

ROLE OF TECHNOLOGY IN DISTANCE EDUCATION DURING COVID-19 PANDEMIC: PERCEPTION OF THE TEACHERS

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Abstract

The present research paper is based on the "perception regarding ROLE OF TECHNOLOGY IN DISTANCE EDUCATION DURING COVID-19 PANDEMIC among teachers of GURUGRAM". Many scholars and researchers were found interested in the topic but no reviews of related literature has been found with regard to the sample (teachers) of GURUGRAM. Based on the objectives it was intended to assess the perception of the teachers. Perception was assessed by finding out the attitude and awareness of the teachers towards TECHNOLOGY in distance education. i.e Positive attitudes are more likely to result in positive awareness, therefore awareness should be increased to encourage a shift in viewpoint. An improvement in awareness will bring about a positive attitude change, which will result in an improvement in perception. To fulfil the objectives, 300 actual samples were randomly selected from three GURUGRAM schools that were purposely chosen. Following data analysis and interpretation, it was observed that teachers' attitudes and awareness of TECHNOLOGY in distance education have a substantial link. As a result, teachers' attitudes and understanding are crucial in upliftment of the technological usage in education.

KEY WORDS: TECHNOLOGY IN DISTANCE EDUCATION, Role of technology, distance education,

The great majority of schools around the world were shut down as a result of the COVID-19 outbreak. A lot of schools have switched to online remote learning using platforms like Zoom, Cisco Webex, Google Classroom, Google Meet, Microsoft Teams, D2L, and Edgenuity, among others. There were worries about how this change would affect teachers who did not have access to an internet-enabled gadget or a reliable internet connection.

For many teachers, the COVID-19 pandemic interrupted synchronous learning, forcing them to switch to asynchronous instruction instead. This had a significant negative impact on how well they handled the transition and raised a number of legal concerns, particularly with regard to copyright.

According to a recent study on the advantages and disadvantages of online learning, teachers have found it more difficult to produce their own work. According to the study, in order to encourage teachers to produce their own work, teachers should decrease the amount of information they teach and increase the number of activities they include in the lesson.

Despite the fact that schools take a while to adopt new technology, COVID-19 mandated that them do so as well as learn how to use new online and digital learning tools. Since 2007, web conferencing has grown in popularity. Researchers have discovered that participants in online learning courses do just as well as those in traditional learning courses.

For students who have limited access to traditional classroom settings, online learning is increasingly becoming a viable option for completing their degrees. Digital classroom technologies also make learning accessible to people who live far away and make it easier for students to fit their studies into their schedules.

Quality education has been prioritized during crisis of COVID-19 after focusing on each challenge and opportunity in education system. Major reason behind this factor is occurrence of inequities in this sector. This period has also shown inequity among students regarding having sufficient internet connections and devices. Millions of students have completely cut off from education due to lack of sufficient equipment. This period has also shown difference between students from privileged and underprivileged backgrounds in US within having computer system to stay connected to teachers.(turcomat.org 2021)

Technologies

Through free educational resources and facilities like e-learning and MOOCs, internet technology has made a variety of distance learning formats possible. The delivery methods for remote education technologies are split into two categories: synchronous learning and asynchronous learning, despite the blurring of the lines caused by the growth of the Internet.

Similar to traditional classroom instruction, synchronous learning takes place in a virtual classroom with all participants "present" simultaneously. It needs a schedule. Synchronous technologies include online conferencing, videoconferencing, educational television, instructional television, direct broadcast satellite (DBS), internet radio, live streaming, phone, and web-based VoIP.

Class meetings are facilitated via web conferencing software, which typically includes extra interaction capabilities like text chat, polls, hand raising, emoticons, etc. These tools enable teachers to participate in asynchronous sessions by listening to recordings of synchronous sessions. Immersive settings, particularly SecondLife, have also been used to improve student participation in online classes. The employment of robot proxies, such as those that permit absent teachers to attend classes, is another method of synchronous learning that takes place in the classroom.

Using telerobotics tools like the Kubi Telepresence robot stand that looks around and the Double Robot that roams about, several colleges have begun to deploy robot proxies to enable more engaging synchronous hybrid classes where both remote and in-person lecturers can be present and participate. These telepresence robots allow remote teachers to sit at a desk or table rather than on a screen on the wall.

Participants in asynchronous learning have flexible access to course materials at their convenience. There is no requirement for teachers to be present at the same time. Asynchronous delivery technologies include voicemail, fax, message boards, e-mail, video and audio recordings, print materials, and letter correspondence, which is the earliest type of remote learning.

You can mix the two techniques. Periodic residential or day teaching sessions are used in many courses offered by open universities and an increasing number of campus-based schools to

supplement the sessions delivered remotely. Recently, the terms "blended learning" and, less frequently, "hybrid learning" have come to describe this form of blended remote and campus-based education. Under the umbrella of "distance learning," many open institutions use a combination of technologies and learning modes (face-to-face, online, and hybrid).

Interactive radio instruction (IRI), interactive audio instruction (IAI), online virtual worlds, digital games, webinars, and webcasts are all examples of e-Learning that can be used for distance learning.

REVIEW OF RELATED LITERATURE

In the last ten years, technology has played a significant part in educational experiences (Almahasees and Jaccopard, 2020). To address the significant advances in technology, educational methods, approaches, and strategies have been updated. Due to the widespread adoption of technology, various online platforms have been created by technological companies (Al-Azawei et al., 2017; Englund et al., 2017; Santos et al., 2019). Technology is now a part of our social, professional, and academic lives. Internet utilisation is essential for distributing knowledge through online classrooms (Silva and Cartwright, 2017).

The focus of education has changed during COVID-19 to reflect the techno-economic culture. The change should be coordinated with strategies to lessen its effects on the typical learning process (Gurukkal, 2020). Higher education's transition to online learning necessitates a change in how we perceive institutions and teacher needs in the field. Theoretical classes, for instance, can be taught online. To ensure optimum teaching practises in observing and directing teachers, practical courses should be held in person. In order to accommodate teachers' needs, technology can make larger courses flexible (Siripongdee et al., 2020).

The importance of instructors in promoting communication and winning respect from teachers was highlighted in research on faculty members' perceptions and attitudes regarding online learning. The success of online learning, according to the instructors, is mostly down to instructional design and subject mastery. Similar to this, staff and student training is essential for successful online learning (Cheng and Chau, 2016).

The educational approach has changed to one that is student-centered, with teachers taking on new roles as autonomous learners. Since face-to-face instruction was teacher-centered and teachers received their education from their professors, this is seen as a benefit. Teachers' use of additional resources to develop their independence as learners was sparked by online learning (Roach and Lemasters, 2006). Similar attitudes exist between teachers who are teaching the same interactive courses online and in person.

It was discovered that teachers performed equally well in both face-to-face and online interactive courses. The success of in-person training depends on consistent attendance, whereas interactive programmes required students to complete interactive worksheets. Success in both online and in-person learning is therefore dependent on the curriculum's design, distribution method, and completion rate (Nemetz et al., 2017). During the lockdown, the COVID-19 outbreak moves in-person instruction to online courses. This change facilitates faculty members' use of cutting-edge technical skills in their instruction, which benefits teachers (Isaeva et al., 2020).

OBJECTIVE \s

1. To investigate the major differences in male and female teachers' attitudes regarding technology in distance education.
2. To investigate the major differences in male and female teachers' understanding of technology in distance education.
3. To investigate the association between teachers' attitudes and awareness of technology in distance education.

HYPOTHESIS \s. 1. There is no discernible difference in male and female teachers' attitudes toward technology in distance education.

2. There is no discernible difference in male and female teachers' awareness of technology in distance education.

3. Teachers' attitudes and awareness of technology in distance education have a substantial association.

DELIMITATION

1. The study is only focused on the technology in distance education.
2. The research is confined to teachers' attitudes and awareness.
3. The study is exclusively open to teachers.
4. The study is exclusively open to Class IX teachers.
5. The trial is limited to only 300 participants.
6. The study is limited to only three schools.

VARIABLES

(based on the topic)

technology in distance education-Independent variable

Attitude and awareness-dependent variable

(based on the hypotheses)

Hypothesis1 variable:

Attitude Male- independent variable

Attitude Female-independent variable

Hypothesis2 variable:

Awareness Male- independent variable

Awareness Female-independent variable

Hypothesis3 variable:

attitude- independent variable

awareness-dependent variable

METHOD

The current study employs a descriptive strategy.

POPULATION

All GURUGRAM teachers' are included in the population.

SAMPLE

The study's actual sample consists of 300 Class IX teachers'.

SAMPLING TECHNIQUE

Purposive sampling is used to select 3 schools of GURUGRAM for selection of the samples. Random sampling is done to select 300 teachers' who is considered as the actual sample for the present study.

TOOL

1. Attitude scale- An Attitude test in the form of questionnaire is prepared and standardised by the researcher with the help of the guide.
2. Awareness scale- An Awareness test in the form of questionnaire is prepared and standardised by the researcher with the help of the guide.

ANALYSIS AND INTERPRETATION

HYPOTHESIS-1 ANALYSIS: Male and female teachers' had similar attitudes toward technology in distance education.

Table 1: Male and female teachers' attitudes toward technology in distance education.

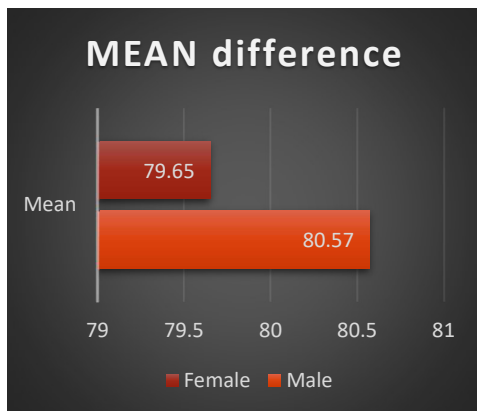
Groups (VARIABLES)	Sample))	Mean))	t-value))
Male))	180))	80.57))	0.58))
Female))	120))	79.65))	

**Not))significant .05))level*

After examining Hypothesis 1, it was discovered that the male mean of 80.57 is greater than the female mean of 79.65, and that the t-value is 0.58.

-The p-value is.2784, which is below than the threshold of significance of 0.05.

BAR diagram (hypothesis 1) The average gap between male and female teachers' attitudes toward technology in distance education.



HYPOTHESIS 2 ANALYSIS: There is no substantial difference in male and female teachers' awareness of technology in distance education.

Table 2 shows a substantial difference between male and female teachers' understanding of technology in distance education.

Groups (VARIABLES)	Sample}}	Mean	t-value
Male}}	180}}	10.73}}	0.1576}}
Female}}	120}}	10.65}}	

**Not}} significant .05level*

After testing Hypothesis 2, it was discovered that the male mean is 10.73, while the female mean is 10.65, and the t-value is 0.1576.

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The p-value is .4374, which is below than the threshold of significance of 0.05. As a result, at the .05 level, the finding is not significant.

BAR diagram (hypothesis 2) There is a considerable disparity in male and female teachers' understanding of technology in distance education.



HYPOTHESIS 3 ANALYSIS: There is a substantial association between teachers' attitudes and awareness of technology in distance education.

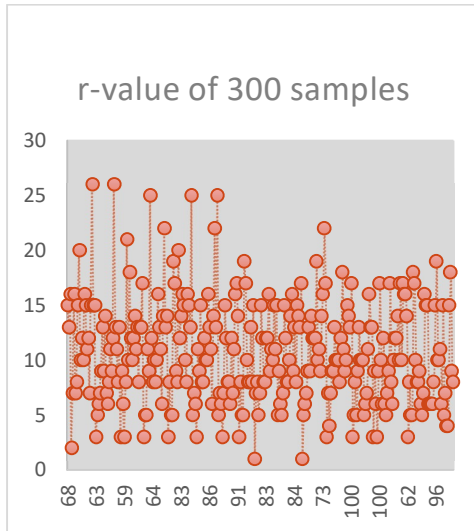
Table 3 shows a substantial association between teachers' attitudes and awareness of technology in distance education.

VARIABLES	Sample	Mean	r-value
Attitude	300	80.21	0.852
Awareness	300	10.70	

At .05, *significant

The Pearson coefficient Correlation (r-value) was found to be 0.85 after testing the Hypothesis table 3.

-.00001 is the p-value. At p.05, the result is substantial.



FINDINGS

As a result, Hypothesis.

1. At the.05 level of significance, there is no significant-difference in male and female teachers' attitudes about technology in distance education is rejected.
2. At the.05 level of significance, Hypothesis 2: There is no significant-difference in male and female teachers' understanding of technology in distance education is rejected.
3. As a result, Hypothesis 3 (that there is a strong association between teachers' attitudes and awareness of technology in distance education) is accepted.

CONCLUSION

According to Hypothesis 1, male teachers' have a more favourable or positive attitude toward technology in distance education.

It can be argued from Hypothesis 2 that male teachers' have a higher or positive awareness of technology in distance education.

It can be argued from Hypothesis 3 that there is a strong association between teachers' attitudes and awareness of technology in distance education.

As a result, a general conclusion can be drawn that attitude and awareness play a critical role in shaping teachers' perceptions. * The higher(positive) the awareness, the higher(positive) the attitude. Perception is good when attitude and awareness are high.

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