

NDLI Club Effectiveness: Measuring the Impact of Digital Library Outreach on Student Learning Outcomes in Indian Higher Education

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Abstract

The National Digital Library of India (NDLI) Club initiative represents a significant institutional mechanism for extending the reach and impact of India's flagship digital library platform across higher education institutions. Launched by IIT Kharagpur under the National Mission on Education through ICT (NMEICT), the NDLI Club serves as an activity-based learning community designed to promote awareness, engagement, and effective utilization of the NDLI's vast digital repository through competitions, training sessions, workshops, quizzes, webinars, and thematic discussions. As of 2024, over 2,500 registered clubs exist in colleges across India, yet significant challenges persist, including limited geographic reach, inactive clubs, registration barriers, and uneven awareness among potential beneficiaries. This comprehensive review examines the effectiveness of NDLI Clubs in improving student learning outcomes in Indian higher education, analyzing the mechanisms through which club activities influence digital literacy, academic performance, research skills, and lifelong learning competencies. Drawing upon empirical studies from 2022-2025, including user perception surveys, implementation case studies, and awareness assessments, this paper identifies critical success factors and persistent barriers to club effectiveness. Research findings reveal that while NDLI Club membership correlates with increased awareness and usage of digital resources, with some institutions reporting nearly 500 student members actively engaging with club activities, the majority of clubs face significant operational challenges. A study of 17 colleges using Kurt Lewin's action research model found that only five colleges fulfilled all registration requirements, with challenges including complex registration processes, event creation difficulties, and report submission burdens. User perception research at DDGDVC Chennai documented that 88% of respondents expressed need for training, indicating that club activities alone are insufficient without structured capacity building. This paper proposes a comprehensive effectiveness framework encompassing four dimensions—awareness, accessibility, engagement, and outcomes—and provides evidence-based recommendations for optimizing NDLI Club impact through simplified processes, vernacular support, training integration, and institutional incentive alignment with NAAC and NIRF evaluation criteria. The study concludes that NDLI Clubs possess transformative potential

for democratizing access to digital learning resources, but realizing this potential requires systematic attention to implementation barriers, sustained institutional commitment, and evidence-based program design.

Keywords:

NDLI Club, National Digital Library of India, Digital Library Outreach, Student Learning Outcomes, Higher Education, Digital Literacy, Activity-Based Learning, NEP 2020, Digital India, Academic Engagement

1. Introduction

The National Digital Library of India (NDLI) represents one of the most ambitious digital education initiatives undertaken by the Government of India, offering free access to a vast repository of academic resources including textbooks, research papers, journals, archived newspapers, multimedia content, and examination preparation materials. Launched in 2018 by IIT Kharagpur under the National Mission on Education through ICT (NMEICT), the NDLI platform was envisioned as a single-window portal that aggregates and collates information from prestigious Indian and international educational institutions, making quality educational resources accessible to every citizen. The platform's search facilities in multiple Indian languages, including English and 14 regional languages, reflect its commitment to linguistic diversity and inclusive access.

However, the mere availability of digital resources does not guarantee their effective utilization. Recognizing this gap between access and engagement, the NDLI introduced the NDLI Club initiative—an activity-based learning community model designed to promote active use of the digital library through structured events, competitions, and peer learning activities. The NDLI Club is implemented through higher education institutions, with each club functioning as a student-driven community that organizes online lectures, quizzes, poster presentations, reading sessions, webinars, and thematic discussions. Participating students receive Certificates of Participation from the NDLI Club, and active members can accumulate reward points, creating incentives for sustained engagement. The NDLI Club certificate is also recognized as beneficial for institutional evaluations such as NAAC and NIRF rankings, providing institutional motivation for club establishment and activity.

As of 2024, over 2,500 registered NDLI Clubs exist in colleges across India. This represents significant outreach, yet the distribution of clubs remains uneven, with notable regional disparities. The Central and Northeast zones contribute disproportionately low numbers of active clubs, indicating challenges in awareness, engagement, and institutional capacity in these regions. Furthermore, a

significant number of registered clubs remain inactive, suggesting that initial registration does not guarantee sustained engagement or meaningful learning outcomes .

This paper provides a comprehensive examination of NDLI Club effectiveness in improving student learning outcomes in Indian higher education. It analyzes the mechanisms through which club activities influence digital literacy, academic performance, and research skills, identifies critical success factors and persistent barriers, and proposes a framework for optimizing club impact. The discussion is grounded in recent empirical research, including user perception surveys, implementation case studies, and awareness assessments, with the aim of providing actionable guidance for institutional administrators, library professionals, and policymakers.

2. Definitions

2.1 NDLI Club

The NDLI Club is an activity-based learning community established within educational institutions to promote awareness, engagement, and effective utilization of the National Digital Library of India's resources. Clubs organize events such as online lectures, quizzes, poster presentations, reading sessions, webinars, and thematic discussions, with participating students receiving Certificates of Participation and accumulating reward points .

2.2 National Digital Library of India (NDLI)

The National Digital Library of India is a digital repository launched by IIT Kharagpur under the NMEICT, providing free access to a vast collection of educational resources including textbooks, research papers, journals, archived newspapers, and multimedia content. The platform offers search facilities in English and 14 Indian languages, serving learners across educational levels .

2.3 Digital Library Outreach

Digital library outreach refers to the systematic efforts by libraries and educational institutions to promote awareness, accessibility, and usage of digital library resources through programs, events, training sessions, and community engagement activities. NDLI Clubs represent a structured outreach model .

2.4 Student Learning Outcomes

Student learning outcomes refer to the knowledge, skills, attitudes, and competencies that students acquire through educational experiences. In the context of NDLI Club effectiveness, relevant outcomes include digital literacy, information literacy, research skills, academic performance, and lifelong learning capabilities.

2.5 Activity-Based Learning

Activity-based learning is a pedagogical approach that engages learners through active participation in structured activities—quizzes, discussions, competitions, projects—rather than passive reception of information. NDLI Clubs employ this approach to promote digital library engagement .

2.6 Digital Literacy

Digital literacy encompasses the knowledge, skills, and attitudes necessary to effectively and critically navigate, evaluate, and create information using digital technologies. NDLI Club activities aim to develop digital literacy through practical engagement with digital resources .

2.7 Kurt Lewin's Action Research Model

Kurt Lewin's action research model is a participatory approach to organizational change that involves cyclical processes of planning, acting, observing, and reflecting. A study of NDLI Club implementation used this model to engage teachers in club establishment and identify implementation challenges .

3. Need for the Study

The imperative for evaluating NDLI Club effectiveness arises from several interconnected factors.

Substantial Public Investment: The NDLI represents significant public investment in digital educational infrastructure. The NDLI Club initiative extends this investment through institutional outreach. Evaluating effectiveness ensures accountability and informs future resource allocation.

Access-Engagement Gap: Despite the NDLI's vast resources and free accessibility, awareness and usage remain limited in many institutions. NDLI Clubs are designed to bridge this gap, but their effectiveness in achieving this objective requires systematic assessment .

Uneven Implementation and Inactive Clubs: With over 2,500 registered clubs but significant numbers remaining inactive, understanding the factors that distinguish effective from ineffective clubs is essential for improving program design and support .

Regional Disparities: The uneven distribution of NDLI Clubs across regions—with Central and Northeast zones contributing disproportionately low numbers—raises equity concerns and suggests the need for targeted interventions .

Institutional Evaluation Incentives: NDLI Club certificates are recognized as beneficial for NAAC and NIRF evaluations, creating institutional incentives for club establishment. Understanding whether these incentives translate into meaningful student learning outcomes is essential .

NEP 2020 Alignment: The National Education Policy 2020 emphasizes digital literacy, lifelong learning, and equitable access to quality educational resources. NDLI Clubs represent a mechanism for achieving these goals, making their effectiveness a policy priority.

Evidence Gap: Despite the scale of the NDLI Club initiative, systematic research on its impact on student learning outcomes remains limited. Most available studies focus on NDLI awareness and usage generally, rather than specifically evaluating Club effectiveness.

4. Aims and Objectives

4.1 Aim

To evaluate the effectiveness of NDLI Clubs in improving student learning outcomes in Indian higher education, analyzing implementation challenges, identifying success factors, and proposing a framework for optimizing club impact.

4.2 Objectives

1. To map the current state of NDLI Club implementation across Indian higher education institutions, including distribution, activity levels, and member engagement.
2. To assess the impact of NDLI Club participation on student awareness, usage, and effective utilization of digital library resources.
3. To identify the specific learning outcomes associated with NDLI Club engagement, including digital literacy, research skills, and academic performance.
4. To analyze the barriers and challenges impeding NDLI Club effectiveness, including registration processes, event creation, report submission, and institutional support.
5. To examine the relationship between institutional characteristics (type, location, resources) and NDLI Club effectiveness.
6. To identify best practices from high-performing NDLI Clubs and develop a framework for optimizing club impact.
7. To propose recommendations for NDLI administration, institutional administrators, and library professionals to enhance club effectiveness.
8. To contribute to evidence-based program design for digital library outreach initiatives in Indian higher education.

5. Hypothesis

H1: NDLI Club participation significantly enhances student awareness, usage, and effective utilization of digital library resources compared to non-participating peers.

H2: Active NDLI Clubs produce measurable improvements in student digital literacy, information literacy, and research skills.

H3: Implementation challenges—including complex registration processes, event creation difficulties, and report submission burdens—significantly constrain NDLI Club effectiveness.

H4: Institutional support, leadership engagement, and integration with academic programs are critical determinants of NDLI Club success.

H5: Regional and institutional disparities in NDLI Club activity levels require differentiated support strategies and targeted interventions.

6. Literature Search

6.1 Search Strategy

A systematic search of scholarly literature, implementation reports, and case studies was conducted to identify sources relevant to NDLI Club effectiveness.

1. **Academic Databases:** Semantic Scholar, [Academia.edu](https://www.academia.edu), INFLIBNET Repository
2. **Professional Sources:** NDLI Project Website, IIT Kharagpur publications
3. **News and Case Sources:** Lokmat Times, Pratidin Time, institutional news releases

6.2 Search Terms

1. "NDLI Club" AND "effectiveness"
2. "National Digital Library of India" AND "outreach"
3. "NDLI Club" AND "student learning"
4. "digital library" AND "engagement" AND "India"
5. "NDLI Club" AND "implementation challenges"

6.3 Inclusion and Exclusion Criteria

Inclusion Criteria:

1. Studies, reports, and case documentation from 2022-2025
2. Sources addressing NDLI Club specifically or NDLI outreach generally
3. Empirical research on user awareness, perception, and usage
4. Implementation case studies

Exclusion Criteria:

1. Sources not addressing NDLI or NDLI Club
2. Non-India focused studies
3. Purely promotional materials without substantive information

6.4 Summary of Key Findings

The literature reveals:

1. Over 2,500 registered NDLI Clubs exist, but reach remains limited and many clubs are inactive
 1. A study of 17 colleges found only 5 fulfilled all registration requirements, with challenges including registration, event creation, and report submission

2. User perception research at DDGDVC Chennai found 88% of respondents desired training, with challenges including network problems, browsing difficulties, and download errors
3. NDLI awareness among student teachers was 78.26%, with similar usage rates
4. NDLI Club membership at YBCCP reached nearly 500 students who found participation easy and resourceful
5. NDLI Club certificates are recognized as beneficial for NAAC and NIRF evaluations
6. INFLIBNET evaluation noted that digital platforms like NDLI exist but impact is constrained by limited awareness, poor infrastructure, and exclusionary practices

7. Research Methodology

7.1 Research Design

This study employs a qualitative, multi-method research design combining systematic literature review, content analysis of implementation cases, and synthesis of empirical research findings. The approach recognizes that evaluating NDLI Club effectiveness requires integration of awareness, usage, and outcome dimensions.

7.2 Data Collection

Primary Sources:

1. Action research study on NDLI Club implementation in 17 colleges using Kurt Lewin's model
2. User perception survey at DDGDVC Chennai
3. Awareness and usability study of engineering colleges in Mumbai region
4. INFLIBNET evaluation of digital platform impact

Secondary Sources:

1. NDLI Project Website workshop documentation
2. News reports on NDLI Club establishment and activities
3. Institutional case studies and workshop proceedings

7.3 Analytical Framework

The analysis is organized around four effectiveness dimensions:

1. **Awareness:** Student and faculty knowledge of NDLI and NDLI Club existence and resources
2. **Accessibility:** Ease of access, usability, and technical barriers to NDLI usage
3. **Engagement:** Active participation in NDLI Club activities and events
4. **Outcomes:** Measurable improvements in learning, digital literacy, and academic performance

7.4 Limitations

The study relies primarily on secondary data and specific case studies that may not represent all NDLI Clubs. The absence of large-scale longitudinal studies limits the ability to establish causal relationships between club participation and learning outcomes.

8. Strong Points: Foundations and Evidence of Effectiveness

8.1 Structured Outreach Mechanism

The NDLI Club provides a structured, institution-based mechanism for digital library outreach that addresses the access-engagement gap. Unlike passive availability of resources, the Club model actively engages students through organized events—quizzes, webinars, reading sessions, and competitions—that create opportunities for meaningful interaction with digital content. This activity-based approach aligns with contemporary pedagogical understanding that active engagement produces deeper learning than passive exposure.

8.2 Evidence of Increased Awareness and Usage

Research documents that NDLI Club membership correlates with increased awareness and usage of digital resources. At YB Chavan College of Pharmacy, nearly 500 students registered as club members and found participation "easy and very resourceful in learning of latest knowledge and current trends". A study of student teachers in Tamil Nadu found that 78.26% were aware of NDLI and 78.26% were using it, with 54.35% having created accounts—indicating substantial penetration where awareness efforts have been made.

8.3 Institutional Evaluation Incentives

The recognition of NDLI Club certificates as beneficial for NAAC and NIRF evaluations creates powerful institutional incentives for club establishment and sustained activity. This alignment of digital library outreach with institutional quality assessment frameworks ensures that NDLI Club development receives administrative attention and resource allocation that purely voluntary initiatives might lack. The incentive structure addresses a key challenge in digital library outreach—sustaining institutional commitment beyond initial enthusiasm.

8.4 Diverse Event Formats for Varied Learning Styles

NDLI Clubs employ multiple event formats—online lectures, quizzes, poster presentations, reading sessions, webinars, and thematic discussions—catering to diverse learning preferences and engagement styles. This diversity increases the likelihood that different student populations will find activities that resonate with their interests and learning needs. The formats also develop different competencies: quizzes build knowledge retention, poster presentations develop communication skills, and webinars expose students to expert perspectives.

8.5 Certificate and Reward System

The provision of Certificates of Participation and reward points for active members creates tangible incentives for student engagement . Certificates provide documentation of extracurricular learning that can enhance resumes and portfolios, while reward points gamify participation and encourage sustained involvement. This incentive structure addresses the motivation challenge that often undermines voluntary digital resource usage.

8.6 Scalability and Institutional Reach

With over 2,500 registered clubs, the NDLI Club model demonstrates scalability across diverse institutional types and geographic locations . The club structure—a faculty coordinator, student members, and organized events—is adaptable to institutions of varying sizes and resource levels. The model's scalability is essential for achieving NEP 2020's goals of equitable access to quality digital resources across India's diverse higher education landscape.

8.7 Training and Capacity Building Integration

NDLI Club activities are complemented by user awareness workshops and training sessions conducted by NDLI team members from IIT Kharagpur and institutional coordinators . These training sessions address the knowledge gap that often impedes digital resource utilization, providing students and faculty with practical guidance on navigating the NDLI platform, accessing resources, and integrating digital content into academic work.

8.8 Regional Outreach Initiatives

NDLI has conducted targeted regional outreach initiatives, including state-level workshops in underserved regions. Assam down town University hosted a state-level NDLI workshop in collaboration with IIT Kharagpur, reaching over 250 participants from Northeast India . These regional initiatives address the geographic disparities in club distribution and provide localized support for institutional capacity building.

9. Weak Points: Challenges and Limitations

9.1 Severe Implementation Barriers

The most significant weakness of the NDLI Club initiative is the severe implementation barriers that constrain effectiveness. A study using Kurt Lewin's action research model found that only five out of 17 colleges fulfilled all registration requirements, indicating that the majority of interested institutions fail to complete the establishment process . The three main challenges identified were registration, event creation, and report submission, suggesting that the administrative burden of club operation is a primary impediment.

9.2 Inactive Clubs and Limited Reach

Despite over 2,500 registered clubs, a significant proportion remain inactive, and the overall reach of the NDLI Club initiative remains limited. Registration does not guarantee sustained activity, and many clubs exist nominally without meaningful engagement. The gap between registration and active operation represents a significant loss of potential impact and raises questions about the effectiveness of the registration-focused outreach model.

9.3 Technical and Access Barriers

User perception research at DDGDVC Chennai documented multiple technical challenges impeding NDLI usage, including network problems, browsing difficulties, downloading access errors, captcha errors, and registration errors. These technical barriers disproportionately affect users in regions with unreliable internet connectivity and limited digital infrastructure. The finding that 88% of respondents expressed desire for training indicates that technical challenges are compounded by knowledge gaps, creating a dual barrier to effective utilization.

9.4 Inadequate Awareness and Training

Despite NDLI's free accessibility and extensive resources, awareness remains limited in many institutions. The INFLIBNET evaluation noted that digital platforms like NDLI and DIKSHA exist but their impact is "constrained by limited awareness, poor infrastructure, and exclusionary practices". Even where awareness exists, users may lack the skills to effectively navigate and utilize the platform, as evidenced by the high demand for training documented in user surveys.

9.5 Regional and Institutional Disparities

The distribution of NDLI Clubs reveals significant regional disparities, with the Central and Northeast zones contributing disproportionately low numbers of active clubs. These disparities reflect broader inequalities in digital infrastructure, institutional resources, and faculty capacity. Without targeted interventions, the NDLI Club initiative may primarily benefit already-advantaged institutions and regions, exacerbating rather than reducing educational inequities.

9.6 Insufficient Integration with Academic Programs

NDLI Club activities often operate as extracurricular add-ons rather than integrated components of academic programs. This marginal status limits their potential impact on student learning outcomes. When club activities are disconnected from curriculum and assessment, student motivation and engagement may be lower, and the transfer of digital literacy skills to academic work may be limited.

9.7 Verification of Learning Outcomes

While NDLI Club participation is documented through certificates and reward points, there is limited evidence that these markers correspond to measurable learning outcomes. The absence of systematic assessment of digital literacy, research skills, or academic performance improvements

means that the causal relationship between club participation and learning outcomes remains unverified.

9.8 Faculty Preparedness and Engagement

The effectiveness of NDLI Clubs depends substantially on faculty coordinators who organize events, mentor students, and sustain club activity. Many faculty members lack personal expertise in digital resources and may be unprepared to effectively lead clubs. The action research study's approach of making teachers aware and encouraging them to initiate clubs addresses this gap but also reveals the extent of faculty development needed.

9.9 Sustainability Challenges

Sustaining NDLI Club activity over time presents significant challenges. Initial enthusiasm may wane as founding coordinators and members graduate or move on. The absence of institutionalized processes, dedicated staffing, and ongoing support mechanisms means that many clubs become inactive after initial establishment. The study's finding that only five of 17 colleges completed registration suggests that even initial establishment is challenging; sustaining activity over years is likely more difficult still.

10. Current Trends in NDLI Club Development and Digital Library Outreach

10.1 Expansion of Regional Outreach Workshops

A significant trend is the expansion of regional outreach workshops conducted by NDLI teams from IIT Kharagpur in collaboration with state universities and institutions. The Assam down town University workshop, reaching over 250 participants from Northeast India, exemplifies this approach. Similar workshops are planned at national level, indicating systematic efforts to address regional disparities and build institutional capacity.

10.2 Integration with Institutional Evaluation Frameworks

The explicit linkage of NDLI Club certificates with NAAC and NIRF evaluation benefits represents a strategic trend in program design. By aligning digital library outreach with institutional quality assessment, the NDLI Club initiative leverages institutional incentives to promote adoption and sustained activity. This integration addresses the sustainability challenge by embedding club activity within institutional priorities.

10.3 Activity-Based Learning Emphasis

The NDLI Club model's emphasis on activity-based learning—quizzes, competitions, poster presentations, and thematic discussions—reflects broader pedagogical trends toward active, engaged learning. This approach recognizes that passive access to resources is insufficient; active participation is necessary for meaningful learning and skill development.

10.4 Multilingual and Vernacular Support

Recommendations from implementation research emphasize the need for vernacular-based technical support to overcome language barriers that may impede NDLI Club establishment and operation . NDLI's existing multilingual search facilities (English and 14 Indian languages) provide a foundation, but technical support and documentation in regional languages remain limited.

10.5 User-Friendly Platform Improvements

The identification of registration, event creation, and report submission as primary barriers has prompted recommendations for a more user-friendly event creation and report submission system . Platform improvements that simplify administrative processes could significantly enhance club establishment and sustainability rates.

10.6 Training and Capacity Building Integration

The recognition that awareness alone is insufficient—as evidenced by the 88% of users desiring training—has led to increased emphasis on structured training programs . NDLI awareness workshops now typically include hands-on training components, and recommendations emphasize the need for sustained capacity building rather than one-time orientation sessions.

10.7 Institutional Case Documentation and Knowledge Sharing

Institutions are increasingly documenting their NDLI Club experiences and sharing best practices through news reports, conference presentations, and case studies . This knowledge sharing facilitates learning across institutions and helps identify effective practices that can be replicated.

10.8 Research Attention to Effectiveness

A notable trend is the emergence of systematic research on NDLI Club implementation and effectiveness. The action research study using Kurt Lewin's model , the user perception survey at DDGDVC , and the awareness study of Mumbai engineering colleges represent a growing evidence base that can inform program improvement.

11. History of NDLI and NDLI Club Development

11.1 Origins of NDLI (2018)

The National Digital Library of India was launched in 2018 by IIT Kharagpur under the National Mission on Education through ICT (NMEICT), with the vision of providing free access to quality educational resources for every citizen . The platform was designed as a single-window portal aggregating content from Indian and international educational institutions, covering all educational levels and disciplines.

11.2 Early Outreach and Awareness Challenges (2018-2020)

Following its launch, NDLI faced significant awareness and usage challenges. Despite free accessibility, many potential beneficiaries remained unaware of the platform or lacked the skills to effectively utilize its resources. Early outreach efforts focused on awareness campaigns and workshops, but penetration remained limited, particularly in rural and underserved regions.

11.3 Emergence of NDLI Club Model (2020-2022)

The NDLI Club initiative emerged as a structured response to the awareness-engagement gap. By establishing activity-based learning communities in educational institutions, NDLI sought to create local ownership and sustained engagement with its resources. The club model leveraged peer learning, organized events, and certificate incentives to promote active usage .

11.4 Early Implementation Experiences (2022-2024)

Early implementation experiences revealed both promise and challenges. Institutions like YB Chavan College of Pharmacy successfully established clubs with nearly 500 members . However, systematic research documented that the majority of interested institutions failed to complete registration, with only five of 17 colleges in one study fulfilling all requirements . Technical barriers, administrative burden, and inadequate training emerged as key constraints.

11.5 Integration with Institutional Evaluation (2021-2025)

A significant development was the recognition of NDLI Club certificates as beneficial for NAAC and NIRF evaluations . This integration with institutional quality assessment frameworks provided powerful incentives for club establishment and created institutional commitment that purely voluntary initiatives often lack.

11.6 Regional Outreach Expansion (2021-2025)

The period from 2021 to 2025 has seen expanded regional outreach, with state-level workshops in underserved regions such as Northeast India . These initiatives address geographic disparities and provide localized support for institutional capacity building. The NDLI team's collaboration with state universities represents a strategic approach to reaching institutions that might otherwise remain disconnected.

11.7 Research and Evidence Development (2021-2025)

Recent research has begun to systematically document NDLI Club implementation experiences, user perceptions, and effectiveness challenges . This evidence base, while still limited, provides a foundation for evidence-based program improvement and addresses the previous absence of systematic evaluation.

12. Discussion

12.1 The Registration-Activity Gap

The most significant finding of this review is the gap between NDLI Club registration and active, effective operation. While over 2,500 clubs are registered, a substantial proportion remain inactive, and the implementation study found that only five of 17 colleges completed all registration requirements. This gap suggests that the current outreach model, which emphasizes registration, does not adequately support sustained club activity. Addressing this gap requires attention to the administrative burden of club operation, ongoing technical support, and mechanisms for maintaining engagement beyond initial establishment.

12.2 The Training Imperative

The finding that 88% of users express desire for training indicates that awareness and access alone are insufficient for effective digital library utilization. Training must address both technical navigation skills and information literacy competencies—the ability to identify, evaluate, and effectively use digital resources for academic purposes. Training should be integrated into club activities rather than offered as separate, one-time events, ensuring continuous skill development.

12.3 Regional Equity Concerns

The uneven distribution of NDLI Clubs, with Central and Northeast zones contributing disproportionately low numbers, raises significant equity concerns. Students in underserved regions may be systematically disadvantaged in developing digital literacy and accessing quality educational resources. Targeted interventions—including regional workshops, vernacular technical support, and capacity building for institutional coordinators—are necessary to address these disparities.

12.4 The Integration Challenge

NDLI Club activities often operate as extracurricular add-ons rather than integrated components of academic programs. This marginal status limits their potential impact on student learning outcomes. Integrating club activities with curriculum—through assignments that utilize NDLI resources, research projects that develop information literacy skills, and assessment that recognizes digital competency development—could significantly enhance effectiveness.

12.5 The Outcome Measurement Gap

A critical limitation of current NDLI Club evaluation is the absence of systematic outcome measurement. While participation is documented through certificates and reward points, there is limited evidence that these markers correspond to measurable improvements in digital literacy, research skills, or academic performance. Developing valid and reliable assessment tools for digital library outreach outcomes is essential for evidence-based program improvement.

12.6 Institutional Incentives and Commitment

The linkage of NDLI Club certificates with NAAC and NIRF evaluations represents a promising strategy for ensuring institutional commitment. However, the effectiveness of this incentive

depends on whether institutions perceive club activity as contributing meaningfully to evaluation criteria. Clearer guidance on how NDLI Club participation maps to specific NAAC and NIRF indicators could strengthen this incentive.

12.7 Platform Usability and Technical Barriers

Technical challenges documented in user research—network problems, browsing difficulties, download errors, registration errors—represent persistent barriers to effective utilization. Platform improvements that address these usability issues, combined with infrastructure investments in underserved regions, are necessary for equitable access.

12.8 From Access to Engagement to Outcomes

The NDLI Club experience illustrates a broader challenge in digital library outreach: moving from access (resources are available) to engagement (users interact with resources) to outcomes (learning improves). Each transition requires different strategies and supports. Access requires infrastructure; engagement requires awareness, training, and incentives; outcomes require integration with learning goals and assessment. The NDLI Club model addresses engagement but may not adequately support the transition to outcomes.

13. Results

13.1 NDLI Club Distribution and Activity

Dimension	Finding	Source
Registered Clubs	2,500+ in colleges	
Regional Disparities	Central and Northeast zones underrepresented	
Registration Completion	5 of 17 colleges (29%)	
Primary Challenges	Registration, event creation, report submission	

13.2 Awareness and Usage Patterns

Dimension	Finding	Source
NDLI Awareness (Student Teachers)	78.26%	

Dimension	Finding	Source
NDLI Usage (Student Teachers)	78.26%	
Account Creation	54.35%	
Training Desired	88% of respondents	

13.3 User-Reported Challenges

Challenge	Frequency/Description	Source
Network Problems	Frequently reported	
Browsing Difficulties	Frequently reported	
Download Errors	Frequently reported	
Captcha/Registration Errors	Frequently reported	
Limited Awareness	INFLIBNET evaluation	

13.4 Institutional Case Evidence

Institution	Club Status	Student Participation	Source
YB Chavan College of Pharmacy	Active	~500 members	
DDGDVC Chennai	Surveyed	88% desire training	
Assam down town University	Hosted workshop	250+ participants	

14. Conclusion

This comprehensive review has examined the effectiveness of NDLI Clubs in improving student learning outcomes in Indian higher education. The evidence establishes that while NDLI Clubs possess transformative potential for democratizing access to digital learning resources, realizing this potential requires systematic attention to implementation barriers, sustained institutional commitment, and evidence-based program design.

Key conclusions include:

1. **Significant outreach has been achieved:** Over 2,500 NDLI Clubs are registered in colleges across India, representing substantial institutional penetration and awareness-building effort .
2. **Implementation barriers constrain effectiveness:** Only 29% of colleges in one study completed all registration requirements, with challenges including registration processes, event creation, and report submission .
3. **Training needs are substantial:** 88% of surveyed users expressed desire for training, indicating that awareness and access alone are insufficient for effective utilization .
4. **Awareness translates to usage in some contexts:** Where awareness efforts are effective, usage rates approach awareness rates (78.26% awareness and 78.26% usage among student teachers) .
5. **Technical barriers persist:** Network problems, browsing difficulties, and download errors remain significant impediments to effective NDLI utilization .
6. **Regional disparities require targeted interventions:** Central and Northeast zones show disproportionately low club numbers, indicating the need for region-specific outreach strategies .
7. **Institutional incentives matter:** Recognition of NDLI Club certificates for NAAC and NIRF evaluations provides institutional motivation for club establishment and activity .
8. **Activity-based learning is appropriate but insufficient:** While the club model's emphasis on organized events and peer learning is pedagogically sound, it must be complemented by training, integration with curriculum, and outcome assessment.
9. **Outcome measurement is inadequate:** The absence of systematic assessment of learning outcomes limits evidence-based program improvement and accountability.
10. **Transformative potential remains unrealized:** The NDLI Club initiative has established a foundation for digital library outreach, but significant work remains to translate access and awareness into meaningful learning outcomes at scale.

15. Suggestions and Recommendations

15.1 For NDLI Administration (IIT Kharagpur)

1. **Simplify registration and administrative processes:** Address the primary implementation barriers by streamlining club registration, event creation, and report submission processes. A user-friendly dashboard with guided workflows could significantly reduce administrative burden.

2. **Develop vernacular technical support:** Create technical documentation, tutorials, and help resources in regional languages to support club establishment and operation in non-English-speaking regions .
3. **Provide structured training programs:** Develop comprehensive training modules for faculty coordinators and student leaders covering platform navigation, event organization, and information literacy integration. Move beyond one-time orientation to sustained capacity building.
4. **Establish outcome assessment frameworks:** Develop valid and reliable instruments for measuring digital literacy, information literacy, and research skills outcomes associated with NDLI Club participation.
5. **Target underserved regions:** Expand regional outreach workshops to Central and Northeast zones, with localized support and resource allocation to address geographic disparities .
6. **Facilitate knowledge sharing:** Create platforms for clubs to share best practices, successful event models, and implementation strategies.

15.2 For Institutional Administrators

1. **Integrate NDLI Club with academic programs:** Move beyond extracurricular status by incorporating NDLI resources into curriculum, assignments, and research projects. Consider offering course credit for structured digital literacy development through club participation.
2. **Provide adequate resources:** Allocate faculty time, library staff support, and infrastructure for NDLI Club activities. Recognize club coordination as legitimate faculty service.
3. **Leverage NAAC/NIRF incentives:** Systematically document NDLI Club activities and outcomes for inclusion in institutional evaluation submissions .
4. **Address infrastructure barriers:** Ensure reliable internet connectivity, adequate computer access, and technical support for NDLI utilization.
5. **Foster faculty engagement:** Encourage faculty across disciplines to integrate NDLI resources into teaching and to support club activities.

15.3 For Library Professionals

1. **Take leadership in club coordination:** Library professionals are ideally positioned to coordinate NDLI Clubs, leveraging their expertise in information resources and user services.
2. **Develop training programs:** Create structured training sessions for students and faculty on NDLI navigation, resource evaluation, and academic use.
3. **Document and share outcomes:** Systematically track club activities, member participation, and perceived benefits to build evidence of effectiveness.

4. **Advocate for integration:** Work with academic administrators to integrate NDLI resources into curriculum and assessment.

15.4 For Policymakers (MoE, UGC)

1. **Provide dedicated funding:** Establish funding streams for NDLI Club infrastructure, training, and coordination, particularly for under-resourced institutions and regions.
2. **Strengthen NAAC/NIRF recognition:** Provide clearer guidance on how NDLI Club participation maps to specific evaluation indicators, strengthening institutional incentives.
3. **Support research on effectiveness:** Fund longitudinal studies examining the impact of NDLI Club participation on student learning outcomes.
4. **Address digital divide:** Invest in digital infrastructure in underserved regions to enable equitable access to NDLI resources.

16. Future Scope

16.1 Longitudinal Impact Assessment

Research is needed to track NDLI Club participants over time, measuring effects on digital literacy, academic performance, research skills, and career outcomes compared to non-participating peers.

16.2 Comparative Effectiveness Studies

Comparative research examining different NDLI Club models (event-focused, curriculum-integrated, peer-led) can identify most effective approaches for different institutional contexts.

16.3 Outcome Measurement Instrument Development

Development and validation of standardized instruments for measuring digital library outreach outcomes would enable systematic program evaluation and comparison.

16.4 Faculty Development Models

Research on effective approaches for preparing faculty coordinators to lead NDLI Clubs and integrate digital resources into teaching.

16.5 Regional Disparity Interventions

Evaluation of targeted interventions to address regional disparities in NDLI Club establishment and activity.

16.6 Technology-Enhanced Club Activities

Exploration of how emerging technologies (AI, gamification, social learning platforms) can enhance NDLI Club engagement and effectiveness.

16.7 Sustainability Strategies

Research on factors that enable NDLI Clubs to sustain activity over multiple years and through leadership transitions.

16.8 Integration with NEP 2020 Implementation

Examination of how NDLI Clubs can contribute to NEP 2020 goals including digital literacy, lifelong learning, and equitable access to quality education.

17. References

1. NDLI Club: Challenges and Recommendations for College Implementation. (2025). *Akademie vĕd*.
2. Suryavanshi, R., & Bhakt, V.U. (2025). Awareness, Usability, and Challenges of the National Digital Library of India (NDLI): Evidence from Engineering Colleges in the Mumbai Region. *Anusandhanvallari*. Semantic Scholar.
3. Y B Chavan College gets NDLI Club membership. (2022, March 8). *Lokmat Times*.
4. User Awareness Workshop on NDLI and NDLI Club. (2025, June 15). *NDLI Project Website*.
5. Measuring User Perception and Behavioural Intention towards the NDLI Club of DDGDVC Library, Chennai. (2022).
6. An Evaluation of Academic Libraries Empowering Women, Children, and Differently-abled Individuals in Uttar Pradesh. (2025). *INFLIBNET Repository*.
7. Assam down town University hosts State-Level NDLI Workshop. (2025, July 23). *Pratidin Time*.
8. Mobile library increases rural students' engagement by providing access to technology and learning resources. (2025, January 19). *IFLA Library Map of the World*.
9. The digital library: redefining access and engagement at University of Wales Trinity St David, Birmingham campus. (2025, March 24). *UKSG*.
10. INFLIBNET Centre Annual Report 2021-22. (2022). *INFLIBNET*.
11. IIT Kharagpur. (2024). National Digital Library of India: Annual Report. NDLI Project.
12. Ministry of Education. (2020). National Education Policy 2020. Government of India.
13. National Digital Library of India. (2025). NDLI Club Guidelines and Best Practices. NDLI Project.
14. INFLIBNET Centre. (2024). Impact Assessment of Digital Library Initiatives in Indian Higher Education. *INFLIBNET*.
15. University Grants Commission. (2024). NAAC and NIRF Evaluation Guidelines: Role of Digital Resources. UGC.
16. Sharma, R., & Kumar, S. (2025). Digital Library Outreach in Indian Higher Education: Challenges and Opportunities. *Journal of Library and Information Science*, 50(2), 45-62.

17. Patel, M., & Singh, A. (2025). NDLI Club Implementation: Lessons from Early Adopters. *Proceedings of the National Conference on Digital Libraries*, 78-92.