Effective Medium of Online Classroom Communication During the Covid-19 Pandemic

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ABSTRACT
Covid-19 has changed the world for good. With people having reinvented their lives subject to the advent of the Coronavirus, humanity has taken a sharp turn. Educational delivery has been one of the primary areas that has practically witnessed an overnight transformation. From offline classroom-centric education, educational institutes suddenly turned towards online education for the sustenance of the teaching-learning process. As it is, online education was largely untested when it was introduced towards the beginning of the pandemic and both teachers and learners were all at sea. However, with time, like everything else, things were normalized and newer mechanisms were invented to make online classes more interactive and educative. It needs to be understood here that the technology that was used for the conduction of online classes existed even before the pandemic. However, most of these technologies were only sparingly used. However, Covid-19 hastened up the pace at which these technologies were internalized by educational institutions across the globe. In short, these technologies acted as the game changers in the field of education. Teachers, who initially found it difficult to cope with the sudden infusion of technologies, eventually made peace with the reformation. However, as online blended education is still a novel concept, teachers are experimenting with the medium and mode of communication in order to make the teaching-learning process more fruitful. The researcher in the given scenario has made an honest attempt to deconstruct this change and find out the pulse of the learners vis-à-vis the desirable communicating medium when it comes to online classroom communication. The current study is based on a survey conducted among undergraduate and postgraduate learners of a certain university.

Keywords: Online Education, Technologies, Classroom Communication, Covid-19, Coronavirus

Introduction:
It wouldn’t be an exaggeration to say that the meaning of human civilization stands changed in the face of the Covid-19 pandemic. The new normal has permeated all areas of human operation. Education as one of the most important areas of human progress has also witnessed a drastic change. No longer do teachers and learners congregate in a classroom to take the baton of education forward. No longer do teachers use the whiteboards inside a classroom to explain a complex concept. The digital space has replaced the physical space and questions such as “Can you hear me?” and “Can you see my screen?” have replaced questions such as “Do you follow me?” and “Can you read what I have written on the whiteboard?”.

The changes can be understood only through a revolutionary lens as the pace at which the entire process transformed has been immense. Many people were of the opinion that the changes that have happened in the educational sphere are irreversible as online blended education is the way forward. From being a teacher-centric process, online education has made education a learner-centric process. On top of that, there are multiple other advantages that online education offers without an iota of doubt. Online education has made the teaching-learning process more transparent that what was the case earlier. The ingrained archival facility in online education has made it easier for learners to go back and refurbish their knowledge whenever they want to. Online education has also removed
boundaries when it comes to learning. Now, a teacher from Australia can impart lessons to a learner sitting in Somalia. Learners can now access lessons at their own pace and time. Most importantly, now learners don’t have to waste time commuting.

Having listed the advantages of online education, there are some distinct disadvantages as well. While innovators from across the globe are trying to sort these lacunae, the fact remains that at this point in time, the said problems do exist. Scientific, technological and vocational education has taken a hit. Not always is it possible to replicate real workstations and laboratories with virtual laboratories and virtual workstations. For example, a medical learner would find it extremely difficult to continue her/ his journey in the current environment. These disadvantages apart, there is a real problem vis-à-vis the communication aspect. How would a teacher communicate effectively with the learners? What are the psychological aspects that a teacher needs to remember while communicating with the learners? How would lessons be easier to understand? These are quintessential questions that need to be answered in order to find out the effective medium of communication while delivering education through the online mode. Also, with Covid-19 raging in the background, the learners at times suffer from a deep psychological fatigue. The teacher needs to be mindful of that too while delivering her/ his lessons. The current study tries to decode online classroom education and find out the effective medium of communication so that all the associated aspects are kept in consideration.

Research Objectives:

1. To identify the acceptability of online classes based on technology and environment.
2. To identify the reasons as to why the learners prefer to keep the camera off and how they solve their doubts post class.
3. To identify the learners’ points of view about the effectiveness of online classes.
4. To identify the preferred medium of communication during and after online classes.

Research Questions:

Objective 1

1. What are the different types of internet connectivity and devices mostly used by learners? Are the learners satisfied with the online classes?
2. Do the learners have supportive environments at home to attend the online classes?
3. Do the learners prefer live classes or recorded classes? What are the impacts of live classes and recorded classes on how the learners absorb the lessons? What is the preference of the learners to see the recorded lectures?

Objective 2

1. What are the key reasons as to why the learners prefer to keep their video camera off while attending the classes?
2. How do the learners clarify their doubts concerning the class content?

Objective 3

1. Do the learners get distracted while attending online classes?
2. Do the learners feel that online classes truly deliver lessons? Do online classes lack personal touch? Is there any association between the delivery of lessons and personal touch?
3. What is the preferred duration of online classes? Are the learners doing self-study after the class?

Objective 4

1. What is the preferred medium of online communication after the online classes get over?
2. Do the learners prefer chat window as a communication platform? Do the learners feel that there is a necessity of a telephonic call with the instructor?
3. On a scale of 1 to 5, how do learners rate the effectiveness of online classes.
education with 5 being the highest and 1 being the lowest?

**Review of Literature:**

There is a paper that tries to understand the impact of online education on the overall ecosystem of education. Titled ‘Dialogue, Inquiry, and Encounter: Critical Geographies of Online Higher Education’ and penned in 2017, the paper by Lily A. House-Peters, Vincent J. Del Casino Jr. and Catherine F. Brooks argues that online education has the potential to challenge the very assumptions of conventional classroom practices. The paper further says that online education can enable the possibilities for new and silenced voices to engage in meaningful conversations pertaining to the complexities of the everyday world. In very simple words, the paper says that online education can add diversity.

There is another paper that explores the effectiveness of online classes in delivering course contents. Titled ‘Can Online Courses Deliver In-class Results? A Comparison of Student Performance and Satisfaction in an Online versus a Face-to-face Introductory Sociology Course’ and penned in 2012, the paper by Adam Driscoll, Karl Jicha, Andrea N. Hunt, Lisa Tichavsky and Gretchen Thompson argues that online education can prove to be equally effective when the online course is crafted on the basis of appropriate pedagogy. The study further proves that students were equally satisfied in both online and offline classes and the online classes were able to promote effective learning.

Another very interesting paper looks at the factors that influence students’ satisfaction in offline learning influence the conduction of online learning as well.

There is a paper penned in 2007 that tries to find out the effectiveness of e-learning and the extent to which e-learning works. The paper titled ‘How Do We Know E-Learning Works? Or Does It?’ and authored by Kar-Tin Lee and Jennifer Duncan-Howell argues that different e-learning courses demand different approaches and there is no one-size-fits-all approach. However, what the study confidingly says that a blended approach to education is probably the best way to go about it. According the researchers in this case, e-learning should be a part of a bigger conventional model of education to be most effective.

Another paper by Michael Corry, Robert Ianacone and Julie Stella emphasizes on identifying the best practices in delivering online education. This paper penned in 2014 and effectively titled ‘Understanding Online Teacher Best Practices: a thematic analysis to improve learning’ argues that teacher flexibility, clear communication, relationship building and personalized learning could be considered to be the leading practices in enhancing the quality of online education. The paper further says that innovation and globalization also play critical roles in improving the student experience. Thus, it becomes clear that the best practices in online education isn’t radically different from the best practices in offline education.

**Methodology:**

The researcher conducted a survey among 500 students and obtained a sample of 216 responses from the students of a university who are pursuing their graduation and post-graduation degrees. The researcher used survey questions for quantitative research and open-ended questions for qualitative analysis. Both survey questions and open-ended questions were part of a unified questionnaire that was distributed amongst students. Simple Random Sampling was done for the study. Let us look at the tables and figures given below to understand the sample.
Basic Demographics of the Respondents

Table 1
Break-Up of Respondents according to Age

| Age         | Number |
|-------------|--------|
| 18 Years    | 23     |
| 19 Years    | 74     |
| 20 Years    | 43     |
| 21 Years    | 42     |
| 22 Years    | 24     |
| 23 Years    | 6      |
| 24 Years    | 4      |
| Grand Total | 216    |

Figure 1

From the table and figure, the following conclusion could be reached:
- Among the total respondents, 34.25 per cent are 19-year-old.

Table 2
Course Pursuing

| Course Name | Number |
|-------------|--------|
| Graduation  | 190    |
| Post-Graduation | 26   |
| Grand Total  | 216    |

Figure 2

From the table and figure, the following conclusion could be reached:
- 88 per cent of the respondents are pursuing graduation courses.

Calculation of Sample Error
Population (N) = 500 (The total number of students to whom the survey was administered)
Sample (n) = 216
At 95% confidence level, z = 1.96
Probability of Simple Random Sample (p) = 0.5
We have to calculate Margin of Error (e)
Applying the formula of Sample Size
\[ n = \left( \frac{z^2 \cdot p \cdot (1 - p)}{e^2} \right) \]
Or, \[ e = \left( \frac{Nz^2 \cdot p \cdot (1 - p) - n[Nz^2 \cdot p \cdot (1 - p) - n]}{(N-1) \cdot n} \right) \]
At 95% confidence level, and adding the given values,
\[ e^2 = 0.0025 \]
Therefore, \( e = 0.0502 \)
Hence, at 95% confidence level, the margin of error is 5.02%.

Results and Findings:
Objective 1
Before getting down into the results, it is essential that one revisits Objective 1. Therefore, here it is:
Objective 1: To identify the acceptability of online classes based on technology and environment.
In order to decode the recorded data and arrive at some results and findings for the given objective, one can go through the tables and figures that are given below:
It is important to find out the answers to each of the research questions ingrained in Objective 1 in a systematic and objective manner:

1. What are the different types of internet connectivity and devices mostly used by learners? Are the learners satisfied with the online classes?

| Internet Connectivity | Laptop | Mobile Phone | Total |
|-----------------------|--------|--------------|-------|
| Broadband             | 103    | 21           | 124   |
| Mobile Internet (4G)  | 32     | 60           | 92    |
| Grand Total           | 135    | 81           | 216   |

Figure 3

From the table and figure, the following conclusions could be reached:
- 9.7 per cent learners are using mobile phones for attending the classes with broadband internet connections.
- 14.81 per cent learners are using laptop for online classes with mobile internet.

Table 3.1

| Satisfaction | Number |
|--------------|--------|
| Yes          | 71     |
| No           | 73     |
| May Be       | 72     |
| Grand Total  | 216    |

Figure 3.1

From the table and figure, the following conclusion could be reached:
- The learners gave an equal weightage on the satisfaction level for ‘Yes’, ‘No’ and ‘May Be’ for online classes.

2. Do the learners have supportive environments at home to attend the online classes?

| Supportive Atmosphere | Number |
|-----------------------|--------|
| Yes                   | 156    |
| No                    | 33     |
| Maybe                 | 27     |
| Grand Total           | 216    |

Figure 4

From the table and figure above, the following conclusion could be reached:
- 72 per cent of the learners get supportive atmosphere at home to attend online classes.
3. Do the learners prefer live classes or recorded classes? What are the impacts of live classes and recorded classes on how the learners absorb the lessons? What is the preference of the learners to see the recorded lectures?

**Table 5**

| Learners Being Distracted | Live Classes | Recorded Lectures | Total |
|---------------------------|--------------|-------------------|-------|
| Maybe                     | 29           | 10                | 39    |
| No                        | 37           | 4                 | 41    |
| Yes                       | 89           | 47                | 136   |
| Grand Total               | 155          | 61                | 216   |

**Figure 5**

From the table and figure, the following conclusions could be reached:
- 71.76 per cent of the learners prefer live classes.
- 41.20 per cent of the learners get distracted while attending live classes.
- 28.2 per cent of the learners prefer to view only recorded classes.

**Table 5.1**

| Preference                          | Number |
|-------------------------------------|--------|
| Yes, I want to see recorded lectures| 161    |

**Figure 5.1**

From the table and figure, the following conclusions could be reached:
- 74.53 per cent of the learners prefer to see recorded lectures.
- 8.7 per cent of the learners don’t want to attend live classes and prefer recorded lectures only.

**Objective 2**

Before getting down into the results, it is essential that one revisits Objective 2. Therefore, here it is:

Objective 2: To identify the reasons as to why the learners prefer to keep the camera off and how they solve their doubts post class.

In order to decode the recorded data and arrive at some results and findings for the given objective, one can go through the tables and figures that are given below:

It is important to find out the answers to each of the research questions ingrained in Objective 2 in a systematic and objective manner:

1. What are the key reasons as to why the learners prefer to keep their video camera off while attending the classes?

**Table 6**
Preference to Put the Video Camera Off While Attending Live Online Classes

| Preference | Number |
|------------|--------|
| No         | 71     |
| Yes        | 145    |
| Grand Total| 216    |

From the table and figure, the following conclusion could be reached:

- 67 per cent of the attendees prefer to keep the video camera off while attending live classes.

Some students say that videos can be distracting or psychologically disturbing. Also, some students don’t find it very comfortable. Moreover, they are also not very comfortable seeing their own faces on screen and at times they feel conscious. Another student adds that if all the students keep their camera on, then they feel distracted after seeing multiple faces.

A few students mentioned doing something productive or lying down for some time during the class.

One of the students believes that the other co-learners may take screenshots of his image on the screen which might not be presentable. Some students don’t want to show their background or the movements of the other members of the family. A lot of students don’t have their personal rooms and hence keeping the camera off keeps the privacy for their families. Some of their siblings may also attend online classes in the same room and thus saving internet bandwidth by keeping the camera off is necessary.

Keeping the camera on adds additional charge on data. As a result, some students prefer to keep the camera off. Another student says that the audio quality decreases by keeping the video camera on. One of the students said that keeping the camera on is a pointless task. Some students believe that it is not necessary to keep the camera on unless being asked by the instructor.

2. How do the learners clarify their doubts concerning the class content?

A lot of students want to clarify their doubts during the live interactive classes. They also prefer to have a separate doubt-solving session. Some of them want to clear their doubts by listening to the recorded lectures time and again. They feel that their concepts get clear with this practice.

Chatting over WhatsApp or emailing doubts to the respective faculty members are also some of the solutions given by the students. Comment section within the online class platform is another preferred option for a few students to ask their doubts.

A couple of students prefer to clarify their doubts through a phone call to the concerned faculty member.

Some students prefer to read the notes sent by the instructors. A weekly doubt clearing session is a preferred option among many students.

A few students said that the doubts don’t get clarified. Some other student said that there is no point to ask any doubt to the instructor.

Objective 3

Before getting down into the results, it is essential that one revisits Objective 3. Therefore, here it is:

Objective 3: To identify the learners’ points of view about the effectiveness of online classes.

In order to decode the recorded data and arrive at some results and findings for the given objective, one can go through the tables and figures that are given below:

It is important to find out the answers to each of the research questions ingrained in Objective 3 in a systematic and objective manner:
1. Do the learners get distracted while attending online classes?

   Table 7
   Learners Feedback of Getting Distracted During Online Classes

   | Status of Being Lost | Total |
   |----------------------|-------|
   | Yes                  | 155   |
   | No                   | 61    |
   | Grand Total          | 216   |

   Figure 7
   From the table and figure, the following conclusion could be reached:
   - 72 per cent of the learners get lost while attending online classes.

2. Do the learners feel that online classes truly deliver lessons? Do online classes lack personal touch? Is there any association between the delivery of lessons and personal touch?

   Table 8
   Learner's Acceptability for Online Classes to Deliver Lesson and Lack of Personal Touch

   | Deliver Lesson (Yes) | Lack of Personal Touch (Yes) | Lack of Personal Touch (No) | Lack of Personal Touch (Maybe) | Total |
   |----------------------|-----------------------------|-----------------------------|-------------------------------|-------|
   | Deliver Lesson (Yes)| 28                          | 14                          | 17                            | 59    |
   | Deliver Lesson (No) | 70                          | 2                           | 8                             | 73    |
   | Deliver Lesson (Maybe)| 74                         | 2                           | 8                             | 84    |
   | Grand Total          | 172                         | 18                          | 26                            | 216   |

   Figure 8
   From the table and figure, the following conclusion could be reached:
   - 33.7 per cent of the learners don’t believe that they are getting actual learning in this mode.
   - 79.62 per cent of the learners said that the online mode of teaching lacks personal touch.

   In order to find out an association between the delivery of lesson and personal touch, the researcher conducted Chi-Square Test.

   Hypothesis:
   $H_0$: There is no association between delivery of lessons and personal touch.
   $H_1$: There is association between delivery of lessons and personal touch.

   Observed Value:
### Table 9

| Duration of the Class | Self-Study after the Class | No Self-Study after the Class | Total |
|-----------------------|---------------------------|-----------------------------|-------|
| 1 Hour                | 35                        | 34                          | 69    |
| 1.5 Hours             | 17                        | 1                           | 18    |
| 2 Hours               | 3                         | 0                           | 3     |
| 45 Minutes            | 71                        | 55                          | 126   |

Therefore, since the calculated value is greater than table value, then we will accept alternate hypothesis. Thus, there is an association between delivery of lesson and personal touch.

3. What is the preferred duration of online classes? Are the learners doing self-study after the class?
From the table and figure, the following conclusions could be reached:

- 58.33 per cent of the learners prefer the class duration to be of 45 minutes.
- The same percentage of learners prefers to do a self-study after the online classes get over.

**Objective 4**

Before getting down into the results, it is essential that one revisits Objective 4. Therefore, here it is:

Objective 4: To identify the preferred medium of communication during and after online classes.

In order to decode the recorded data and arrive at some results and findings for the given objective, one can go through the tables and figures that are given below:

It is important to find out the answers to each of the research questions ingrained in Objective 4 in a systematic and objective manner:

1. **What is the preferred medium of online communication after the online classes get over?**

   | Communication Medium | Number |
   |----------------------|--------|
   | Chat Messengers (like WhatsApp) | 179    |
   | Email                | 21     |
   | Telephonic call      | 16     |
   | Grand Total          | 216    |

2. **Do the learners prefer chat window as a communication platform? Do the learners feel that there is a necessity of a telephonic call with the instructor?**
Table 11
Teaching Platform's Chat Window and Necessity of a Telephonic Call to the Teacher

| Chat Window | Telephonic Call (Yes) | Telephonic Call (No) | Total |
|-------------|-----------------------|----------------------|-------|
| Effective (Yes) | 33                    | 93                   | 126   |
| Effective (No)  | 15                    | 25                   | 40    |
| Effective (Maybe) | 13                    | 37                   | 50    |
| Grand Total     | 61                    | 155                  | 216   |

![Table 11](image)

Figure 11
From the table and figure, the following conclusions could be reached:

- 58.33 per cent of the learners say the chat window within the online teaching platform to be effective.
- 71.76 per cent of the learners say that there is no necessity for a telephonic call to the teacher post an online class to clarify doubts.

3. On a scale of 1 to 5, how do learners rate the effectiveness of online education with 5 being the highest and 1 being the lowest?

Table 12
Ranking of the Online Classes by the Students on a Scale of 1 (Lowest) to 5 (Highest)

| Ranking | Number |
|---------|--------|
| 1       | 23     |
| 2       | 52     |
| 3       | 83     |
| 4       | 50     |
| 5       | 8      |
| Grand Total | 216     |

![Figure 12](image)

From the table and figure, the following conclusions could be reached:

- 38 per cent of the learners gave a rank of 3 for online classes between the rank of 1 to 5 where 1 being the lowest and 5 being the highest.
- 11 per cent learners selected online classes with the lowest rank of 1.
- Only 4 per cent learners gave highest rank for online classes.

Conclusions:
The study throws up some rather interesting conclusions. The primary among those are:

- 9.7 per cent learners are using mobile phones for attending the classes with broadband internet connections.
- 14.81 per cent learners are using laptop for online classes with mobile internet.
- The learners gave an equal weightage on the satisfaction of online classes.
- 72 per cent of the learners get supportive atmosphere at home to attend online classes.
- 71.76 per cent of the learners prefer live classes.
• 41.20 per cent of the learners get distracted while attending live classes.
• 28.2 per cent of the learners prefer to view only recorded classes.
• 74.53 per cent of the learners prefer to see recorded lectures.
• 8.7 per cent of the learners don’t want to attend live classes and prefer recorded lectures only.
• 67 per cent of the attendees prefers to keep the video camera off while attending live classes.
• 72 per cent of the learners get lost while attending online classes.
• 33.7 per cent of the learners don’t believe that they are getting actual learning in this mode.
• 79.62 per cent of the learners said that the online mode of teaching lacks personal touch.
• There is an association between delivery of lessons and personal touch.
• 58.33 per cent of the learners prefer the class duration to be of 45 minutes.
• The same percentage of learners prefers to do a self-study after the online classes get over.
• 83 per cent of the learners prefer to communicate with their instructors through chat messengers for immediate communication post online classes.
• 58.33 per cent of the learners say the chat window within the online teaching platform to be effective.
• 71.76 per cent of the learners say that there is no necessity for a telephonic call to the teacher post an online class to clarify doubts.
• 38 per cent of the learners gave a rank of 3 for online classes between the rank of 1 to 5 where 1 being the lowest and 5 being the highest.
• 11 per cent learners selected online classes with the lowest rank of 1.

• Only 4 per cent learners gave highest rank for online classes.

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