

Awareness on National Digital Library of India: An Empirical Study

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Abstract

The digital library has gained significant importance in recent years as it provides a more suitable solution to access the knowledge or resources available anywhere and at any time. National Digital Library of India (NDLI) is a digital platform that provides access to substantial digital storage of resources and encourages and inspires learning among the nation's people. This study aimed to analyze the awareness of the National Digital Library of India (NDLI) among the students, teachers and research scholars of India and tried to assess its utilization and backdrops for further improvement. The empirical study was conducted in India, and the primary data were collected using Google Forms. Snowball sampling was used to collect data from 384 respondents, including students, research scholars and teachers. The study detected that the overall level of awareness of NDLI was low (39.3%) among the different groups, and students had the lowest (50.2%) level of awareness among other groups of respondents comparatively. A strong association was seen to exist between educational qualification and respondents' level of awareness. Apart from these, the users found the NDLI app useful; 54% of respondents were able to access the required content using the app and 71% of the users rated 'good' the app's performance.

Keywords: Digital Library, National Digital Library of India, NDLI, India.

Introduction

There has been a significant transformation with the evolution of digital libraries as they create an interaction between human beings and knowledge or information available anywhere in the world at any time. Digital Library provides access to its users to explore or gather the knowledge on a particular area in depth from a digital platform. In simple terms, a digital library can be identified as storing large collections of information or materials in electronic format. It can be considered the future of traditional libraries rather than depicting them as replacing the traditional ones. It follows the same procedure used by traditional libraries, such as collecting, systemizing, disseminating, recording, or filing the information in digital form (Seadle & Greifeneder, 2007). Their goals and purpose are the same as that of traditional libraries, i.e., to provide knowledge to the people.

Over the past few years, the digital library has gained significant importance as it provides a more suitable solution to access the knowledge or library resources anywhere and anytime.

But the potential of digital libraries is not recognized by the learners entirely. The learners still visit individual websites to find the e-resource, which is time consuming and on top of this, they have to learn search and retrieval techniques separately (Bashir, Nasreen & Loan, 2019). In this background, one such initiative undertaken by the Union Ministry of Human Resource Development (MHRD), Govt. of India in collaboration with the Indian Institute of Technology, Kharagpur was the launch of the National Digital Library of India (NDLI) on 19th of June 2018. In the present era, it was found that many educational institutions may have their own digital archived whose access is limited only to their students and their staff, but NDLI provides a global platform (Darandale, 2017). The main motive of NDLI is to make digital education facilities available for all to encourage and inspire learning among the nation's people. NDLI is a single window platform employed with federated and filtrated search to make the learners find the resources or materials with minimum time and the least effort (ibid).

NDLI has also developed an Android mobile app to make it more convenient for its users. The system contains materials from multiple subject domains such as science and technology, commerce and humanities, agriculture and other subject matter. This platform is developed to help students prepare for different competitive exams, assist researchers in accessing their research from multiple sources around the globe and provide a research interface for its users. To access books on the wide subject matter and have various resources, the NDLI has joint hands with public libraries, libraries of Indian educational institutes, and big international libraries. It has more than three crores of digital content to date, and the Union HRD Ministry of India has given the people free access to 78 lakh contents after the lockdown. It allows users to access the contents digitally absolutely free of cost. To have complete access to the content, an individual needs to get registered himself. It has been reported that 50 lakh students have already registered under this portal, and there are about 20 lakh active users of NDLI (GK Today, 2019). In the context of the above background, the researcher has tried to understand the familiarity of the National Digital Library of India amongst a certain population and to assess the advantages and disadvantages or weaknesses of the NDLI from users' viewpoint. The study provides an overview of the NDLI among the respondents regarding their awareness level, uses, experience and also helps us assess the weak points of NDLI from user's viewpoint so that steps can be taken accordingly to make this platform a better version of itself.

Literature Review

Lesk (1997) has defined digital libraries as collecting digital information in an organized manner. Traditional libraries and archives have always done that. It has been made possible with the digital representation computer" (Saracevic, 2000). A study on "Awareness and use of e-resources" (Kaur & Kathuria, 2016) understood that ease of research, fast searching capability and easy downloading of e-resources make it an integral part of information. Various studies have been conducted to understand the demand side or user's perception of a digital library. A UGC Infonet Digital Library Consortium survey examined information searching patterns, internet access, frequency of use, opinion towards its services and problems faced on it for analyzing the awareness and its usage (Thanuskodi, 2012). The study revealed that though people are aware of such services, their extent of detail awareness is relatively low. They suffer from less content to fulfill the requirement of the users (More, 2019) brought to light that, however, there is widespread awareness of digital resources among the students, but its use is minimal, and almost 80% of students were seen to face problem in finding out the required

information with the usage of digital resources. A study conducted at IIT Roorkee on the “Use and awareness of electronic information sources” unveiled that faculty and research scholars have more awareness and take more advantage of electronic information sources compared to undergraduate and postgraduate students. To the positive aspect of e-resources, 100% of the studied group accepted that using e-resources has highly improved their quality of research or learning (Tyagi, 2011). Singh (2017), in his study, revealed that finding the required information is a common problem that hinders the use of digital resources. On analyzing the “Awareness and usage of UGC-Infonet Digital Library Consortium E-resources among teachers and students” it was suggested that more awareness programs on such services should be conducted for its effective utilization (Joshi & Gondalia, 2015). In a study conducted amongst the faculty members of various college libraries of KSA, Saudi disclosed that demographic variables such as gender, age, teaching experience, designation and education of faculty members have a significant association with awareness and usage of Saudi Digital Library. It was found that 26.5% of the samples used such a digital library daily, 34.5% browsed the required content from their home, 83.6% preferred e-resources over print resources, and 40.7% were satisfied with the service to some extent; however, 71.2% contend with insufficient-resources in Saudi Digital Library. The study also highlighted that creating awareness through emails and by conducting a conference and seminars is the need of the hour to convert the non-users of such facilities or services into active users. (Gangwani & Alhaif, 2020). The above discussion leads to the development of the following framework:

However, it has been observed that the prior studies lack making a detailed analysis of the extent of awareness of any e-resources and especially there found a gap in studying the National Digital Library of India (NDLI), which is a very innovative action introduced by the Government of India for availing digital learning amid COVID-19. Therefore, to understand the familiarity of NDLI among the students, research scholars and teachers, the following research questions and hypotheses are framed based on the conceptual learning of the prior studies.

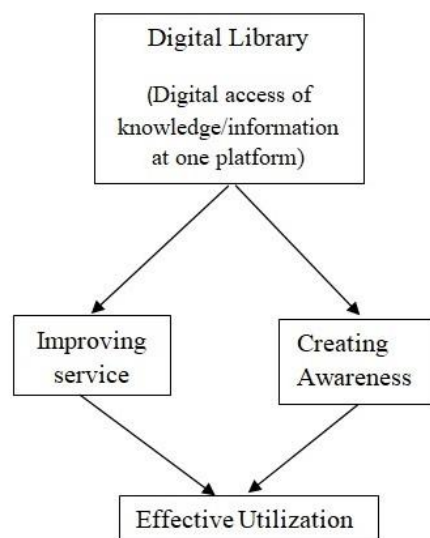


Figure 1: Conceptual Framework for effective utilization of digital library

Research Questions

I. Are the respondents aware of NDLI? What is the extent of awareness of the respondents on NDLI?

II. Do the designation and educational qualification of the respondents relate to their extent of awareness of NDLI?

III. Do the respondents use or install the NDLI app on their devices? If so,

- a. How frequently do they use it?
- b. Whether they can find the required content?
- c. How much do they rate the performance of the app?

IV. If the respondents are aware of the NDLI app but not using it, then what is the reason behind it?

Materials and Methods

The study takes into account both primary and secondary data. Various articles, journals, books and other online sources were used to collect the secondary data. Preliminary data was gathered from students, research scholars and teachers. The study is descriptive in nature, followed by a correlational study. The descriptive research design was used to describe the nature of the respondents, their level of awareness of NDLI, frequency of use and the reason behind not using such a platform and a correlational study was conducted to understand the association of some of the profiles of respondents with the extent of awareness on NDLI. The survey was conducted in India from December 2020 to April 2021. Since the study population was considered infinite, using Cochran's formula, assuming maximum variability of 50% and considering 95% of confidence with $\pm 5\%$ desired level of precision, the sample size was calculated as 384. To get the response rate of at least 30%, 1300 Google forms were sent via email, WhatsApp and Facebook messenger and when the number of responses reached 384, receiving further responses was stopped for further proceeding of the research paper. The respondents were selected using snowball sampling, and the google forms were sent all over India. Structured questions were used in the google form after testing the questions in the pilot survey, conducted in November 2020 on 30 samples, ten from each group (students, research scholars and teachers). The data and information obtained are then analyzed with the required statistical techniques and presented using MS Excel as per the nature of the data. To test the hypothesis, the data were processed and presented through SPSS. Besides this, many existing works of literature and related topics were consulted for proper analysis of the study.

Results

Awareness of Respondents on NDLI

From figure 2, it is inferred that out of 384 respondents, only 162 respondents, i.e., 42.2% were aware of the National Digital Library of India. From the query on ever used or accessed NDLI, only 15.4% of respondents responded affirmatively. The above figure also shows that only 56 out of 384 respondents have installed the NDLI app on their mobile or laptop.

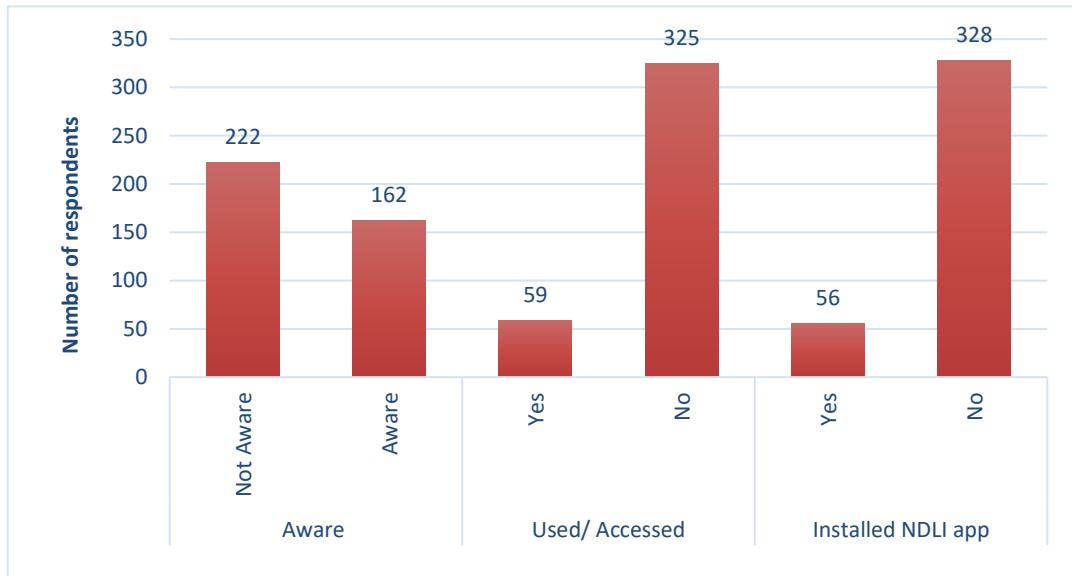


Figure 2: Awareness and use of NDLI N= 384

The extent of awareness of NDLI

The depth of awareness of respondents about NDLI was depicted using three levels of awareness, ‘high’, ‘medium’ and ‘low’. While analyzing the respondents' awareness, it was found that all the respondents are aware of the features and functioning of NDLI. Thus, all 384 respondents responded to the questions measuring their extent of awareness even though 222 respondents directly replied that they were ‘not aware’ of NDLI. To measure the extent of awareness, ten multiple choice questions were asked covering all the aspects of NDLI and each correct and incorrect answer was scored 1 and 0, respectively. Subsequently, the score of all the questions was added and converted into a ‘high’, ‘medium’ and ‘low’ level of awareness using the percentile of ‘33’, ‘66’ and ‘100’, respectively (Mughal, 2018). In fig. 3 shows that most of the respondents, 39.3%, have a low awareness of the National Digital Library of India. To understand the level of awareness of designation and educational qualification of respondents, in-depth analysis is done using chi-square and cross-tabulation.

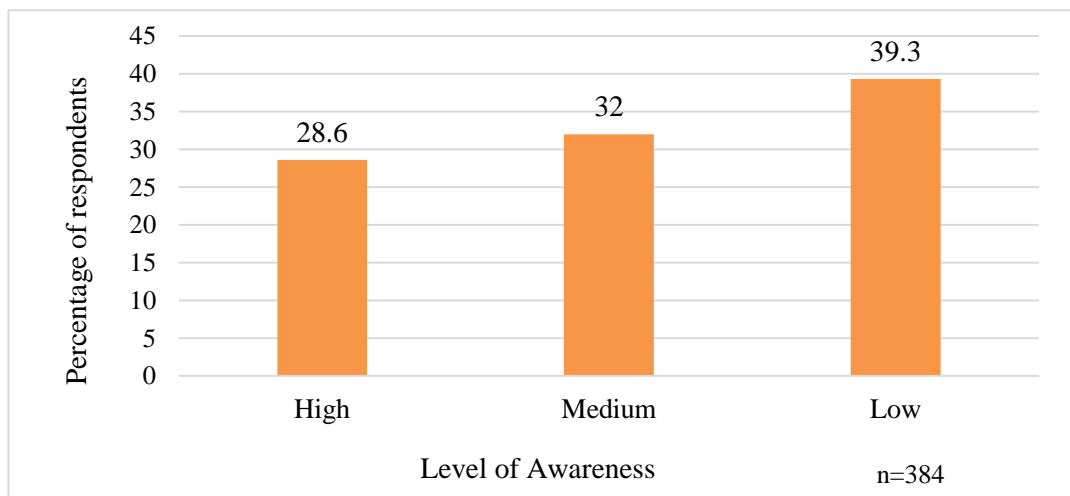


Figure 3: Extent of awareness on NDLI

The following two hypotheses were formed to answer the research question, "Do the designation and educational qualification of the respondents have any relation with their extent of awareness of NDLI?":

a. There is an insignificant association between the designation of respondents and their level of awareness of NDLI.

b. There is an insignificant association between the educational qualification of respondents and their level of awareness of NDLI.

In the hypothesis mentioned above, the independent variables are the respondents' designation and educational qualification, the dependent variables are the respondents' awareness level of NDLI, and the chi-square test was used to test the hypotheses.

To test the null hypothesis 'There is insignificant association between designation of respondents and their level of awareness on NDLI', the chi-square test was used. Here the 'designation of respondents' included three items, i.e., students, teachers and research scholars. The result of the chi-square test and symmetric measures are shown in Tables 1 and 2, respectively. The value of Pearson chi-square is 32.770 with a $df = 4$, and the p-value is 0.000, which is less than the significance level of 0.05. The strength of association through symmetric measures showed the contingency coefficient value of 0.28. This concludes that there is an association between the designation of respondents and their level of awareness of NDLI. To explain how the designation of respondents and their level of awareness of NDLI are associated, the crosstabs table 3 is presented below.

Table 1

Chi-Square test for association between designation and level of awareness on NDLI

	Value	df	Asymp. sig
Pearson Chi-Square	32.770	4	.000
Number of respondents	384		

Table 2

Symmetric measures for association between designation and level of awareness on NDLI

Nature of variables	Test	Value	Approx. Sig
Nominal by Nominal	Contingency coefficient	0.280	0.000
Number of samples	384		

Figure 3 already showed that though the maximum number of samples have a low level of awareness on NDLI but the table 3 showed that among the studied group of students, teachers and research scholars, maximum numbers of students (50.2%) have comparatively low level of awareness on NDLI and research scholars (50%) have comparatively high level of awareness.

Table 3

Cross-tabulation of Association of respondents' designation with their level of awareness on NDLI

			Awareness on NDLI			Total
			Low level of awareness	Medium level of awareness	High level of awareness	
Designation	Students	Count	109	59	49	217
		Percentage	50.2%	27.2%	22.6%	100.0%
	Teachers	Count	33	45	33	111
		Percentage	29.7%	40.5%	29.7%	100.0%
	Research Scholars	Count	9	19	28	56
		Percentage	16.1%	33.9%	50.0%	100.0%
Total number of respondents (n=384)		Count	151	123	110	384
		Percentage	39.3%	32.0%	28.6%	100.0%

To test the null hypothesis 'There is insignificant association between educational qualification of respondents and their level of awareness on NDLI', chi-square test was enacted and shown in Table 4.

Table 4

Chi-Square Test for association between educational qualification and level of awareness on NDLI of respondents

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.802	8	.000
N of Valid Cases	384		

The result of the Pearson chi-square test in Table 4 showed a p-value of 0.000, implying the null hypothesis was rejected. Thus, it is concluded that there is an association between the educational qualification of respondents and their level of awareness of NDLI. Cramer's V value of 0.257, shown in Table 5 and a degree of freedom =8 indicate an association of respondents' educational qualification with their level of awareness

Cross tabulation presented in Table 6 explained that respondents with educational qualifications of class 10 but below class 12 have comparatively low level of awareness and those with the educational qualification of post-graduation possessed a comparatively high level of awareness. This indicates that proceeding toward higher educational qualifications retained a higher awareness of NDLI.

Table 6

Cross tabulation of association between educational qualification and level of awareness on NDLI of respondents

			Awareness Level			Total
			Low level of awareness	Medium level of awareness	High level of awareness	
Educational Qualification	Below Class 10	Count	6	15	5	26
		Percentage	23.1%	57.7%	19.2%	100.0%
	Class 10- Below12	Count	4	2	3	9
		Percentage	44.4%	22.22%	33.3%	100.0%
	Class 12-Below Graduation	Count	60	20	20	100
		Percentage	60%	20%	20%	100.0%

			Awareness Level			Total
			Low level of awareness	Medium level of awareness	High level of awareness	
Graduation- Below post	Count		42	29	26	97
	Percentage		43.3%	29.9%	26.8%	100.0%
Post- Graduation	Count		35	59	58	152
	Percentage		23.0%	38.8%	38.2%	100.0%
Total number of respondents (n=384)		Count	147	125	112	384
		Percentage	38.28%	32.55%	29.17%	100.0%

Frequency of use of NDLI app

Figure 4. shows how frequently the respondents use or access the NDLI app with the options given to them as 'daily', 'weekly' 'monthly' and 'as and when required'. The question on frequency of use is followed by respondents' response on the installation of the NDLI app by respondents; thus only 56 respondents out of 384 samples responded to this question. The above figure pointed out that most respondents, i.e., 68% out of 56, used the NDLI app 'as and when required', and 14% used it weekly. Only 9% of the respondents used the app daily, and 9% used it monthly.

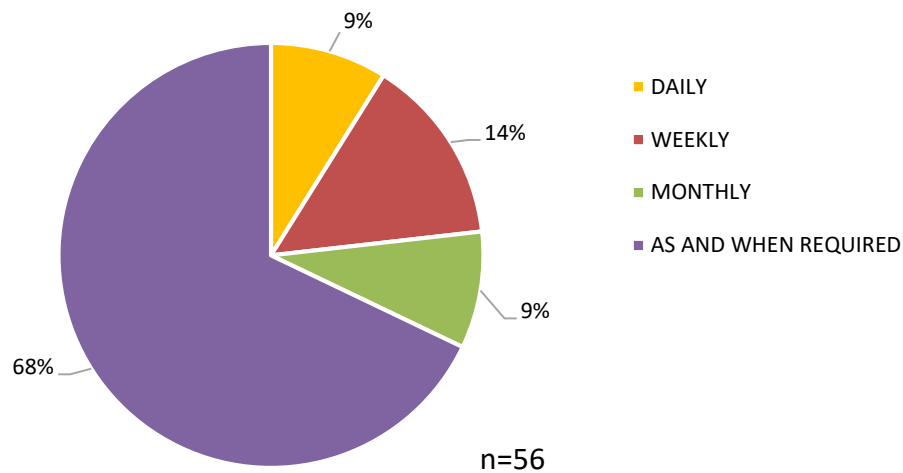


Figure4: Frequency of use of NDLI app

Availability of required content

When the respondents were asked about the availability of required content in the NDLI app, it was analyzed through the responses of 56 respondents that 46% of respondents could find the needed content, while 54% of respondents answered that they 'somewhat' able to get the necessary content from the app. Access to some content may require membership, and, in some cases, the current or updated issue may not be uploaded (Figure 5).

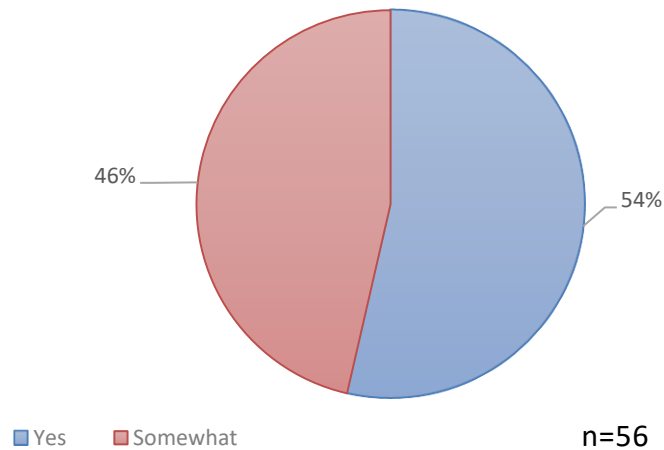


Figure 5: Availability of required content

Rating on the performance of the NDLI app

Figure 6 depicts the experience of respondents in using the NDLI app. The response was taken on a five-point Likert scale ranging from ‘very poor’, ‘poor’, ‘neutral’, ‘good’ and ‘excellent’. 56 out of 384 respondents (those who have installed the NDLI app) responded to this question. It is inferred from the figure that most of the respondents, i.e., 71% of respondents out of 56, rated the performance of the app to be ‘good’ followed by ‘excellent’ and ‘neutral’.

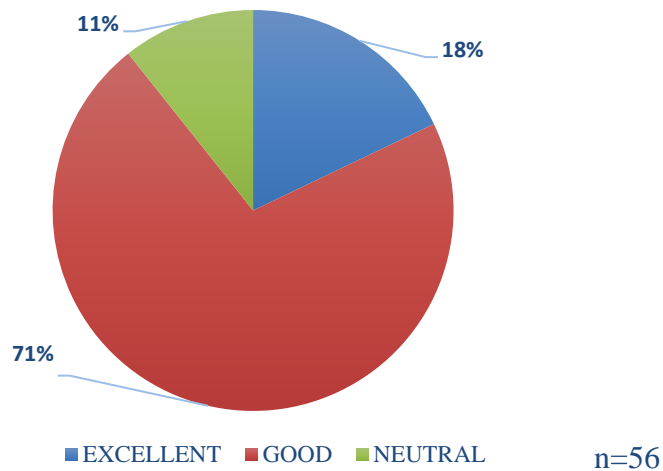


Figure 6: Experience on using the NDLI app

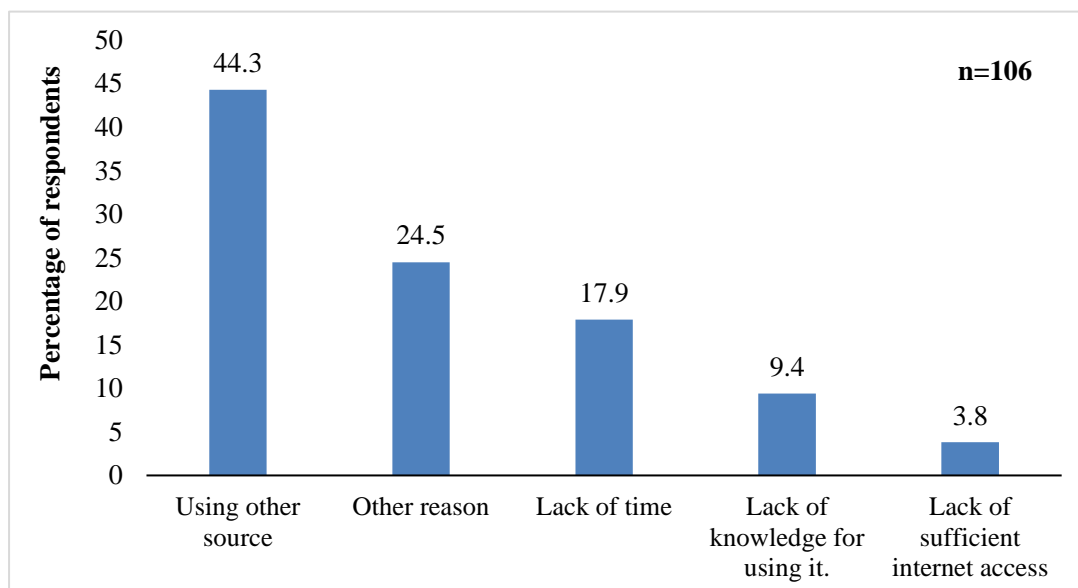


Figure 7: Reason for not using or accessing NDLI app.

Reason for not accessing NDLI app

From figure 2, it was found that though the respondents were aware of NDLI, a much smaller number of respondents have installed such an app. It showed that 106 respondents had not installed the app even being aware of such a facility. When the reason for not using or accessing the NDLI app was analyzed, Figure 7 showed that out of 106 respondents, 44.3% did not use the app as they already used other sources to find the required content, 24.5% for different reasons, followed by 17.9% due to lack of time, 9.4% and 3.8% for 'lack of knowledge for using it' and 'lack of sufficient internet accesses respectively.

Discussions

The data analysis shows that most respondents were unaware of the National Digital Library of India (NDLI). When their extent of awareness was examined, it was found that the respondents were familiar with the concept and all the respondents answered the questions relating to the features and functioning of NDLI. It was detected that the overall level of awareness of NDLI was low among the respondents and the detailed examination showed that students have comparatively low levels of awareness among the different groups of respondents. Thus, the weak point is that where awareness is needed, that is, among students and teachers, they have a comparatively low and medium level of awareness, respectively. Similar findings were found in a study conducted at IIT Roorkee (Tyagi, 2011), where the faculty and research scholars have more awareness and use electronic information sources than graduate and post-graduate students. However, it was seen that the relationship between educational qualification and level of awareness was strong, and those who qualified post-graduation had a comparatively high level of awareness.

It was also found 26.8% of the gap between those who were aware of NDLI and ever used/accessed NDLI. The gap was 27.62% between the samples' awareness and installation of the NDLI app. When the reason behind such a gap was enquired, it was found that most of the samples used another source to find their required content. In this study, 68% of the users of the NDLI app were found to use it as and when needed. Only 9% of the respondents used the

NDLI app daily. The study resembles a study conducted in Saudi, where only 26.5% of the respondents use the digital library daily (Gangwani & Alhaif, 2020).

Regarding the availability of required content in the NDLI app, it was observed that respondents could not entirely but, to some extent, find the required content and access the NDLI app as and when they need it. A similar type of findings was found in a study conducted in Tamil Nadu, where almost 80% of students faced difficulty finding all the required information while using digital resources (Thanuskodi, 2012). The study resembles another study conducted in Saudi Arabia, where 71.2% contend within sufficient e-resources in Saudi Digital Library (Gangwani & Alhaif, 2020). But the vital point found in the survey was that most of those who have accessed the NDLI app rated 'good' the app's performance. Some suggestions were also received from the respondents in the suggestion column of the questionnaire, which included that more awareness could be created on such a platform through emails by conducting conferences, workshops and seminars in the educational institutions.

Conclusion

The study concludes that introducing NDLI is a crucial initiative to make digital education facilities available to all under one platform so that the learners can find the required resources with the least effort and minimum time. Especially in the Covid-19 pandemic, such facilities are of utmost importance. It was observed that though people were aware of such services, their extent of detail awareness was quite low, and the users could not recognize its potential entirely. On the other hand, designation and educational qualification also significantly impacted their extent of awareness regarding this platform. However, less content to fulfill the users' requirements was another weakness of this platform. Access to some of the content may require membership, and, in some cases, the current or updated issue is not uploaded, which is a drawback for its users. Therefore, such drawbacks should be reduced, and efforts should be made to keep the contents updated, and access to the contents should be made available to all its users irrespective of their membership.

Furthermore, initiatives should be taken to conduct more awareness programs on such platforms for their effective utilization. As the analysis showed that students have a low level of awareness; therefore, the focus should be made on creating awareness among the people, especially among the school, college and university students, through emails and by conducting conferences, workshops and seminars which will help to make more usage of such platform properly. Such initiatives will immensely help convert the non-users of such facilities or services into active users and also help avail the benefits of such platforms for its learners.

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