

# “ Statistical Analysis of effects of Real versus Online Teaching Over the World during Lockdown”

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**Abstract**— educational institutes, coaching centers, Universities, Organizations, research labs are closed and are operating in online mode. This is a sudden change from normal to online learning with basic amenities present or absent with the faculty as well as by the student. Within this limited scope online teaching was affected and could not find a place in comparison to the normal real time classes. This may have many reasons but now its time to interrogate applicability of the virtual world in the real world for sharing education.

For this a survey was conducted in online mode, receiving feed back from various students belonging to engineering, medical, Law, research, biology, genetics, hotel management, paramedical, Architecture, nursing etc. The responses were analyzed for the maximum choice for real v/s online classes.

Data collected from 900 students worldwide from all streams. Comprised of Months from January 2020 to 18<sup>th</sup> April 2020. (lockdown period) Methodology involved of getting feedback from questionnaire through Google forms. Feedback was taken from India, UK, USA, Australia etc.

From the survey it was revealed that online classes failed to gather the attentiveness of the students and real classrooms were preferred by 86 % of the students. Disciplined classes, eye to eye contact, doubt clearing, single point and focused education in real classroom were preferred over homely, unattended, formal and distractive online classrooms. Though the teaching was not affected by the faculty, students admitted their less or no attentiveness in the online classes and taken to be as formality of sake of attendance means.

Finally the study revealed that some subjects and courses cant be taught in online mode fully. Most of the practical's, discussion, suggestions and improvements need to be done practically with presence of classmates and teachers.

**Keywords**—online education, real class room, performance

## I. INTRODUCTION

The world is undergoing a sudden pause of unknown timeline to fight against the invisible Pandemic disease called as COVID-19. Life has been on stand still for many and routine activities have completely changes. Advanced countries as well as Developing countries are facing health issues, technology issues, Social, economical and Educational issues. Many Countries have opted for Lock down strategy the only way to stop or limit this virus from spreading into human and others. This step being the only solution for spreading the pandemic has stopped many Industrial and commercial professions. But thankfully education has found a way out with the help of technology to combat the comeback in field and continue to educate the students from home itself.

Since the lock down was enforced drastically in many places, Universities and Institutions could not prepare technically well for this situation and faculty/students are left with available resources to continue their syllabus.

The world is locked down but not the life, not the work, not the education, not the happiness not the sorrows and not the hope to win. But technology is being depended by many stranded either for Medicines, groceries, online orders, bill Payments, vdo calls, hospitality etc. Education has also found a gateway to teach with online classes.

Hence a survey was done to analyze as to what are the observations and experiences of the students and teachers in this online platform teaching learning module. Since the classes are taken from home, many interferences and limitations occur to teach and learn from home. Everyone is trying his or her best to consume, spend, overcome and manage the difficulties in this lockdown situations. Limited resources, inefficient equipment's and many such hurdles are coming in everyone's life. Necessity of proper space, Light, electricity, Wifi, Laptop, Mobile, Apps, camera, audio, signals, storage, transfer, stationary etc are the basic things disturbing the course along with the ability of teacher to explain and students to concentrate on lecture while sitting in home surrounded by daily activities and family members in home.

## II. METHODOLOGY

### A. ONLINE CLASSES

Online classes with the limited resources available at home or the place where they are locked.

Managing studies in such situations is not only difficult but also a challenge to give best virtually. Its not impossible but difficult to switch from real classrooms to an virtual one as there is no eye contact, no expressions seen, no questions asked, no hand raised, no mob seen, no atmosphere built and only talking to screen with students online.

Same is with the students side also. They are finding difficulty in adjusting to the Digital classes. The environment of a real class is different and that of a Digital class is different.

### B. REAL CLASSES

In real class you follow a discipline, dress code, time slot, attendance, drawing in class itself, making notes, asking doubts, talking with friends, asking teacher, interacting with all etc.

In Digital classroom, you are at ease from homes, not ready as you get for college, you know this class is for limited time, you have internet issues, laptop desktop availability is an issue, electricity, house hold activities in background disturb a lot. And many more

### C. SURVEY (ONLINE)

Methodology to compare the two scenarios and get the feedback for the best fitted method of teaching consisted of prime limitation to depend on online survey of students in lock down. Hence google form was circulated in Cities and universities along the world mostly in India to get affirmative feedback regarding the pros and cons of both teaching methods. Around 900-1000 students participated in this survey from different back ground and colleges. The students who participated belonged to almost 21 colleges in India and Abroad.

#### a) QUESTIONNAIRE

**The questionnaire consisted of following points :**

1. Name
2. Semester
3. College
4. Mobile Number
5. Email address
6. On scale of 0-10 is Real classroom better than Digital classrooms
  1. What are the advantages and disadvantages of real class room

Options ( answer in true or false )

- We cant concentrate inside classroom
- We can interact with each other as well as with teacher in real time

- We have to be in collage for classroom studies
- Too much time wasted in real classrooms
- We can ask doubts in class itself
- All equipments are available in classroom
- No distraction during the class
- Real Classrooms maintain a discipline to follow

8. What are the advantages and disadvantages of online classroom

Options

- Online classes are taken very lightly by students
- Conformable environment at home for online class.
- We can interact with teacher any time
- Internet connections is a problem to attend online classes
- Household activities create disturbance in online classes
- Facilities of all course related equipment's not available
- Misuse of laptop and phone to create disturbance

9. Rate how well faculty explains topics in online classroom

- Options
- Excellent
- Good
- Fair
- Poor

10. What do you finally prefer

Options

- Online Classroom
- Real classroom

This data as collected in 8 days and was analyzed for the preference by using empirical formulas and excel logarithms for the most voted factor. Conclusions were made on basis of observations and analysis.

### III. DATA ANALYSIS

Around 900 Google feedback forms were collected

Data collected comprised of the following colleges .

- a) School of Architecture , LNCT University Bhopal .*
- b) IPS Academy, Indore, India*
- c) Jai Narain College of Technology, Bhopal, India*
- d) L N ayurved college Bhopal, India*
- e) L N NURSING college Bhopal, India*

- f) *Lakshmi Naraian college of technology. India*
- g) *LN PARAMEDICAL COLLEGE, India*
- h) *MANIT, Bhopal, India*
- i) *MITS Gwalior, India*
- j) *Rishiraj collage of dental science and research center Bhopal*
- k) *School of Pharmacy, LNCT University, Bhopal*
- l) *UMCS, POLAND*
- m) *University of Glasgow, SCOTLAND UK*
- n) *UPID, Noida*
- o) *West Bengal national University of juridical sciences*
- p) *GTech, GEORGIA*
- q) *LNCT UNIVERSITY BHOPAL INDIA*
- r) *DC Patel School of Architecture*
- s) *BMCA , Bhopal*
- t) *APIED, VallabhVidyanagar, Anand, Gujarat*

**IV. OBSERVATIONS:**

Students feedback from various universities was collected and analysed empirically for the best fit observations . The feedback was arranged in sequence of the answers and related feedback and opinions.

*1) Observation 1*

On scale of 0-10 is Real classroom better than Digital classroom

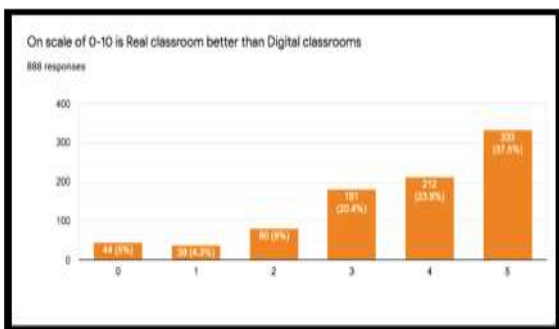


Fig. 1 : Rating out of 1 to 10 for real classroom is better than Digital.

*2) Observations 2*

What are the advantages and disadvantages of real class room

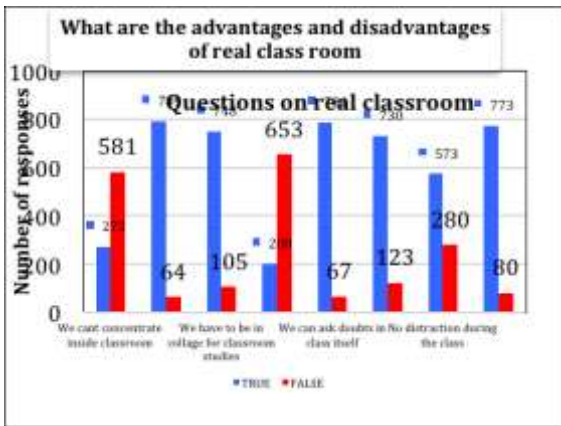


Figure 2: Advantages and Disadvantages of Real Classrooms

3) Observations 3

What are the advantages and disadvantages of online classroom

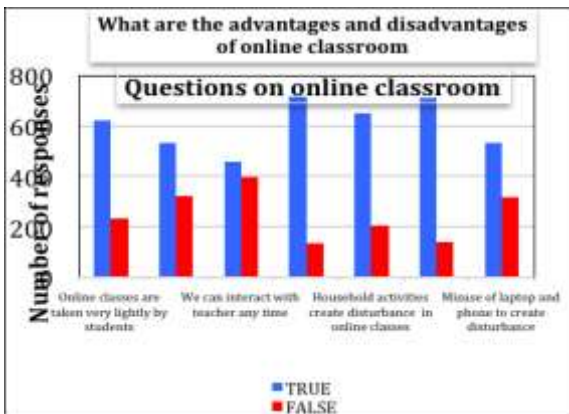


Figure 3 : Advantages and Disadvantages of Online Classrooms

4) Observation 4 :

Rate how well faculty explains topics in online classroom



Figure 4 : Faculty performance in Online Classroom

5) Observations 5 :

Rate how well faculty explains topics in real classroom

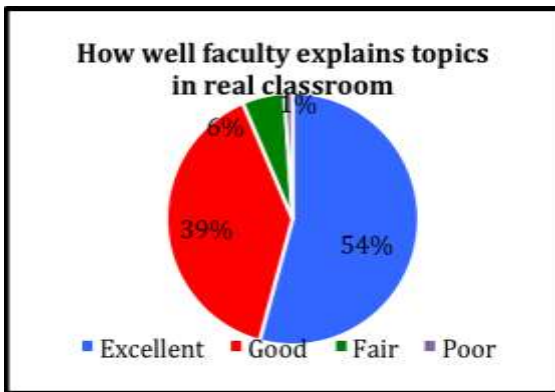


Figure 5 : Faculty performance in real Classrooms

6) *Observations 6 :*

What do you finally prefer Real or Digital

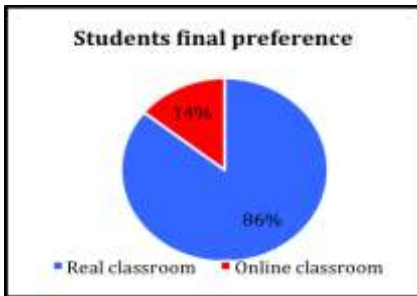


Figure 6 : Final preference for real v/s Digital Classroom

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**V. CONCLUSIONS**

Conclusions on the basis of the observations from Figure 1 to 6 shows that

**A. REAL CLASSROOM are better than Digital classroom**

Advantages

1. 86 % of Students preferred Real classrooms as best for teaching learning purpose.
2. 75-90% students felt that their concentration in real classroom is better than online classrooms.
3. 75-80% students felt that there is least disturbance despite of whole class in real classrooms.
4. 95% students opinioned that Discipline and Atmosphere of a real classroom is beneficial for concentration and formal teaching.
5. 80% students could get their doubts cleared in the real classroom itself.

Disadvantage of real classroom :

6. Time wasted in transportation to college to and fro.

**B. DIGITAL CLASSROOM have certain limitations**

Advantage:

1. Comfort level in home is better than home and time saved in transportation.

**Disadvantage of Online classrooms**

2. Internet connections, wifi availability is the prime problem for attending Online classes.
3. Absence of Proper equipment's, practical's make the online class less useful and less attentive.
4. Household activities are a big disturbance in the online classes schedules.
5. Eye to Eye contact with faculty is missing in online classroom

**C. Faculty performance in real classroom**

Many faculty's are not trained to teach online hence 49 % students felt that teaching is satisfactory to fair in the online classroom due to unavailability of tools and equipment's and training to teachers.

Where 89% students felt that in Real classroom faculty perform excellent to good. with confidence, detailing , example's, doubt clearing and experimenting methods

**D. Final Preference Correlation :**

86 % Students finally preferred to learn and get education in Real Classroom where as only 14 % opted for online classrooms.

This concluded that Real classroom has that ambience, Atmosphere, equipment's, experience and confidence in teachers and infrastructural support for taking better classes.

Online classes are only a formality and medium to be opted when Real classroom cannot be conducted but it can not replace real classrooms until and unless surroundings, infrastructure, teachers training and many other things are amended for them to be suitable for education .

**VI. REFERENCES**

1. Google form Link : Date 12:04.2020 to 16.042020 ( Data Collected)

Dear Students , Kindly fill out this Assessment Form before 16th April 2020, based on your experience during Lockdown period for your views on Online classrooms v/s Real class rooms: <https://forms.gle/DqM8qczpPRqGnrTX9>