Abstract: The process of online learning is established to continue higher education in the period of pandemic. Presently fast internet has accelerated online teaching processes. Analysis based result depicted that about 62% E-test book is delivered by the staff of different institutional libraries for their learner, added with 27% hand written notes, 8% reference book and only 3% material from journals are provided for continuing academic performance in this period. Students are using their smart phones for online learning process. A team of 27 members were projected their view about their working period during and post lockdown, about 57.4% of the people preferred working in online mode, only 31% are willing to work as conventional way and 11.6% people were unanswered. Chi-square test found that, the genders of library staff are useful to maintain online mode of work in different libraries and the delivery of learning materials for category of students maintain a relation with their libraries in varying places in India. The data of public libraries mentioned that only 16 to 17% readers had visited the library and they mostly returned and re-issued their materials. The outcome is clearly vivid that the people preferred digital library than conventional pathagar. The digital library in Gobindpur has opened about 63% more learning materials than any conventional libraries mentioned here.

Keywords: Online, Education system, Distance learning, Students

1. INTRODUCTION

The basic role of Library and its professional is altered from conservator of data to facilitator of knowledge amongst the vast group of students. Library professionals have taken the responsibility to identify the query/problem, to sort out the query with organized solution and disseminate information among the students within least possible time. Library Professionals will remain at the frontline in the profession to serve the whole student community. Though the school education, especially private schools were quick enough to shift its whole affair to online platform than the higher education sector in India (Wadia, 2020). Here authors present an overview of public library’s response to emergencies and discussed how public libraries have provided essential information during the time of crisis. The study suggests that how the college libraries took responsibility to build their position as a trustworthy source of primary information by providing quick and easy access to those patronages looking for information about what to do in an emergency. The information provided from past literature that public libraries should be proactively prepared to provide reliable disaster and health digital resources for adult users (Tu-Keefner, Liu, Hartnett, & Hastings, 2017). The paper titled “Public Libraries as Post-Crisis Information Hubs” reports that public libraries played a great role by providing internet access to community members to request aid, to help find missing family and friends, to file insurance claims and in general, to begin rebuilding their lives. (Jingjing Liu and others 2017) emphasized the role of libraries in disaster preparedness and recovery.
via social media by disseminating credible information. The libraries proactively create risk communication strategies using social media for effective information services (Liu, Tu-Keefner, Zamir, & Hastings, 2017). The schedule of work which has been carried out by the library staff is as follows:

❖ To provide the users with an open access to the system/resource.
❖ To introduce the library professionals as a technological gatekeeper.
❖ Working as a links between scholars and the different types of users.
❖ The main role of library professionals is customer service and community outreach.
❖ They took responsibility of cataloguing and administration.
❖ They searched off international journal and information studies of library to full fill the requirement in the diverse situation.

❖ The Primary objective of the study is to find out the facilities offered and the online service provided by the libraries in education in the period of pandemic when teacher and students are located in a distance and the teaching process is done over the internet. The internet has made online learning possible, and this online method of learning improved student’s learning outcomes while the people were fighting with natural disasters and the reduction in resources in this field, particularly in higher education (Farinella, Hobbs, & Weeks, 2000; Kim & Bonk, 2006; Pape, 2010). To get the detail information, the author has collected data from five different technical libraries [Library of LDCITS(1), Prayagraj, FIEM (2)Kolkata, Narula Institute of Technology(3), Kolkata, CCET Bhilai (4), Heritage Engineering College(5) Kolkata] and four public libraries (Kishorechak gramin pathagar, Midnapore West Bengal; Moyna Vivekananda Library, West Bengal; Rabindra pathagar Garia, Kolkata and Digital Library Gabindpur, Allahabad) for this research and hereafter in the literature the code 1,2,3,4, 5 whenever required to be used which will be indicating these five different technical colleges as mentioned in last sentences. The collected feedback from near about 120hundred students from these colleges and the method of collection of data was based on random sampling over the population was considered for this study. Response of these technical libraries as well as the chief librarians of four public libraries from different parts of India is considered to find out the result and conclusion in this research.

2. Literature review

❖ The most of the traditional libraries hold print and manuscript (Bachynska and Salata 2016; Rozkolupa et al. 2019), but in the due course new methods of storing of material emerged and libraries transformed to fulfill accordingly. In the period of pandemic libraries are observing and actively participating in the transition to distance learning, an advance form of education that has been spreading now a day. In education, distance learning is a method where both students and teachers both are physically separated and interconnect with each other by means various communicating technologies Ministry of Education of the Russian Federation (2020). In this context of education digital libraries take a key role (Lande and Barkova 2013).

❖ It is noted that upgradation of academic libraries has been started from the last decades before the COVID-19 pandemic. In this journey the leading role was playing by digital technology (Tait et al. 2016), that was consider as a disruptive force in the field of library and its service sector. In nut shell, modern libraries shifted its traditional work of collecting and storing information now becoming a spaces of social learning and knowledge sharing amongst the learner (Lande and Barkova 2013; Smirnova 2020; Tait et al. 2016).
ICT and digital advances in the different platform have created plenty opportunities for library people to create new roles and new ways of activities for delivering library services (Huwiler 2016). The possibility of creating a single information architecture and information organization structure is one of the major facilities that can be easily access and retrieval from online tools (Library of Beihang University 2020). Different technical infrastructures promote user understanding the integrity of scholarly publications in digital environment (Tait et al. 2016).

Though the reading habits of the present students have been changed, many of them prefer to get information through digital platform and the majority of the learner prefers for libraries transform in line with the process of change (Tait et al.2016). In this juncture, libraries become spaces for creation and academic development in terms of products and services. If we look into the engagement of learner towards gamification, a tool that practices different elements of game design such as competitions, actions, and creativity in non-game contexts (Tait et al. 2016). Games can stimulate higher-order thinking, helps in motivation, improve learning and create interrelationships between decision-making and conclusions, if the ill-effect of this gamification is not executed (Tait et al. 2016).

The literature reviewed that some public and academic libraries still not equipped with digitalization, whereas organizational, economic and cultural barriers aggravate this problem (Tammaro 2020). On the other way we can say these libraries have resources that are often outdated and have very less/no academic value (Nabushawo et al. 2016). The global pandemic has opened up the different problems and accelerated the digital form of educational/institutional libraries. Near about 94% of quarantined libraries published COVID-19-related data through their websites/app to safe guard common people in different way and also help to take preventive measures (Guo et al. 2020). The remaining 6% were improvised for the challenge (Guo et al.,2020). Most of the libraries have changed their working culture in online mood with remote access with the help of electronic resources and support services (China Agricultural University Library 2020). All printed materials transformed into digital formats (Guo et al. 2020).

In the time of pandemic, public and educational libraries were closed but libraries staff continued to provide necessary services, made communication with their users, and inform the students and public about the situation (Guo et al. 2020; Tonini 2020). The library and their staff put their best to raise emergency information and services to a strategic level (Tonini 2020) and also fulfill additional roles, such as institutional and community supports as government partners and educators. In this way most of the libraries are energetically participating as resource providers to disseminate high-quality electronic information (University Library (2020), but the literature revealed that the proportion of libraries that use remote-access channels was limited within 34% (Guo et al. 2020).

3. METHODOLOGY AND ANALYSIS OF RESULT

- All the above data are real and based on the online survey and telephonic conversation of different library personnel.
- Preparing questionnaire and collect primary data from students, teachers and library personal.
- Presentation of data by graphs and diagrams.
- We calculated cumulative frequency of students and teachers who avail the benefit of Library for their education, with respect gender and calculated mean, variance, skewness and kurtosis.
- Applying Chi-square test for expected values.
An analysis in the form of Pie chart in fig. 2.1 is clearly expressing the percentage of different learning materials delivered to the students for continuing their studies through online learning mode. The study has been done through direct telephonic conversation and based on 221 response the following chart has been made. The result based on data analysis is viewed that about 62% E-text book is delivered by the staff of different libraries, 27% hand written notes of the teacher in proper format (material is taken from the concerned teachers), 8% reference book and only 3% material from journal are provided for continuing academic performance in India during the period of lockdown and thereafter till now.

The different issues that the student was facing to get the material from the source in due time are also plotted in fig. 2.2. The plotting is done on the basis of feedback of approximately 192 students of each institute. In this figure it is vividly describing that most of the students, near about 57.8% suffered at the time of online classes due to network issue and limited internet efficiency is the second major issue in this juncture. The delivery of the material by the staff of library is done under the control of chief librarian.

fig. 2.3 describes the willingness of the library staff of
their working mode in library

In this process all the staffs around a team of 27 members projected their view about their working period during and post lockdown, major portion around 57.4% of the people preferred working in online mode, only 31% are willing to work as conventional way and 11.6% people not able to put any choice. The fig. 2.3 describes the willingness of their working mode of the library in the period of one and half years. The result clearly indicates that the common intention of the people is ready to complete their task from their home.

3.1 Activities of Few Public Libraries in different places

The working activity of few public libraries is also taken to compare the material delivery and services of institutional as well as public libraries of rural areas. Most of public libraries have reported that in the period of lockdown the library was completely closed and in the partially open time the readers were very less as compared to normal time. As per their view only 16 to 17% readers visited and they mostly returned and re-issued their materials till now.

![Graph](image1)

Fig. 2.4 describes the numbers of novels, story book and others materials such as newspapers, magazines comics etc. are issued by the public libraries during pandemic.

Details of activities of different public libraries during and post pandemic are shown in fig. 2.5. The plot clearly indicates that the people used to read novels in their leisure period compare to story books and other materials. The result also signifies that the people preferred to seat in digital library than conventional pathagar. The digital library in Gobindpur opens near about 63% more learning materials for their readers compare to the best conventional libraries mentioned here.

The author collected data from different sources and found that the employees working in the different libraries consist of male and female. Hence a few questioners have been made to get the correct scenario of library activities during and post lockdown; these are given in table2.1 and 2.2.

Table2.1 view of male staff of Library:

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
<th>S.D</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How satisfied to work in online mode</td>
<td>2.52</td>
<td>1.29</td>
<td>0.001</td>
<td>0.018</td>
</tr>
<tr>
<td>(Positive skewd)</td>
<td></td>
<td></td>
<td></td>
<td>(Playty kurtic)</td>
</tr>
<tr>
<td>2. How much hours in a day do you spend for your online work</td>
<td>3.49</td>
<td>1.69</td>
<td>0.008</td>
<td>0.032</td>
</tr>
<tr>
<td>(Positive skewd)</td>
<td></td>
<td></td>
<td></td>
<td>(Playty kurtic)</td>
</tr>
<tr>
<td>3. Do you feel disturbance while working from home</td>
<td>2.57</td>
<td>1.37</td>
<td>0.001</td>
<td>0.014</td>
</tr>
<tr>
<td>(Positive skewd)</td>
<td></td>
<td></td>
<td></td>
<td>(Playty kurtic)</td>
</tr>
</tbody>
</table>

Table2.2 view of female staff of Library:

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
<th>S.D</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How satisfied to work in online mode</td>
<td>2.66</td>
<td>1.26</td>
<td>0.002</td>
<td>0.031</td>
</tr>
<tr>
<td>(Positive skewd)</td>
<td></td>
<td></td>
<td></td>
<td>(Playty kurtic)</td>
</tr>
<tr>
<td>2. How much hours in a day do you spend for your online work</td>
<td>3.7</td>
<td>1.78</td>
<td>0.012</td>
<td>0.055</td>
</tr>
<tr>
<td>(Positive skewd)</td>
<td></td>
<td></td>
<td></td>
<td>(Playty kurtic)</td>
</tr>
<tr>
<td>3. Do you feel disturbance while working from home</td>
<td>2.27</td>
<td>1.27</td>
<td>0.006</td>
<td>0.034</td>
</tr>
<tr>
<td>(Positive skewd)</td>
<td></td>
<td></td>
<td></td>
<td>(Playty kurtic)</td>
</tr>
</tbody>
</table>
The results of the questioner clearly depicts that both male and female are almost equally satisfied to work from home but female staff of library used to provide more working hours for their profession compare to male staff.

4. CHI-SQUARE TEST AND ITS RESULT:

**TEST-1**

<table>
<thead>
<tr>
<th>Class</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>160</td>
<td>40</td>
<td>20</td>
<td>60</td>
<td>170</td>
</tr>
<tr>
<td>U. G</td>
<td>700</td>
<td>380</td>
<td>860</td>
<td>300</td>
<td>280</td>
</tr>
<tr>
<td>P. G</td>
<td>80</td>
<td>19</td>
<td>240</td>
<td>175</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>940</td>
<td>339</td>
<td>1120</td>
<td>635</td>
<td>470</td>
</tr>
</tbody>
</table>

❖ Performing Chi-square test we got calculated value of chi square =76.31

❖ And from the above table we got degree of freedom’8’ and taking level of significance as 0.05 we got tabulated value of chi square (Ho) 20.09 hence Null hypothesis is rejected.

❖ It implies that the different grade of students maintained a close relation with their libraries in varying places in India.

❖ The plot of probability distribution f(y) versus Chi-square ($\gamma = \chi^2$) of the above data has been plotted in fig.3.1 and the highest probability of data is marked at 3.5 $\gamma$.

**TEST-11**

<table>
<thead>
<tr>
<th>Gender of</th>
<th>Online mode of work</th>
<th>Offline mode of work</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>53</td>
<td>73</td>
<td>126</td>
</tr>
<tr>
<td>Female</td>
<td>18</td>
<td>64</td>
<td>82</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
<td>137</td>
<td>208</td>
</tr>
</tbody>
</table>

❖ Performing Chi-square test we got calculated value of chi square =9.0

❖ And from the above table we got degree of freedom’1’ and taking level of significance as 0.05 we got tabulated value of chi square (Ho) 3.84 hence Null hypothesis is rejected.

❖ It implies that the genders of library staff are useful to maintain online/ offline mode of work in different libraries in India.
The plot of probability distribution \( f(y) \) versus Chi-square \( (\gamma=\chi^2) \) of the above data has been plotted in fig.3.2 and the highest probability of data is marked at 0.5 \( \gamma \).

And from the above table we got degree of freedom ‘8’ and taking level of significance as 0.05 we got tabulated value of chi square(Ho) 20.09 hence null hypothesis is rejected.

It implies that the delivery of learning materials to the students depends on the different libraries in varying places in India.

The plot of probability distribution \( f(y) \) versus Chi-square \( (\gamma=\chi^2) \) of the above data has been plotted in fig.3.3 and the highest probability of data is marked at 3.5 \( \gamma \).

### TEST-III

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>553</td>
<td>73</td>
<td>223</td>
<td>849</td>
</tr>
<tr>
<td>2</td>
<td>118</td>
<td>64</td>
<td>117</td>
<td>299</td>
</tr>
<tr>
<td>3</td>
<td>778</td>
<td>98</td>
<td>192</td>
<td>1068</td>
</tr>
<tr>
<td>4</td>
<td>702</td>
<td>113</td>
<td>207</td>
<td>1022</td>
</tr>
<tr>
<td>5</td>
<td>1274</td>
<td>404</td>
<td>303</td>
<td>1981</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3425</strong></td>
<td><strong>752</strong></td>
<td><strong>1042</strong></td>
<td><strong>5219</strong></td>
</tr>
</tbody>
</table>

- Performing Chi-square test we got calculated value of chi square = 149.31

### 4. CONCLUSION AND FUTURE SCOPE OF WORK

This study aims to express the roles and effectiveness of online support of institutional library to continue education system during and post COVID-19 period. The basic aim of this study is to analyze the condition of our higher education system in different parts of India. The result has been analyzed based on direct feedback from online learners from the different zone of India. Based on view of learners as well as librarians of six different libraries the following conclusion has been made.
The result based on data analysis is viewed that about 62% E-test book is delivered by the staff of different libraries in India, 27% handwritten notes of the teacher in proper format (material is taken from the concerned teachers), 8% reference book and only 3% material from journal are provided for continuing academic performance in the period of lockdown and thereafter till now.

The different issues, such as network problems, internet, and data limit are the most common problems that both students as well as library staffs were facing to distribute the material from the sources.

Most of the learners/students are using their smart phones for the online learning process.

A team of 27 members have projected their view about their working period during and post lockdown, major part about 57.4% of the people preferred working in online mode, only 31% are willing to work as conventional way and 11.6% people not able to put any choice. In Chi-square test we found that, opinion depends on gender.

The most of the public library reported that only 16 to 17% readers have visited and they mostly returned and re-issued their materials till now.

The result also clearly depicts that the people preferred to sit in digital library than conventional pathagar. The digital library in Gobindpur opens near about 63% more learning materials for their readers compared to the best conventional libraries mentioned here.

Mode of learning depends upon gender of students

Mode of delivery of learning materials depends upon the collages of library

Only a part of analysis has been done whereas online library procedure is very vast and provides huge data to take care of.

Global consideration may produce different opinion of library work in each and every aspect of online learning that are not consider here, so study can be made some more elaborately for more accurate result.

5. REFERENCES


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University Library (2020) Nearly 10,000 donated journals from Wuhan University Library help fight against COVID-19. Available at: https://mp.weixin.qq.com/s/1yXJb8qRg_BZ9xLapZ4Gw. (accessed 22 November 2020).

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