

Usability study of the NDLI Club website and its processes: Perceptions of librarians in selected CBSE schools and AICTE Affiliated Colleges in Kerala state, India.

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Abstract The National Digital Library of India is a resource-sharing platform meant for schools, colleges, universities, teachers, students, lecturers, differently-abled pupils, and anyone interested in widening their knowledge horizons. NDLI Club is an initiative from the NDLI authorities to popularize learning and knowledge-sharing activities in educational institutions. This study mainly focused on the perceptions of librarians about the effectiveness of the NDLI club website, which is an integral part of uploading club activities, as well as the processes put in place by the Club authorities for its integration with academic institutions. This usability study was conducted among Librarians of selected CBSE schools, and AICTE accredited colleges in Kerala. The methodology adopted was an online survey, and data were collected from the respondents using a questionnaire. The main aim is to find the significant challenges faced by NDLI club users with regard to the initiation of the club and the updation of the website. To popularize NDLI Clubs, smooth transitions in processes are of crucial importance and hindrances, if any, must be managed wisely and promptly. The study focuses on finding probable solutions for this so that the concept of the NDLI team, 'democratization of education' is achieved smoothly.

Keywords: National Digital library of India, NDLI Club, NDLI Club Usage, Perceptions of Librarians.



Introduction

India has one of the Youngest Populations in the World, With an average age of 29. According to a 2013 research published by the Federation of Indian Chambers of Commerce and Industry (FICCI), the country will need to create six new universities and 270 new colleges per month for the next 20 years to train this enormous young population. It was an impossible goal! Or so it appeared until 2014 when IIT Kharagpur conceptualized the National Digital Library of India (NDLI; <https://ndl.iitkgp.ac.in/>), intending to provide equitable access to educational resources for all Indians via a single window access method. NDLI is a meta-library—a site that connects users to hundreds of libraries in India and overseas and delivers more than 81 million forms of educational information in over 100 languages, including various vernaculars used throughout the country—funded by the Ministry of Education, Government of India¹.

National Digital Library of India is a signature program by IIT Kharagpur under the sponsorship of the Ministry of Education, Government of India. It is a virtual repository of innumerable learning resources curated and executed with a single-window search facility. Filtered and integrated search ability is available to help focused searching for learners. This is in accordance with the fundamental principles of librarianship- “Right resource for the right user at the right time” and “Save the time of the user”. NDLIs' vast resources cater to all types of learners ranging from children, the general public, and lifelong learners to researchers and educators. The initiative endeavours to bring resources from several Indian languages and a wide variety of content from organizations of excellence under a single umbrella¹⁻². School libraries as dynamic learning spaces help students and educators with their intellectual enrichment. Librarians are now instructional partners, information specialists, media educators, resource planning consultants, and content curators³. School librarians' skills and professional competencies pitched in and contributed much towards creating a hybrid learning atmosphere in schools more than ever during this pandemic. These resourceful librarians adapted and emerged as 'future ready' educators by embracing the endless possibilities of technologies, providing all those digital resources in the most suitable ways⁴. NDLI Clubs were introduced in educational institutions to popularize the use of NDLI resources. The main requirement for NDLI Clubs is to conduct at least ten activities yearly that support learning and skill development. The club authorities' activities aim to promote reading, knowledge enhancement and overall intellectual growth of students and faculty members of the institution. It was observed that the successful running of NDLI Clubs depends mainly on the official website registration and updation of activities. The effectiveness of this multi-step process needs to be reviewed to know the status of NDLI Club's performance in educational institutions.

Review of Literature

Here, the authors tried to review a few studies published earlier about the user-friendliness of the National Digital Library of India app and website and some other digital libraries worldwide.

Ritu Sharma et. al (2021) conducted a study on Users' Sentiment Analysis toward the National Digital Library of India: A Quantitative Approach for Understanding User perception. They have suggested the improvement of user-friendly features as demands for resources are increasing at a fast pace. This paper recommends that the NDLI official team be proactive in dealing with user queries. This study was found to be a good resource for future research about the National Digital Library of India Services⁵. **Simran Kaur & Rupak Chakravarthy (2021)** published a research study on analytics to measure library use and mobile app satisfaction. The study gives a good insight into the part played by mobile apps in providing easy access to library services. The findings say that user-friendly apps developed by libraries will improve user satisfaction to a great extent⁶. **Hussain Sulaiman, & Edwards (2003)**, in their paper, charts out how the concept of national Digital Libraries is gaining popularity and what all are the important components in it. They also discuss the various practices needed for the effective implementation of an NDLI. They point out the importance of content management, policy decisions, and governance for running such digital libraries successfully⁷. **Gollapudi Manikya Rao (2021)** opines that the initiative aims to make the National Digital Library accessible to the public and is a historic attempt to make education accessible to all. This initiative helps all Indian students, academicians, researchers, and the general public to utilize several valuable resources which are otherwise not easily accessible. The author requests all to grab this opportunity and contribute to the progress of the country⁸. **Sanaman & Kumar (2015)** Examined the user's awareness and satisfaction level with the available assistive technology (AT) facilities for people with disabilities in India's National Capital Region (NCR) libraries. The study identified as Assistive technology is vital in the lives of people with disabilities because it improves information access and allows users to complete tasks more precisely and independently⁹. **Rao et al. (2018)** explored the Perception of Semi-Professionals using ICT in the Manipal Academy of Higher Education Libraries. Based on the findings, the study revealed that most respondents opined that ICT has considerably changed their duties and responsibilities. The study concluded and suggested that Support appropriate library technologies to help semi-professionals with library housekeeping and user services¹⁰.

Methodology:

The dearth of literature on the NDLI club website/process user experience allows this research to start to fill a gap that will help form a baseline for future research studies on this subject. The methodology adopted generated predominantly qualitative data in our research. A survey was created in Google form that addressed all the aspects of user experience regarding the club website and the process that NDLI required participating institutions to adhere to. The

survey was conducted totally online, and the data collected was stored in digital format for further studies. We targeted the academic community in all curriculums in the southern state of Kerala for the study. The survey questions were designed in consultation with peer librarians in the region and from reviewing relevant literature related to the content and structure. We employed ANOVA for the qualitative data analysis.

I. Socio-Demographics:

As shown in Table 1, the major respondents were women (70.4%), and most of them were in the age group of 35- 44 (32.7%). Respondents from the age group 25 – 34 and 35 – 44 followed a closed second at 26.5% the least number of respondents came from the 18 – 24 age group (6.1%).

Table. 1

Gender

Sl No.	Gender	Frequency	Percentage
1	Female	69	70.4
2	Male	29	29.6
	Total	98	100.0

Age

Sl No.	Age	Frequency	Percentage
1	18 - 24	6	6.1
2	25 - 34	26	26.5
3	35 - 44	32	32.7
4	45 - 54	26	26.5
5	55 - 64	8	8.2
	Total	98	100

Institution Type

Sl No.	Institution Type	Frequency	Percentage
1	AICTE approved college	45	45.9
2	CBSE School	38	38.8
3	IB Schools	6	6.1
4	State Board School	9	9.2
	Total	98	100.0

While the survey was open to all librarians in the academic sector, in the case of colleges, we targeted the schools that have already received approval from the All India Council for Technical Education (AICTE). As NDLI affiliation is now a very strong part of the yearly accreditation process, 45.9% of the responses to the survey were from this segment, which makes our findings highly valuable. 38.8 % of the remaining responses came from CBSE School –which was not surprising as the outreach work from NDLI has made a point to make their presence felt in the schools under the central board.

Out of the 98 respondents who participated in the survey, 70% were women. Though it is in no way an indicator of the gender imbalance in this profession, the fact that most school librarians are from the fairer gender has influenced the

outcomes observed from further readings of the survey response. As mentioned above, the mandatory AICTE college requirement of having NDLI membership could explain the reason for the high awareness of the resources and their usage (66.7%) – Fig 1. This could also be why NDLI clubs are more prevalent and active in these institutions.

Presence of NDLI Club in the institutions:

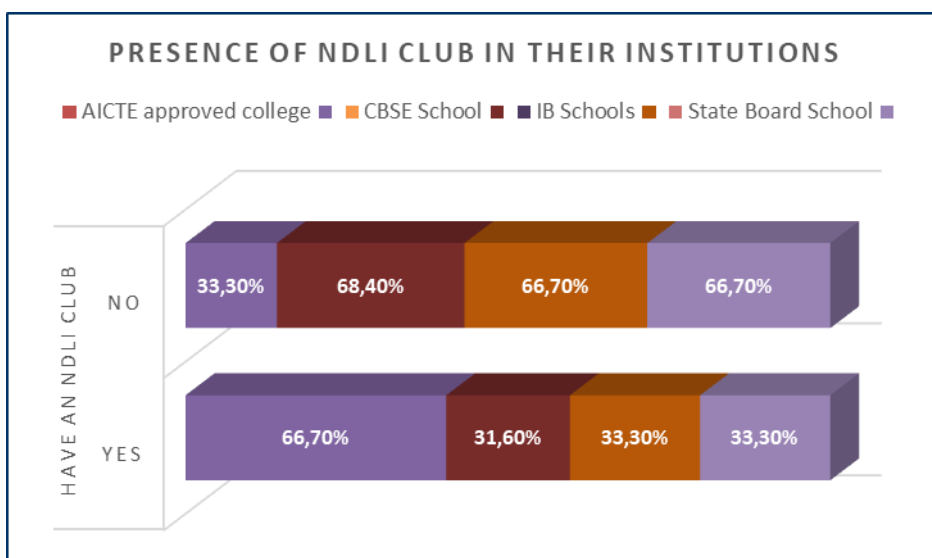


Figure I

NDLI Clubs seem to have a higher presence in CBSE schools among the school category (31.6%) while the IB and State Boards Schools have very nominal (66.7% in either curriculum confirming that they do not have NDLI clubs in their institutions).

III. Proficiency in Library software & computer operations – Age & Gender relationship:

In order to understand the relationship between gender & age with proficiency in using a computer or the library software, the respondents were asked to mark their gender regarding their familiarity with technology. 20.3% of the women responded that they are extremely familiar with the Library software as opposed to 17.2 % of men. 52.2% of women and 48.3% of men confirmed that they are very familiar with the technology. Regarding the age and its relationship to the software's ease of use, Fig II clearly indicates that all respondents that fall within the 55 – 64 range (50.0 %) were the most proficient users. The librarians

in the 35 – 44 age group are the most efficient users at 33.3%, followed by the younger generation in the 18 – 24 years range at 33.3%.

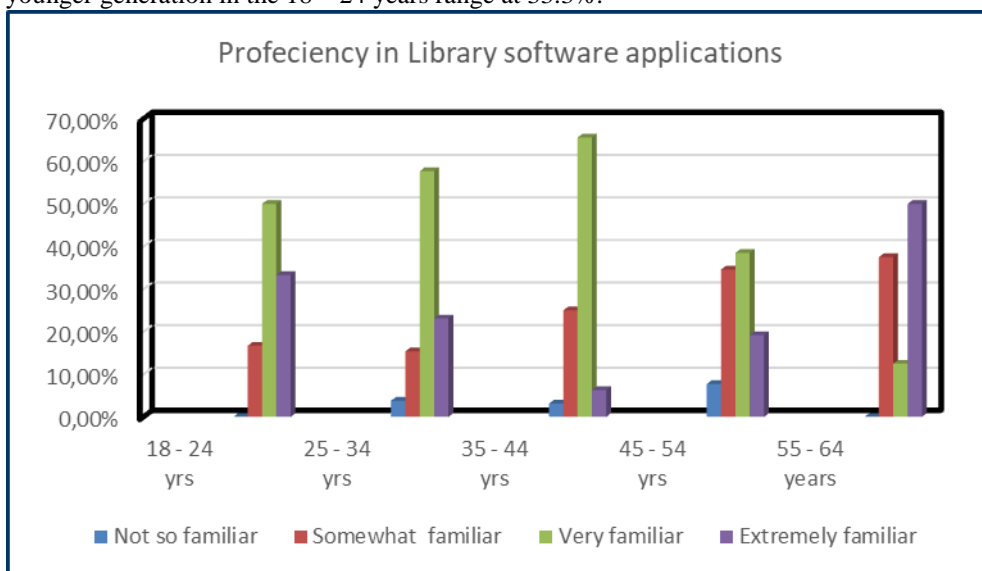


Figure II

IV. Presence of NDLI Club at the institution and member registration through the club portal:

Only 42% of the total respondents – less than half of the institutions who responded - have registered their institution with the NDLI Club. Of that, 45 responses were from the AICTE-approved colleges registered with NDLI, and 30 (45.9%) of them have NDLI Clubs in their institution compared to the 38.8% in the CBSE school category. The IB and State schools have only 33.3% of their institutions registered with NDLI with an established NDLI Club. 85.1% of all these institutions have registered their members in the NDLI club portal – 14.9% have not.

V. Registering with the NDLI Club portal – Feedback from the institutions:

Among the respondents who had already registered NDLI Club in their institution, 19.1% found the process of registering their institution with the NDLI Club complex. While 23.4% found it neither easy nor difficult, 57.4% declared they found the whole process smooth and easy. Of the 51 institutions that confirmed that they do not have an NDLI Club, 26 were unaware of the existence of the club facility, while 11 said they were not sure of using such a club in their institution. Seven respondents stated that they found the process of registering confusingly to follow through. There was no response from the balance 7. Out of the 51 respondents that confirmed the non-existence of the NDLI Club in their institutions, 66.6% would like to have it, while the remaining 33.4% declined.

VI. Conducting events through the NDLI Club portal:

The 47 respondents, who confirmed the existence of NDLI Clubs at their institutions, were further asked about the event conduction through the NDLI Club portal. The questions asked were regarding:

The frequency of events that the *NDLI Club conducted at their institution* – 13 confirmed that they always did through the NDLI Club, while seven stated that the club at their institutions never conducted any events. Six of them confirmed that their clubs regularly conducted events through the NDLI Club, and 21 did so sometimes.

1. Recording event details through the NDLI Club portal – of the 40 institutions that confirmed that they conduct events under the NDLI Club banner, 30 of them recorded the event details on the Club website, while ten never recorded anything through the NDLI Club portal.
2. Issues in uploading and publishing the event details – On asking whether they publish their events through the NDLI Club so that participants can register for the event, only 17 of the 40 institutions confirmed that they do it. Twenty-three remaining institutions record the event in the Club portal but do not publish it for participant registration.
3. Difficulties with the technical aspect or in issuing certificates to participants – These numbers were similar to the above question – 23 institutions had difficulties with the technical aspects of the NDLI Club portal and in issuing certificates to the event participants. At the same time, 17 declared they had no difficulty with it.
4. Do your institutional members 'Register' for events when they get a notification. On an average (36.2%), the participants responded that the registered members of NDLI Club in their institution registered for participating in events through the 'Register' link sent out when an event is published. 25.5% responded that this rarely happens on their campus, while 17.7% indicated that 'sometimes' the members register through the event link. Out of the 40 participants who responded to this question, two confirmed that registration for events through the NDLI Club never happens.

Table 2
Frequency of Conducting events under NDLI Club

	Frequency	Percent
Always	13	27.7
Regularly	6	12.8
Sometimes	21	41.7
Never	7	14.9
Total	47	100

Recording Event details in the NDLI club website

	Frequency	Percent
Yes	30	75
No	10	25
Total	40	100

Have Issues in uploading and Publishing event details

	Frequency	Percent
Yes	17	42.5
No	23	57.5
Total	40	100

Have Difficulty with technical aspects or in issuing certificates

	Frequency	Percent
Yes	17	42.5
No	23	57.5
Total	40	100

Do your Institutional members “Register” for events

	Frequency	Percent
No response	2	4.3
Always	17	36.2
Never	3	6.4
Rarely	12	25.5
Sometimes	13	27.7
Total	47	100

VII. Rating experiences with the NDLI Club portal:

Participants were asked to rate the level of their experience with the NDLI Club website on a scale of 1 – 5, with 5 being five stars or the best. The AICTE approved colleges that had

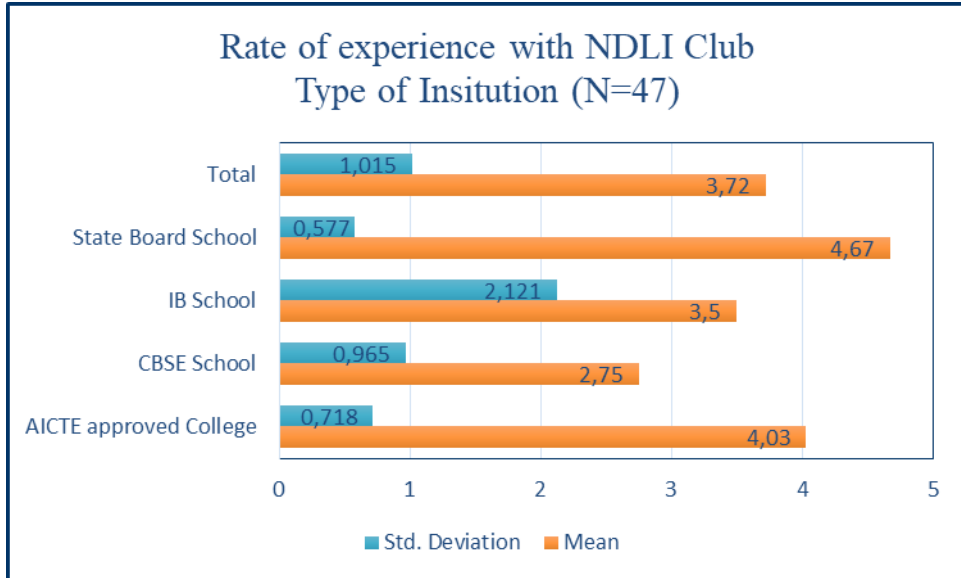


Figure III

The most registered NDLI clubs had a 4.03 ($n = 30$); meanwhile, the State board institutions showed a mean of 4.67 though $n = 3$ in this case. CBSE schools, on the other, had a mean of 2.75 with a standard deviation of 0.965 ($n = 12$)

As for the question on how helpful they have found the NDLI officials in handling their concerns, the majority of the participants felt Very satisfactory, Satisfactory, or Neither satisfactory nor dissatisfactory. One respondent found the experience dissatisfactory, while two did not answer this question.

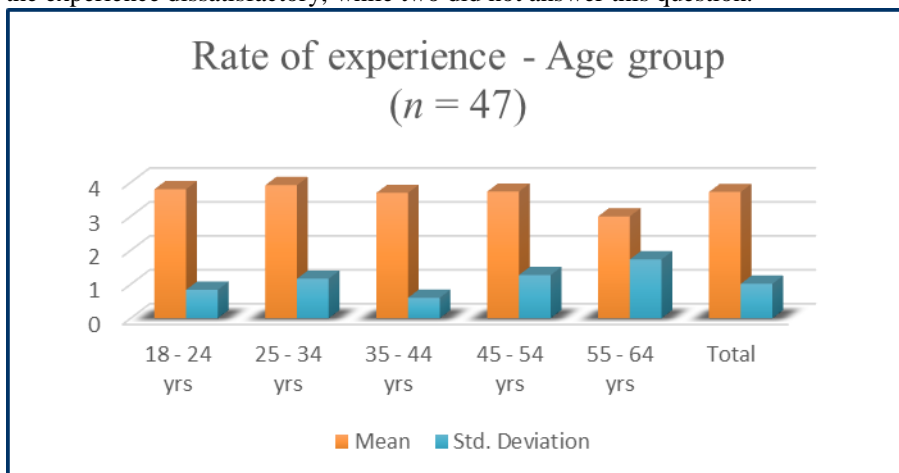


Figure IV

A study on the impact of age group on the user experience rate shows that the 25 – 34 year age range has had a better experience when using the NDLI club portal with a mean of 3.92, followed by the 45 – 54 age group at a mean of 3.72 (Figure IV).

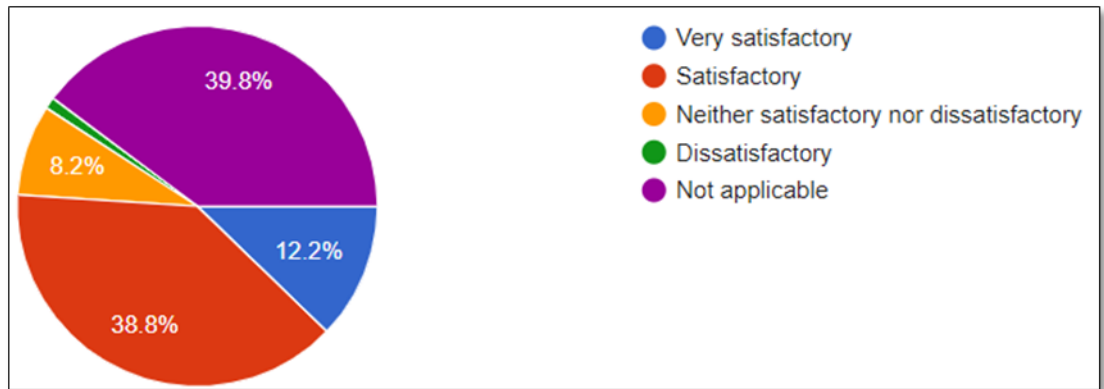


Figure V

As shown in Figure V, on asking how helpful they have found the NDLI officials in handling their concerns, 38.8 % of the respondents rated as 'Satisfactory' and 12.2% as "Very satisfactory", while 8.2% rated the experience as 'Neither satisfactory nor dissatisfactory'. One responded stated that they found it 'Dissatisfactory'. 39.8% responded as 'Not applicable.'

Qualitative findings:

Some of the questions formulated in the survey had a follow-up option as a text box to post comments on specific issues. Regarding the query "Do you find any difficulties uploading and publishing the event details?" The participants who had difficulties were invited to comment on any two issues they faced while doing so. Some of the comments are listed below:

1. *"Very difficult for language."*
2. *"Taking too much time."*
3. *"Complex process. Not user friendly."*
4. *"Very complex process"*
5. *"Event registration and completion with the upload of proofs is very complicated."*
6. *"Students find it difficult to register for an event"*
7. *"The process is confusing."*

8. *"very tedious and time-consuming."*

Generally, the comments tended toward the process being too complex and time-consuming.

A text box was provided as an added option for 'Suggestions to improvement experience with the NDLI Club portal'. Some of the relevant comments posted are as below:

1. *"Of events conducted should not be mandatory."*
2. *"Terms and conditions for membership of NDLI Club are complicated. It should be easy. as earlier."*
3. *"Need more flexibility."*
4. *"The platform needs to be user-friendly."*
5. *"Update new technologies. Organize Awareness program to all kinds of people"*.

Many of the comments received requested more awareness sessions and to simplify the process. As shown above, most participants found the procedure's inflexibility to enrol or conduct the event detrimental.

1. *"Club registration process must be made simple."*
2. *"Members will be able to download their Participation Certificate only with the help of computer/laptop; but using Mobile, Members cannot download their Participation Certificate. This problem must be rectified".*
3. *"Member registration should be avoided while conducting the event. Only institutional registration by club authority is needed. Uploading details by members also makes the process complex and difficult to handle, especially for ordinary members."*
4. *"Please make being part of the NDLI club less cumbersome. Registering every year, registering for events for participants, number of fields to fill etc. are too troublesome and most times do not happen - thereby making us ignore the whole resource."*

Overall, the main thread of suggestions tended toward making the process simpler and user-friendly. Many comments also centred on having more awareness sessions, seminars etc.

Discussions & future directions

In this study, we employed the online survey method to collect the user experience data to find out 1) Who are the users that are registering with the NDLI Club 2) How aware they are of the resource, 3) whether NDLI lays out the processes for registering the institutional members in their Club website is seamless and smooth 3) How approachable are NDLI staff when resolving the

issues of their Club members and 4) If the users had any suggestions for improving their experience in the NDLI Club website and process involved in registering/conducting events.

Quantitative data shows that the main users of the website are members of a broad spectrum of socio-demographics. There seems to be no correlation to the user's age or gender in the website usage, and many respondents were proficient with using library software applications and related technology. Therefore, the author's hypothesis on whether demographics and technological inefficiency influence website usage was clarified with this study. As mentioned earlier, the presence of NDLI Clubs in the AICTE-approved colleges are much higher - this could be due to the mandatory status that NDLI has now obtained in the tertiary level of education in the country. As it impacts the accreditation and other credit score areas of a college, the effort from these institutions' management and academic community in familiarizing and using these resources and portals is therefore understandable. Many CBSE schools, on the other hand, have taken the initiative to introduce the resource on their own following the aggressive marketing and interaction sessions with the Chief Outreach Officer and his team. As seen in the data above, 31.6% of the CBSE schools who took part in this survey already have established NDLI Club within their institution. This also shows that the possibility of more schools under this curriculum linking with NDLI and its resources is very high, provided the outreach is networked efficiently. IB / IGSCCE or other International curriculum schools and the state schools are the least users of this valuable resource. While the content may have a slight disadvantage with the International schools, the State school especially need more assistance with active enrolment so that the number is much higher. The content in NDLI is massive for students in the Indian curriculum, be it State or Centre board. It is also observed that even when institutions register with the NDLI club, registration of student/staff members through the club portal is not as high in school as in the college systems. It seems to be more of a perfect undertaking than the exploitation of the resources by the school/college community. The reason for such a drop in the registration is, however, evident in the qualitative analysis. Another aspect that came to light was the unawareness among a good number of participants (51%) regarding the requirement to register and the use of being in the club (21.6%). Event recording, publishing, registration of participants through the club portal and then the generation of certificates to these participants – responses indicate that once the recording of the event happens, other than the AICTE-approved colleges, most other institutions do not bother with further steps.

Regarding how the participants perceive the entire process of enrolling on their institution and registering its members through the NDLI Club portal, the qualitative data highlight the cumbersomeness of the process and the time it takes to complete it. Technical glitches aside, they state that the process is very confusing. Very few institutions, however, have complaints regarding the approachability of the staff at NDLI when it comes to resolving their issues. The

main grouse, as mentioned, is the complexity and finding time in an otherwise busy schedule for most librarians.

Limitations of the study:

The most significant limitation of this study is the range of users interviewed. For instance, the number of discipline groups surveyed was restricted to only CBSE schools and AICTE-affiliated colleges in Kerala. The study could have been further extended by including librarians and faculty members from different institutions' backgrounds from all India levels, as this is the initiative of the government of India project through National Mission on Education through Information and Communication Technology (NMEICT). Also, the study would have benefitted from including students whose experiences of using and attending NDLI clubs and its various events and programs could have provided the base for a broader scope of conclusions. To address these limitations, it is recommended that further research is conducted to investigate the perceptions of Librarians and faculty members of those who are dealing with NDLI clubs in their institutions at all India levels towards its features and their usability. Such research could determine whether these NDLI stakeholders from different institutions have similar opinions. It can also be argued that the NDLI club website requires further investigation to ascertain how it can be made more relevant to users working within an academic setup. The lack of readily accessible literature about NDLI clubs is another limitation.

Conclusion

This study is one of the pioneers in the area of user experience with the NDLI Club procedures and website. Literature is abundant on the resources available at NDLI's leading site or the user experience concerning that. Many more such studies and feedback would go a long way in assisting NDLI in making its digital resources reach and broader audience and use them effectively. NDLI clubs are steadily gaining popularity in educational institutions all over India. NDLI outreach officials are conducting several awareness sessions and global events to increase the momentum of club formation in higher education institutions and schools. This study inferred that people need more awareness about events and requested that the registration procedure be made more accessible. Similarly, many registered club users appealed for the event conduct and updation procedure on the NDLI website to be less complicated.

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