COMPARATIVE EFFECTIVENESS OF ONLINE TEACHING AND BLENDED DELIVERY METHOD ON STUDENTS ACHIEVEMENT AT SECONDARY LEVEL

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Abstract – This study investigated the difference between achievement scores of two groups of learners who were exposed to online teaching and blended delivery method. Quantitative and qualitative techniques were adopted to analyze the data. Findings showed significant difference between achievement scores of students studying through blended mode as well as online mode. The findings of quantitative data’s are consistent with qualitative data. Through interviews and observation, it was found that blended mode of learning approach leads to more involvement/participation with high spirit of confidence irrespective of gender.

KEY WORDS

INTRODUCTION

The present outbreak of Covid-19 pandemic has wreaked havoc across the world. It has impacted every sector including education. According to UNESCO report over 800 million learners from around the world have been affected. In India too, 32 crore students were hit by closure of the schools, colleges and Universities during the lockdown of March 2020. This educational crisis resulted in increasing school dropout rate and also child exploitation in developing countries like India. As an alternative to overcome from this situation the entire system of education was transformed from traditional pedagogical approach to technology based online teaching, wherein instruction were delivered to the learner through computer network, without face-to-face meetings of students and teacher. Thus, technology served as an almighty weapon to the education industry during the time of difficulties.

As education system has revolutionized during this pandemic, Flipped learning, blended learning and online teaching have become teaching strategies of the present day. Though online learning is an effective and modern way of learning but it has its own drawbacks such as network issues, login issues, problems with video and audio, lack of personal attention and one-to-one interaction of student-teacher. On this note, the present study observed a significant decree in Covid-19 cases. Considering this, schools have been reopened with some guidelines. Children are back to school after a gap of 18 months. Now they are more embraced to technology-based teaching method. Hence Teachers cannot stick to traditional methodologies of teaching they need to be implement innovative teaching strategies like blended traditional instruction with technology mediated
instructional methods to make learning more relevant to children’s future lives. It is also predicted that online learning will continue to persist post-pandemic and such shift would impact the worldwide education market. Keeping all this in view the researcher took up an study to compare the effectiveness online teaching over of the blended learning.

OBJECTIVES OF THE STUDY

1) To study the effectiveness of student learning outcome through online teaching.
2) To investigate impact of blended delivery method on student’s achievement.
3) To compare and analyze the effectiveness of blended delivery method over online teaching on student’s achievement at secondary level.

HYPOTHESIS OF THE STUDY

1) There is no significant difference between achievement scores of students learning through online mode and blended delivery method.
2) There is no significant difference between achievement scores of boys and girls learning through online mode.
3) There is no significant difference between achievement scores of boys and girls learning through blended delivery method.

REVIEW OF RELATED LITERATURE

Ijaz Hussain (2020) made a study on “Online learning system requires information and communication technologies for the effective delivery of the content at distant locations” result showed that online learning is an effective and modern way of learning during COVID-19 to meet the educational needs of the learner. Nopayusnilita (2020) analysed a study on The Impact of Online Learning: Student’s Views The result revealed that online learning provide students practical and flexible way in learning, it also make them more creative and active. Claire Cole (2020) conducted an action research project on “Blended Learning’s Impact on Student Performance and Engagement in a Middle School Language Arts Classroom”. The study demonstrated that blended learning instructional practices positively impact students’ academic understanding and classroom engagement.

DESIGN OF THE STUDY

The present study is experimental in nature with parallel group. Quantitative and qualitative technique was adopted to analyze the data. The samples of the study were the students of class IX studying in one of the schools following the state syllabus in Karwar Taluka of Uttar Kannada district of Karnataka state. The samples were divided into two identical groups; namely Group I and Group II. Each group consists of thirty students with proportionate boys and girl’s ratio. The selected Group I, was taught through online method, whereas Group II were taught through blended delivery method by combining computer mediated instruction with face-to-face instruction. The treatment was given for over the period of two weeks. After the treatment achievement test was administered on both the group. The collected quantitative data was analyzed by following statistical techniques like Mean, SD and “t” test.
QUANTITATIVE DATA ANALYSIS

1 Hypothesis:

H1: There is significant difference between achievement scores of students learning through online mode and blended delivery method.

The following null hypothesis was set up by the researcher.

H01: There is no significant difference between achievement scores of students learning through online mode and blended delivery method

<table>
<thead>
<tr>
<th>Mode of teaching</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>“t”</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>30</td>
<td>20.17</td>
<td>5.14</td>
<td>-12.7901</td>
<td>S</td>
</tr>
<tr>
<td>Blended</td>
<td>30</td>
<td>29.20</td>
<td>5.47</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Interpretation:

From the result of the above table, it is observed that, achievement scores of students studying through Blended mode significantly differ then the achievement scores of students studying through online mode. (t=-12.7901,p<0.05) at 0.05 level. Hence null hypothesis is rejected, and alternative hypothesis is accepted. So it can be concluded that Blended mode of teaching are more effective than that of online teaching.

2 Hypothesis:

H2: There is significant difference between achievement scores of boys and girls learning through online mode.

The following null hypothesis was set up by the researcher.

H02 : There is no significant difference between achievement scores of boys and girls learning through online mode.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>“t”value</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>15</td>
<td>13.07</td>
<td>6.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>15</td>
<td>20.67</td>
<td>5.92</td>
<td>-9.1906</td>
<td>S</td>
</tr>
</tbody>
</table>
**Interpretation:**

From the result of the above table, it is observed that, achievement scores of boys studying through online mode significantly differ then the achievement scores girls. ($t=-9.1906, p<0.05$) at 0.05 level. Hence null hypothesis is rejected, and alternative hypothesis is accepted. So it can be concluded that in online mode of teaching girls performance are better than that of boys.

3 Hypothesis:

H3: There is significant difference between achievement scores of boys and girls learning through Blended mode.

**The following null hypothesis was set up by the researcher.**

H03: There is no significant difference between achievement scores of boys and girls learning through Blended mode.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>“t” value</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>15</td>
<td>29.36</td>
<td>5.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>15</td>
<td>29.06</td>
<td>4.91</td>
<td>0.1539</td>
<td>NS</td>
</tr>
</tbody>
</table>

**Interpretation:**

From the result of the above table it is observed that, achievement scores of boys studying through blended mode do not differ significantly then the achievement scores of girls. ($t=-9.1906, p<0.05$) at 0.05 level. Hence null hypothesis is accepted, and alternative hypothesis is rejected. So it can be concluded that the effect of blended mode of teaching approach is similar on both boys and girls.

**QUALITATIVE ANALYSIS.**

For the qualitative analysis, techniques like observation and interview were adopted. The observed result revealed that students who studied through blended delivery mode were actively involved in teaching learning process with full confidence. Whereas students of online group showed moderate pro-activeness, involvement, attendance and confidence level. The interviewed result showed positive response from students belonging to blended group whereas interviewed response of online group students were not satisfactory as had to meet with challenges like Network issues and also lack of teachers personal attention.
FINDINGS OF THE STUDY

1. The students belonging to blended learning group have significantly higher achievement score as compared to online group.

2. Girls belonging to online group have high achievement score as compared to boys belonging to the same group.

3. Achievement scores of boys and girls belonging to blended group are significantly same.

CONCLUSION

Owing to the sudden change in teaching methodologies during covid-19 pandemic, the researcher was interested in systematic and in-depth investigation. For this purpose researcher undertook a study on “Comparative effectiveness of online teaching and blended learning on students achievement”. Combination of qualitative quantitative techniques have been adopted to analyze the result. Finding of the study showed significant difference between achievement score of students studying through blended mode as well as online mode, so we can conclude that in the present scenario blended mode of learning is more effective over online method. Study also revealed that girls have been outperformed by boys. Since girls are more serious and also have positive attitude towards their studies than the boys. (Raza Ullah, 2019). The findings of quantitative data’s are consistent with qualitative data. Through interview and observation, it was found that Blended mode of learning approach leads to more involvement participation with high spirit of confidence irrespective of gender.

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