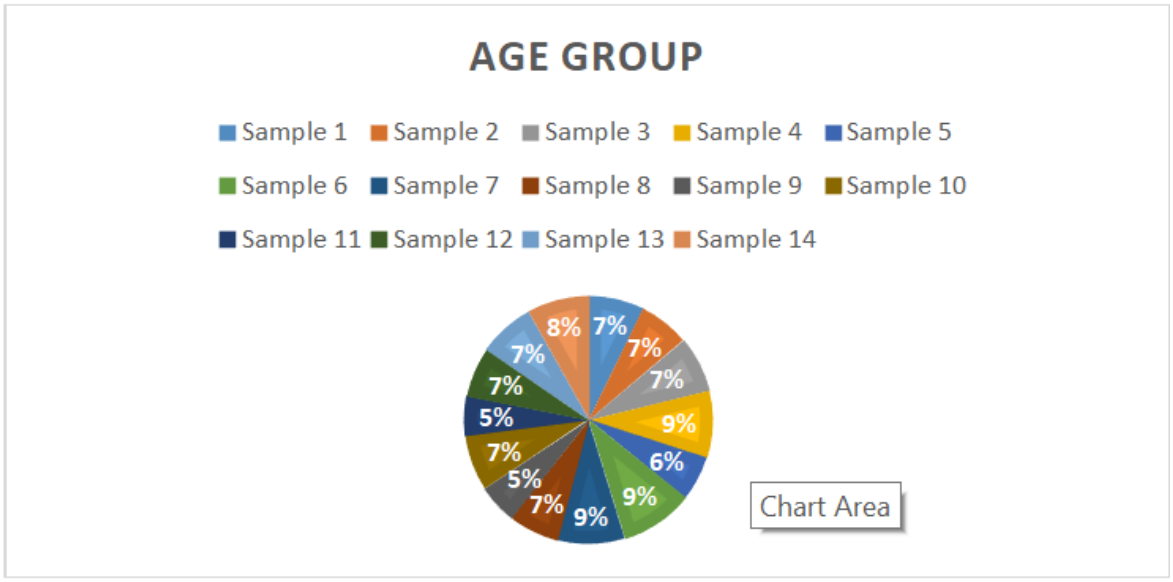


Fig 2:- age groups

As the mean of this distribution where sum of samples of each response I will be using this mean to divide the participants into two different classes where the first class will be the people who have been the sum of responses are

above the mean and the next class will be below the mean and the below graph will be showing the insights of the main distribution.

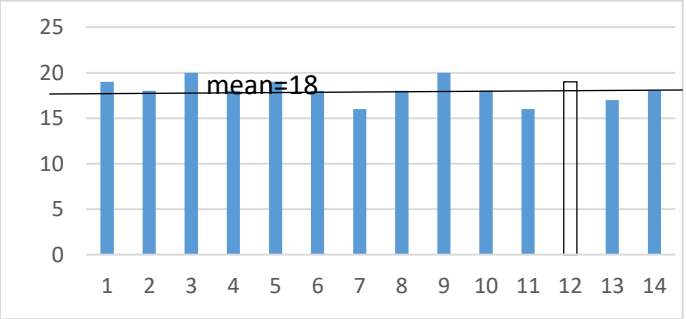


Fig 3:- mean and sum of reponses

In the above graph vacancy there are 10 participants who are favorable and above the mean which means majority of participants on the sample are inclined towards the behavioral intention. 71% of sample are above the mean that means these percentage of sampler feeling comfortable using virtual platforms and the mining 29% of sample fields not a comfortable using virtual platforms. In the final results it says that majority of students are feeling comfortable using virtual platforms and minority of students such as students feels uncomfortable using virtual platforms.

## 4 DISSCUSSIONS

After applying the survey methodology and descriptive statistical analysis the results are turned out to be majority of population feels comfortable using virtual platforms to learn and getting benefited from them and minority of students feel uncomfortable from them. Because elements like the caliber of online interactions, the potency of teaching strategies, and the flexibility of the learning environment can all have an impact on how satisfied students are with their virtual learning experiences [11]. Students who suffered from the COVID-19 pandemic mainly benefited because of the virtual learning outcomes [12]. Because of this online platforms it takes of flexible and reliable to understand and apply different learning models to improve the way of teaching these are the reasons why lot of students opted and shown their comfortable towards using online platforms [13].

On the other hand it is stated that a minority of students which is 29% has shown that they are not comfortable using virtual platforms because they might not feel this is so feasible because of the traditional learning methods that they have been following from many years make them feel uncomfortable about this [14]. Students tends to understand through practice and listening to the classes on ground so this virtual platform adoption made them feel uncomfortable because there is no need of teacher student interaction lively [15].

In conclusion, the majority of students are inclined to watch that they are comfortable using virtual platforms because they are resilience, easy to use and they have made their life easy because of COVID on the other hand the minority of students says that they are uncomfortable because they miss the general way of teaching and they miss human interaction so that their grasping power depends upon the practice that have been done with the help of the teacher.

## Limitations

The limitations for this study are the students that have been through the survey and we also have only express not uncomfortable manner but there might be a chance where the students are neutral towards using virtual platforms and the study has a limited sample and the study has limited scope of sample frame so these are the limitations for this study.

## External validity

The results of the study may differ there is any change in sample with respect to size or the frame of the sample across the world anywhere at any organization.

## Internal validity

The question is that have been created and used in this study are derived from Servital which is known as behavioral intentions and the people that have been a part of this study are the students who have used virtual platforms and also have expertise in virtual platform development so the responses from these students are reliable and valid so this paper and studies valid.

## Reliability

In this study I have used proper standard methodology such as quantitative survey methodology and for analysis I have used descriptive statistical analysis which are standard methods to do and realize the results. These above mentioned methodologies have been used in lot of acm journals. The question is that have been used are also derived from standard survey tool and the people that have been shared the questioners have knowledge in virtual platform so by the above information I can say the paper is reliable..

## Ethical challenges

I've followed all the general strength procedures for this study and have not reached any kind of ethical integrity before taking the survey I have taken concern with the sample and make sure that the data is protected and I will be removing the data after 15 days of submission date we will stop I have not faced any kind of ethical challenges while I am doing this

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# A APPENDICES

Below is the interview script for survey.

Hello, I have texted because we are from same group please fill this form.

## A.1 Interview Questions

What is your age group?

18-22

22-27

Above 27

What is your gender?

Female

Male

Do not provide.

Table : BI constructs

| BI constructs | Description |
|---|---|
| BI1 | Intend to utilize online learning for their education. |
| BI2 | I will strongly recommend maintaining an appropriate internet and online presence throughout virtual learning |
| BI3 | I plan to do e-learning courses and certifications to improve my skills. |
| BI4 | Assuming that I do have errors or doubts, I feel comfortable with connecting with the instructor or chat rooms to discuss |
| Source | (Huang, 2016; Renda dos Santos & Okazaki, 2016; Taylor & Todd, 1995) |