An Analysis of the Outcome of Virtual Mode of Teaching Learning Approach on Students Knowledge Building and Performance

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**Abstract**

The shift from conventional teaching method to the technology-driven virtual mode of teaching due to COVID 19 pandemic has provided a lot of opportunities with challenges to academic stakeholders. With this background the study has been designed with an objective to analyze the outcome of the virtual mode of teaching and learning on the knowledge building and performance of the students of higher education in the north-eastern region of India. The study’s design is descriptive and has drawn a sample from the region's universities that constituted 209 students. The study period was April 2020 to April 2021. Primary data has been collected using Google form when journals, reports, and websites are secondary data collection sources. The analysis has been done on micro soft excel and presented through tables and charts. The results of the study indicated that 46.9% of the students found virtual teaching useful. 49.7% of students shared that academic programs conducted in virtual mode (webinars, training programs, workshops) significantly contributed to knowledge building, but subject-specific virtual teaching could not impact students' performance. Excess pressure of assignments, online exam phobia, Lack of Technical know-how, poor internet connectivity; has been identified as causative factors of poor performance. In spite of having such challenges, 42.85% of the female and 38.14% of the male shared their overall learning experience in online mode as satisfactory. The study suggested that the Universities of North Eastern Region requires developing technological infrastructure, initiating discussion with teachers on the mental health issues of students, and organizing programs on technical aspects which will lead to performance development of the students.

**Keywords**: Analysis, Virtual Teaching-learning, knowledge building, Performance.

**INTRODUCTION**

The spread of the coronavirus has completely changed the academic system across the country for the time being. Phase wise countrywide lockdown taught us how to adapt to the situation quickly. Coping up with the changed scenario was difficult for the academic stakeholders due to a lack of digital knowledge, technical know-how, insufficient technical infrastructure, etc. The fast-moving time has trained each of us to act according to the situation. The pandemic has no doubt affected the Indian economy badly and the population of all sections. Students Community is aspiring for a better career, better life ahead but suddenly all their dreams got stuck which has affected students community in all sorts, study says. Initial lockdowns were leisure times, but subsequently, there is a need to initiate online classes. Therefore, the entire world shifted to the virtual model of teaching-learning. The literature on the traditional method of teaching-learning emphasizes that effective learning requires a classroom. Classroom teaching creates an academic environment that leaves scope for students to gain experience by doing, observing, conceptualizing, and experimenting. It also creates a provision for the students to encounter multiple perspectives, which helps them develop critical thinking skills (Kolb, 1984). According to Biesta (2010), classroom teaching empowers students in their learning and inculcates democratic values. In the same line of thinking, John Bogardus (2013) said that classroom teaching creates an environment for students to express their opinions. However, certain situations like COVID 19 pandemic create a condition that debars both teachers and students from traditional classrooms and finds online teaching-learning mode as an alternative. The adverse situation has opened up a new vista for the academicians. It has created opportunities for both teachers and students to expand their learning scope holistically. The use of technology in teaching, especially for the non-technical subjects during a pandemic, brought a reformation in
academics. Along with syllabi related learning, the
students have participated in various academic
programs in a virtual mode in an organized and cost-

effective manner. The debate on traditional classroom
teaching and virtual classroom teaching is always on
because of the reason like i) Class timing ii) learners

group iii) Teaching methodology etc. Methodologies
followed in classroom teaching are well tested, and
most of us grew up in that environment. On the other
hand, virtual classroom teachings are new and high
tech-oriented. The literature says that virtual teaching
encourages personalized learning where students can
learn at their own time and space, enhance collaboration
and communication, and give students and teachers a
wide exposure. Hence, it is less expensive, but in some
cases, like enrolling in online live classes or courses, it
could be expensive. A virtual classroom requires a
computer system, headphones, camera, and good
internet connectivity that may not be accessible.
However, the students are attending online classes and
taking part in other academic programs in virtual mode.

Before we again move towards traditional classroom

teaching, the study intended to analyze how

successfully the virtual teaching-learning approach
could contribute to students' knowledge building and

performance.

Virtual Teaching

Virtual teaching is the process of making

others learn via the internet. The present pandemic
situation has made us technologically literate, if not a
master, to use different online platforms to make
teaching-learning meaningful. Various messaging
platforms, email and video calls, and academic looks
like Google classroom have become the medium of
interaction with online mode students. Moreover, digital
resources like PowerPoint, video, and audio materials
are shared with students to make teaching-learning
effective in virtual mode.

Effective teaching requires competencies like

i) Managerial ii) Pedagogical iii) Social iv) Technical v)
Assessor vi) Facilitator vii) Content expert and it

expects from a teacher to i) encourage students' participation ii) encourage students' cooperation iii)

encourage students' in dynamic learning iv) provide
timely feedback v) emphasize on time-oriented task vi)

respect differences in terms of talents and ways of

learning so that learning can be brought to students
easily instead of students to learning (Ni, She, C.
Farrell, O. Brunton, J. Costello, E. Donlon, E.
Trevaskis, S. Eccles, S. 2019).

Virtual Learning

Virtual learning is considered as e-learning or
digital learning offered via the internet. It has replaced
the physical classroom by using web-based
technologies offering ample opportunities for out-of-

class learning as per the learners' convenience (Chigeza &
Halbert 2014). Students of the digital age are

technologically disciplined and techno-savvy, so it is an
opportunity for the students to learn in a virtual model
in a structured, organized, and effective manner. The
learner can thus benefit from such a method as it is
flexible, accessed from one's comfort zone, and a cost-
effective opportunity to learn from experts irrespective
of the teachers' distance. However, the only difference
is like delivering courses. In online students mostly
require having an entree on a computer system with
speedy internet connections. Joshua Stern highlighted
some of the advantages of online learning like i)

convenience ii) enhanced learning iii) Interaction iv)
Innovative teaching v) Improved Administration vi)
Savings vii) Maximize physical resources viii) Outreach.

OBJECTIVES

This research's overarching objective was to
analyze the virtual teaching-learning approach's
outcome on students’ knowledge building and

performance. The objective was achieved by answering
the following questions:

• What is the opinion of students about the virtual

mode of teaching?

• Are the academic programs conducted in virtual

mode contributing to knowledge building?

• Is virtual teaching impacting the academic

performance of the students?

• What is the overall learning experience of students

in virtual mode?

Study Area

The present study has been conducted in the
North Eastern Region of India. The region has eight
states with a good number of higher academic
Institutions. All most all the states have both public and
private run universities, which includes: (i) Gauhati
University, Assam (ii) Dibrugarh University, Assam
(iii) Assam University, Silchar, Assam (iv) Tezpur
University, Assam (v) Rajiv Gandhi University,
Itanagar, Arunachal Pradesh (vi) Manipur University,
Imphal, Manipur (vii) Mizoram University, Mizoram
(viii) The North Eastern Hill University, Shillong,
Meghalaya (ix) Nagaland University, Nagaland (x) The
Tripura University, Tripura (xi) Sikkim University,
Sikkim (xii) Assam Agricultural University, Jorhat,
Assam (xiii) Krishna Kanta Handique State Open
University, Guwahati and (xiv) Central Agricultural
University, Imphal. Along with that, the region is
bestowed with an additional 16 private and deemed
universities reflecting the region's well-off academic
environment (UGC Annual Report 2010-11).

METHODOLOGY

The study has been conducted based on the
students' responses from the above-mentioned
universities—the study period covered April 2020 to
April 2021. The descriptive study design tries to
understand the impact of virtual teaching approach on
students’ learning experience amidst COVID 19 pandemic. To achieve the objective, the study used a mixed-method to collect data from students of different universities. The questionnaire was the primary source of data for which Google form was used to collect data. The primary source was complemented by existing literature as secondary data. The secondary sources of data used in the study are (i) journals, (ii) reports, (iii) websites and scholarly articles, (iv) research papers, and other academic publications. A total of 209 respondents of the mentioned universities attended a minimum of five academic programs in virtual mode have been considered for the study. The questionnaire protocol consisted of questions relating to an opinion about online teaching and learning approach, contribution in knowledge building and performance, and overall learning experience in virtual mode.

RESULTS AND DISCUSSION

Opinion about the virtual approach of teaching

The participants were asked to share their opinion about the virtual teaching-learning approach. The question was asked to understand the perception of the students about the virtual approach of teaching. Responses of the participants indicated that a virtual teaching-learning approach is useful in higher education, followed by convenience, time-saving, and cost-effectiveness (Chart-1).

![Chart-1: Opinion about the virtual approach of teaching](image)

Opinion about the contribution of virtual academic programs on knowledge building

The participants were asked to share their opinion about the contribution of academic programs (Webinars, lecture series, conferences, and training) attended by them in virtual mode on their knowledge building. Responses indicated that online academic programs have a very significant contribution to knowledge building (Table 1).

<table>
<thead>
<tr>
<th>Contribution of virtual academic programs on Knowledge building</th>
<th>Number of respondents (N=209)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very significant</td>
<td>104</td>
<td>49.7</td>
</tr>
<tr>
<td>Significant</td>
<td>58</td>
<td>27.8</td>
</tr>
<tr>
<td>Average</td>
<td>18</td>
<td>8.6</td>
</tr>
<tr>
<td>Minor</td>
<td>15</td>
<td>7.2</td>
</tr>
<tr>
<td>Minimal</td>
<td>14</td>
<td>6.7</td>
</tr>
<tr>
<td>Total</td>
<td>209</td>
<td>100</td>
</tr>
</tbody>
</table>

Opinion about the impact of virtual mode of teaching on performance

The participants who have been attending virtual classes were asked to share opinions about their academic performance based on the built knowledge to understand the impact of virtual teaching on the students’ performance. A cross-tabulation result indicated that the majority among male (40.21%) and female (58.04%) students were of the opinion that the virtual mode of teaching is somewhat affecting their performance (Table-2).
Opinion about the causes affecting students' performance in the virtual mode of learning

The participants were asked to mention the possible causes affecting performance in the online learning process. The response indicates that most participants (69.4%) shared that the internet connectivity issue is one of the major causes affecting students' performance.

<table>
<thead>
<tr>
<th>Causal factors</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess academic assignment</td>
<td>56</td>
<td>26.8</td>
</tr>
<tr>
<td>Fear of passing exams</td>
<td>51</td>
<td>24.4</td>
</tr>
<tr>
<td>Career-related worries</td>
<td>27</td>
<td>12.9</td>
</tr>
<tr>
<td>Doubtful learning</td>
<td>50</td>
<td>23.9</td>
</tr>
<tr>
<td>Internet connectivity</td>
<td>145</td>
<td>69.4</td>
</tr>
<tr>
<td>Absence of group learning</td>
<td>64</td>
<td>30.6</td>
</tr>
<tr>
<td>Personalized approach to learning</td>
<td>38</td>
<td>18.2</td>
</tr>
<tr>
<td>Technical know-how about gadgets</td>
<td>50</td>
<td>23.9</td>
</tr>
</tbody>
</table>

Opinion about the overall learning experience in virtual mode

The participants were asked to share their overall learning experience in virtual mode. The response indicates that the learning experience of students of both genders (female 42.85% & Male 38.14%) in virtual mode was satisfactory in spite of having good challenging factors.

<table>
<thead>
<tr>
<th>Gender</th>
<th>The overall learning experience in virtual mode</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dissatisfied</td>
<td>Neither Satisfied Nor Dissatisfied</td>
</tr>
<tr>
<td>Female</td>
<td>14 (12.5%)</td>
<td>41(36.61%)</td>
</tr>
<tr>
<td>Male</td>
<td>10 (10.31%)</td>
<td>37 (38.14%)</td>
</tr>
<tr>
<td>Total</td>
<td>24 (11.48%)</td>
<td>78 (37.32%)</td>
</tr>
</tbody>
</table>

DISCUSSION

The universities and colleges have put in their best efforts to continue their academic programs and complete the course content using various ICT tools of teaching and learning. The students had ample opportunities to learn from teachers and experts in virtual mode irrespective of distance in a structured, organized, and effective manner. The results indicated that 46.9% found virtual teaching useful. 49.7% of the students shared that academic programs organized by different educational institutions of repute from April 2020 to April 2021 had a significant contribution in knowledge building on various subjects. However, when it came to subject knowledge, teaching in virtual mode has somewhat affected students' performance (female 58.04% and male 40.21%) respectively. It is highlighted by 26.8% of the students that excess academic assignments with submission deadlines developed anxiety in them, which further created a fear of passing exams among 24.4% of the students. Most importantly, to accomplish all these given assignments, high-speed internet connectivity was required. However, the students of the North-eastern region had to compromise with the technological infrastructure they have. Therefore, 69.4% of the respondents shared poor internet connectivity as one of the major factors that challenged their performance, followed by a lack of technical know-how (23.9%). However, most of the respondents, irrespective of genders (42.85% female and 38.14% male), shared their overall learning experience in virtual mode is satisfactory.

CONCLUSION

It is observed that academic programs conducted in virtual mode had enhanced the students' knowledge level in allied subjects, but it could not make a significant contribution in terms of students' performance. If the virtual mode of teaching continues further, the causes affecting performance will have to be taken care of diligently by the concerned academic institution. In this regard following suggestions can be made: i) dialogues and discussion with the teachers on mental health issues of students' ii) capacity building programs on digital resources for students, iii) making good technological infrastructure, iv) e-counseling sessions for students. Delivering the best services for students' growth and all-round development should be the hour's concern irrespective of the mode of teaching.
and learning. Since most of the students are satisfied with the virtual teaching mode, the blended teaching-learning methods can be introduced in post-pandemic.

REFERENCES

- Personal Observation.
- Edusys, What is Virtual Classroom, Advantages and Disadvantages. Retrieved from https://www.edusys.co/blog/what-is-virtual-classroom
- Zsohar, H., & Smith, J. A. "Transition from the classroom to the web: successful strategies of teaching online," http://northeast.edu/CTC/Pdf/Successful-strategies-for-teaching-online.pdf