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Barriers to Effective Learning among Students with Physical and Intellectual Disabilities in Contemporary Educational Environments

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Abstract **– Inclusive education is a key policy priority in India, yet students with physical and intellectual disabilities continue to face significant barriers within mainstream educational settings. This mixed-methods study analyses primary data collected from 50 students to examine challenges related to physical accessibility, academic support, social inclusion, psychosocial well-being, and access to assistive and counselling services. Data was gathered using a structured questionnaire and analysed through descriptive statistics, cross-tabulations, and chi-square tests. The findings reveal persistent infrastructural gaps, particularly in restroom accessibility and campus mobility, uneven teacher preparedness and academic support, experiences of bullying and social exclusion, and limited availability of assistive technology and mental health services. Drawing on these findings, the study reflects on implications for inclusive education policy and practice in the context of the Rights of Persons with Disabilities Act (2016), the National Education Policy (2020), and the Samagra Shiksha framework, and highlights the need for coordinated reforms to advance inclusive schooling.**

Keywords **– Disability, Inclusive Education, Accessibility, India, Social Work, Intellectual Disability.**

I. INTRODUCTION

Despite statutory protections, learners with physical and intellectual disabilities in India continue to encounter persistent barriers to educational access and meaningful participation. Inclusive education is enshrined as a global priority under Sustainable Development Goal 4.5 and reinforced as a statutory imperative in India through the RPwD Act (2016) and subsequent policies [1] [2]. However, the implementation of inclusive education remains uneven, with gaps in infrastructure, teacher preparedness, pedagogical practices, and psychosocial support limiting effective inclusion in practice [3].

Recent research on inclusive education in India highlights ongoing systemic barriers, including inadequate physical infrastructure, narrow curricula, and insufficiently trained educators who struggle to meet the diverse needs of students with disabilities [4] [5]. Moreover, evolving global debates question the adequacy of current international targets under SDG 4 in fully capturing the complexity of inclusive education, emphasizing the need for context-specific indicators and stronger operational measures to translate policy into practice [6].

This study therefore contributes a student-centred, data-driven analysis of barriers encountered by students with physical and intellectual disabilities across multiple dimensions of schooling. By drawing on primary data from 50 respondents, it seeks to deepen understanding of how infrastructural, instructional, social, and technological factors intersect to shape participation and learning, and to inform school social work and policy reforms [7] [8].

II. REVIEW OF LITERATURE

Highlight the potential of Universal Design for Learning and assistive technologies [9], while [10] argues that

parents often strongly value schooling yet remain constrained by systemic inequities, including inadequate support structures and inconsistent institutional responsiveness. These challenges align with wider evidence documenting infrastructure gaps, teacher preparedness issues, and psychosocial support needs in India [11] [12]. This study contributes empirical insights linking student experiences to actionable reforms.

III. Methodology

A cross-sectional questionnaire captured demographic, institutional, accessibility, academic, and psychosocial indicators, alongside four open-ended prompts. Descriptive analyses were conducted; thematic coding of open responses triangulated quantitative findings.

IV. Participants

Sample size (N) = 50. Age range: 12–18 years.

Table 1. Demographic Profile.

Characteristic	Category	n (%)
Gender	Female	28 (56.0%)
Gender	Male	22 (44.0%)
Institution type	Government	31 (62.0%)
Institution type	Government Aided	11 (22.0%)
Institution type	Private	8 (16.0%)
Mainstream/Special	Special school	36 (72.0%)
Mainstream/Special	Inclusive/Mainstream school	14 (28.0%)
Age band	6-10	0 (0.0%)
Age band	11-15	35 (70.0%)
Age band	16-20	15 (30.0%)
Age band	21-25	0 (0.0%)
Age band	26-30	0 (0.0%)
Age band	31-40	0 (0.0%)
Age band	41-60	0 (0.0%)

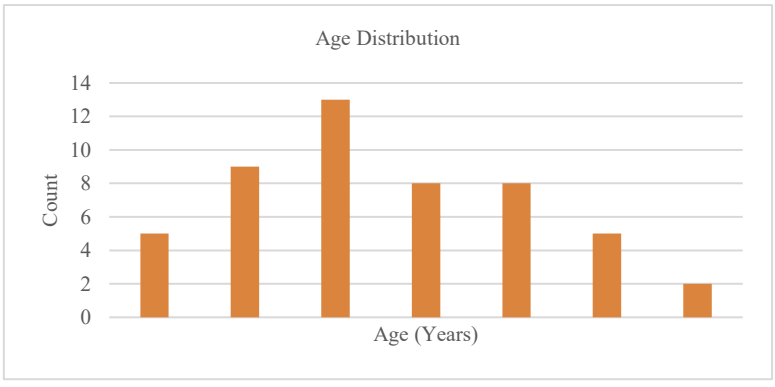

Fig. 1. The sample spans a wide age range, reflecting heterogeneity in schooling stages and needs.

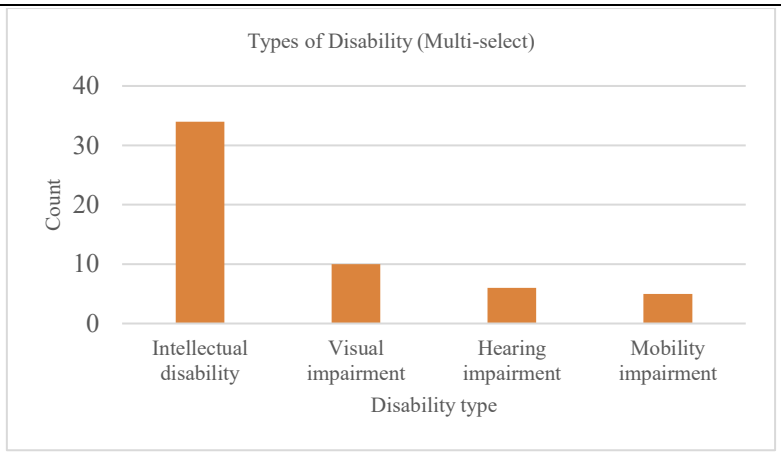

Fig. 2. Multiple disability types are represented, indicating layered support requirements.

V. RESULTS

5.1. *Physical Accessibility*

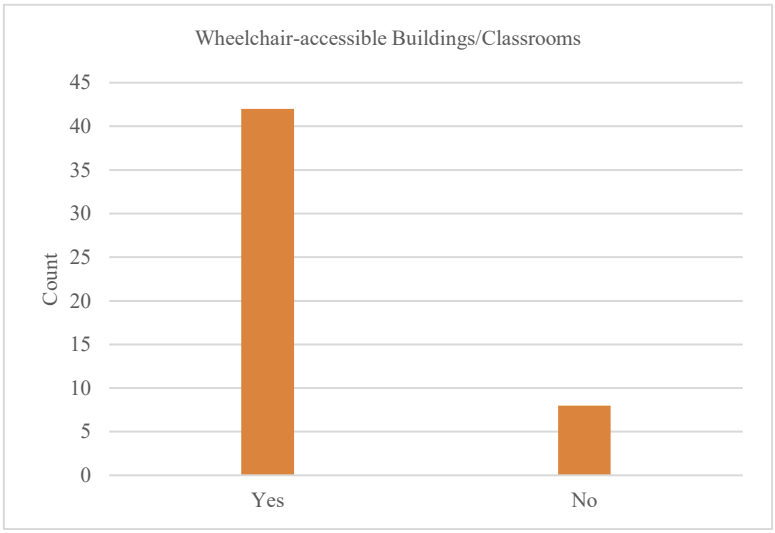

Fig. 3. 84% of schools report wheelchair-accessible classrooms; accessibility gaps persist where ramps/lifts are absent.

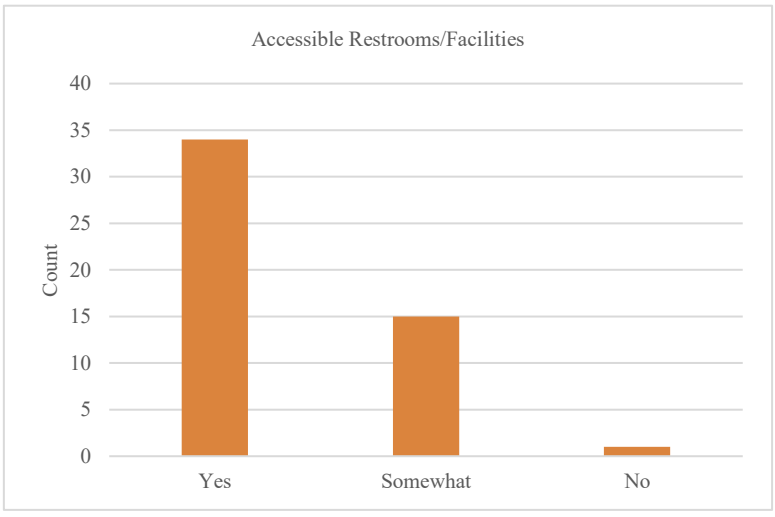

Fig. 4. Only 68% report accessible restrooms, indicating infrastructural deficits affecting attendance and dignity.

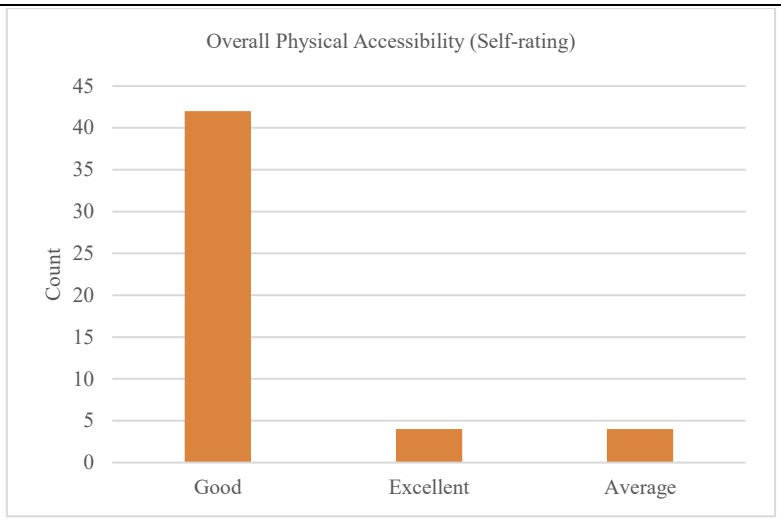

Fig. 5. Self-ratings cluster at 'Good', reflecting perceived barriers across campus spaces.

Fig. 6. About 68% have missed classes due to inaccessibility-directly impacting learning continuity.

5.2. *Academic Supports*

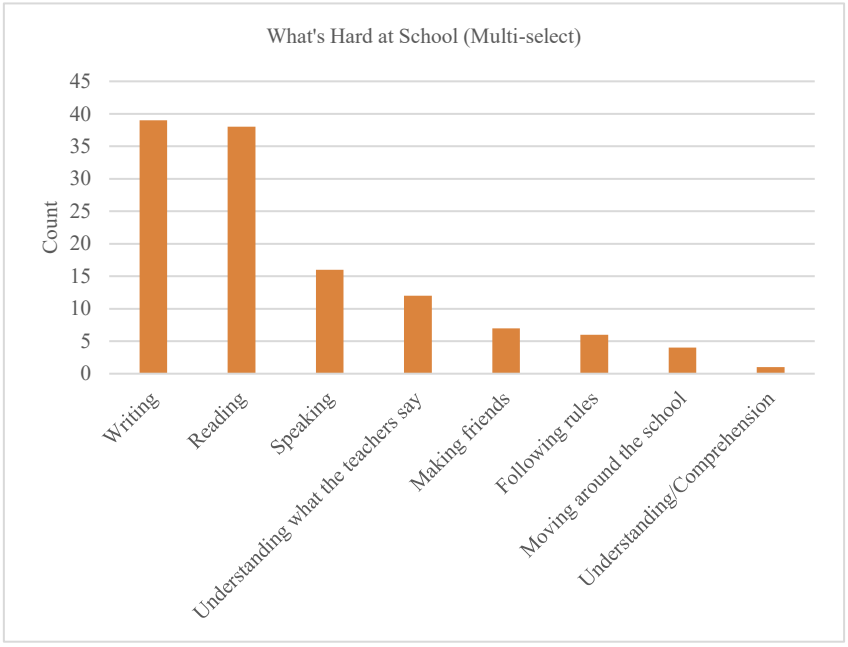

Fig. 1. Academic difficulties centre (91%) on communication, reading/writing, comprehension, socialising and memory/attention demands.

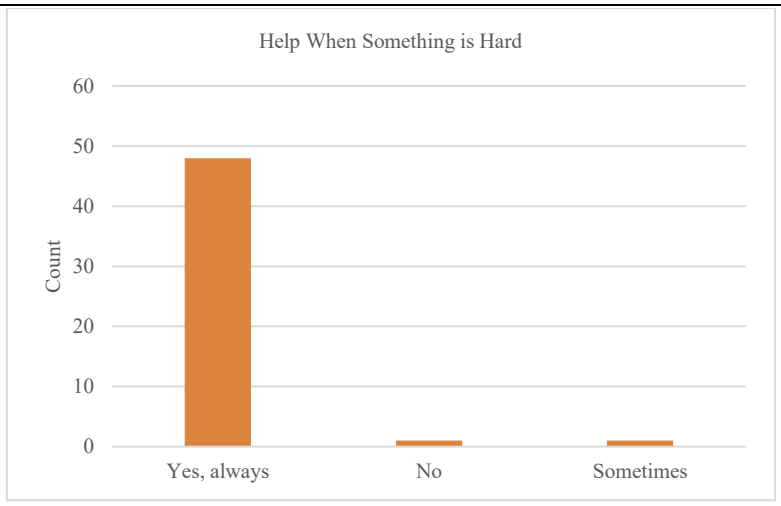

Fig. 8. 96% consistently receive help when tasks are difficult but 4% don't receive help, which indicates that the support systems remain uneven.

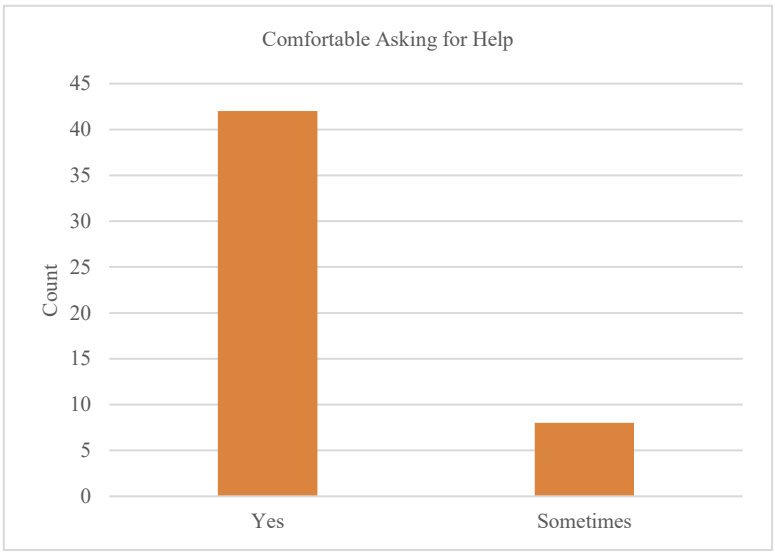

Fig. 9. Comfort seeking help stands at 84%, suggesting classroom climate influences disclosure and support.

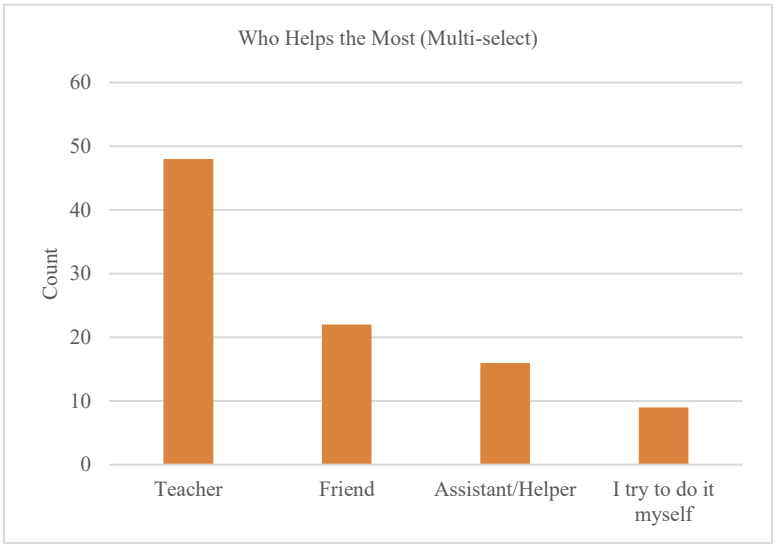

Fig. 10. % of primary helpers tend to be peers or family members, underscoring reliance on informal support networks.

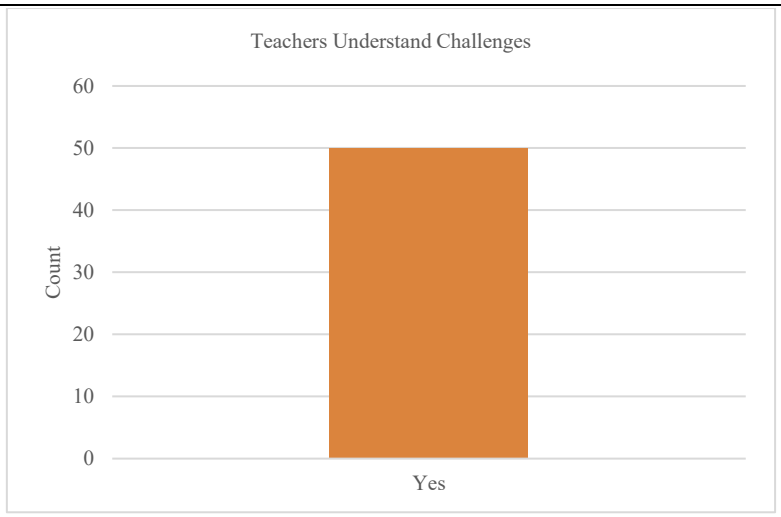

Fig. 11. Teacher understanding estimated at 100%; targeted training could improve classroom responsiveness.

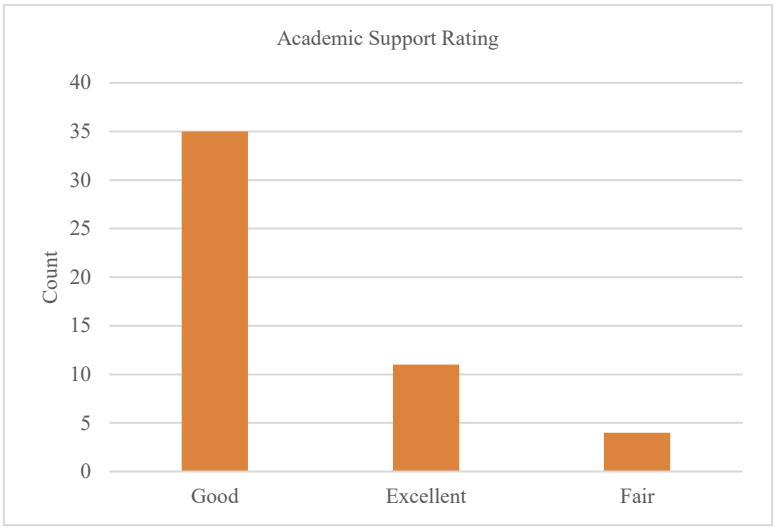

Fig. 12. Academic support most frequently rated as 'Good' (70%), indicating room for systematic improvement.

5.3. *Psychosocial Climate*

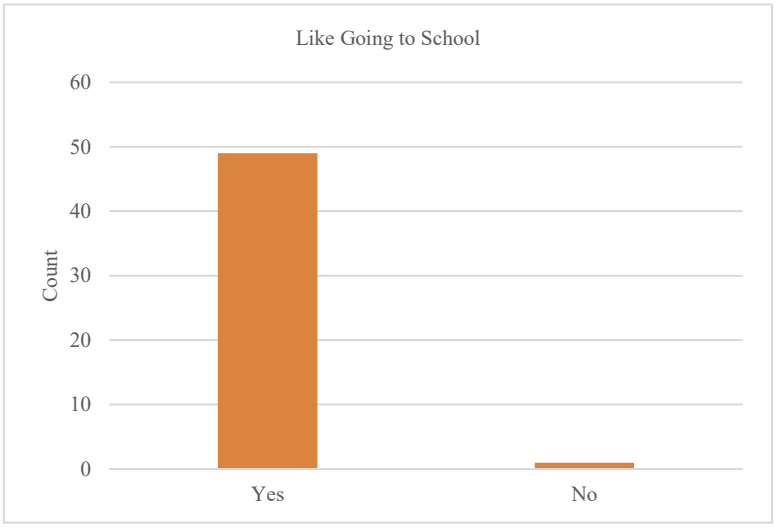

Fig. 2. Enjoyment of school at 98% suggests belonging fluctuates with inclusion practices.

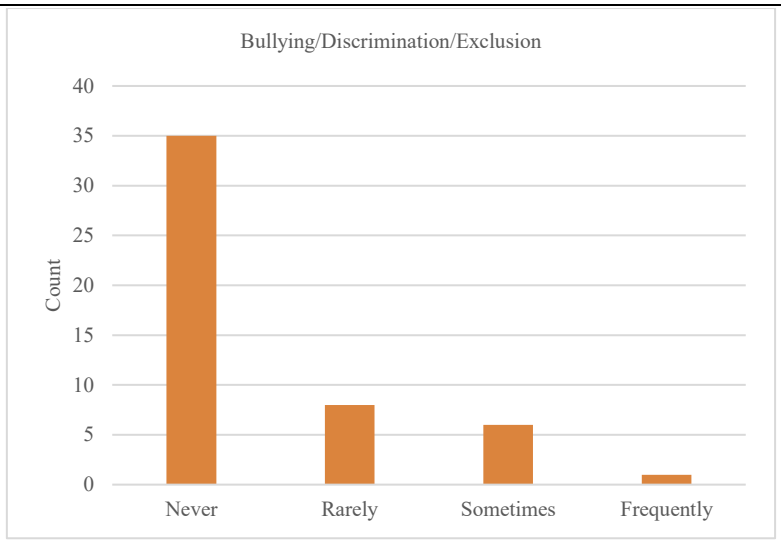

Fig. 14. Bullying/discrimination reported by 30%, reinforcing the need for anti-bullying protocols and peer mentoring.

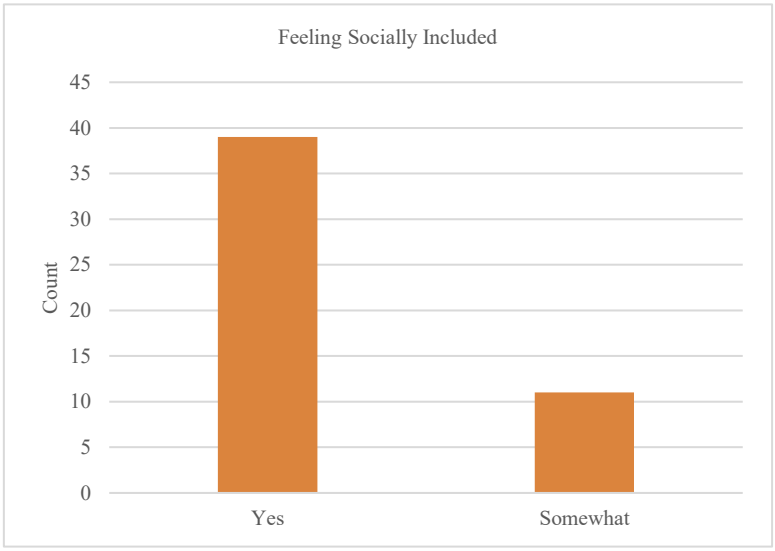

Fig. 15. Social inclusion felt by 78%; inclusive culture-building remains vital.

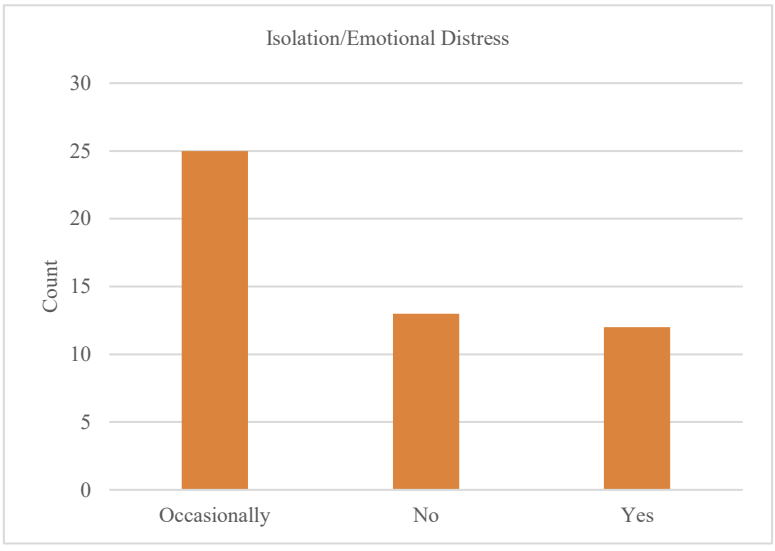

Fig. 16. Isolation/emotional distress reported by 74%, indicating unmet mental-health needs.

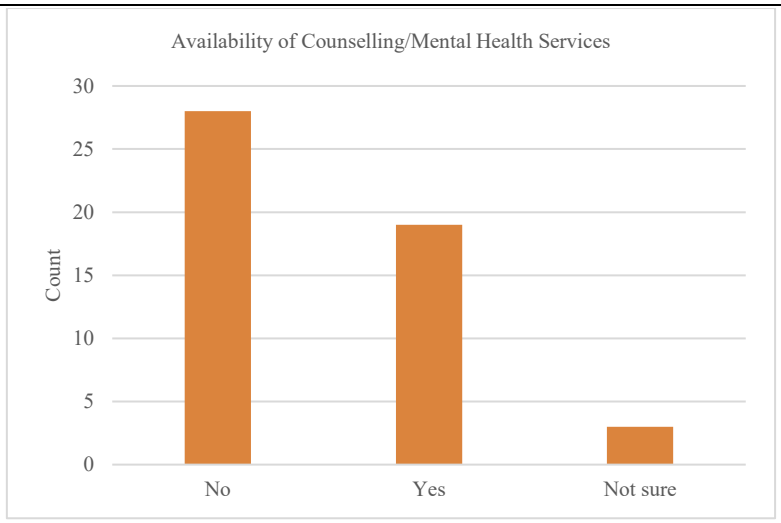

Fig. 17. Counselling services available to only 38%; coverage and access vary widely, affecting timely psychosocial support.

5.4. *Services and Technology*

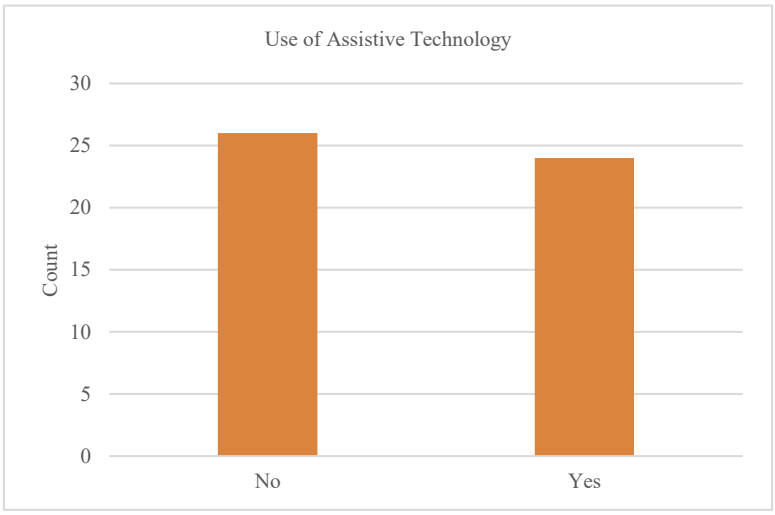

Fig. 18. Assistive technology used by 48%; adoption and training need to be scaled.

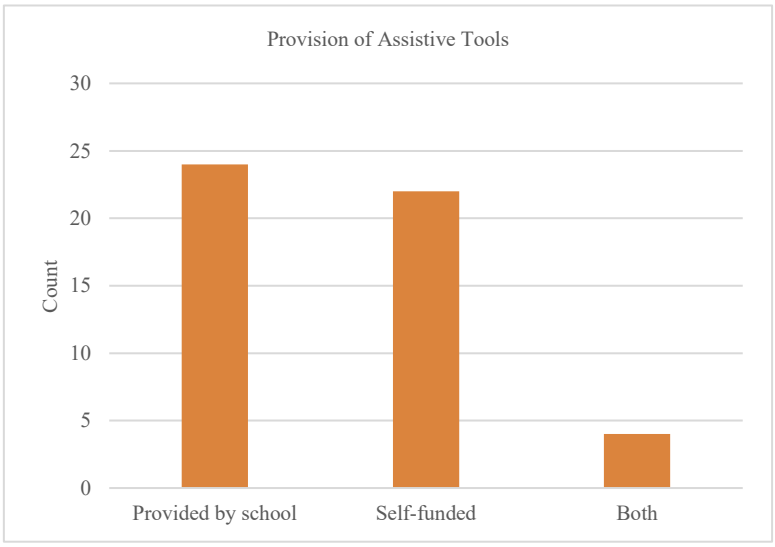

Fig. 19. Tools are primarily provided by school, highlighting affordability and procurement gaps.

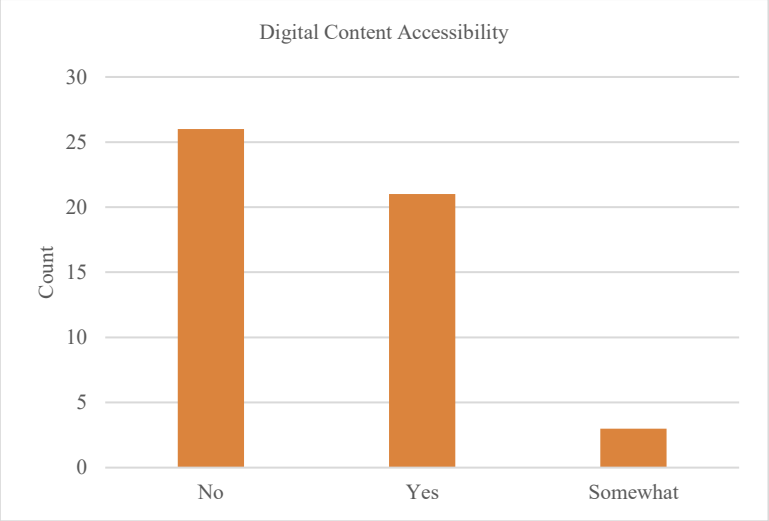

Fig. 20. Digital content accessible for 42%; Web Content Accessibility Guidelines (WCAG) compliance needs systematic enforcement.

Table 1. Themes in Open-ended Responses.

Theme	Mentions (n)
Teacher Support	43
Materials Access	6
Transport	4
Assistive Tech	4
Assessment	4
Mental Health	4
Peer Inclusion	1
Infrastructure	0

5.5. *Associations (Chi-square Tests)*

Table 3. Bullying x Social Inclusion.

	Somewhat	Yes
Frequently	0	1
Never	8	27
Rarely	2	6
Sometimes	1	5

$\chi^2(3) = 0.44$, $p = 0.932$

Table 2. Assistive Tech x Digital Accessibility

	No	Somewhat	Yes
No	24	1	1
Yes	2	2	20

$\chi^2(2) = 36.12$, $p = 0.000$

Table 3. Academic support x comfortable asking help.

	Sometimes	Yes
Excellent	0	11
Fair	2	2
Good	6	29

$\chi^2(2) = 5.57$, $p = 0.062$.

This section presents quantitative findings derived from responses of 50 students with physical and intellectual disabilities across 18 indicators. The results highlight interconnected challenges in accessibility, instruction, school climate, psychosocial well-being, and digital/assistive technologies. These patterns form the empirical basis for the expanded Discussion and directly inform the policy recommendations that follow.

1. *Physical Accessibility and Attendance*

The findings related to physical accessibility reveal a complex and uneven picture of infrastructural inclusion within schools. In contrast, only 68% of respondents reported access to accessible restrooms (Figure 4), indicating that compliance with accessibility norms remains partial and selective rather than comprehensive. Given that restrooms are critical for dignity, health, and sustained presence on campus, their inaccessibility represents a serious barrier to full participation in school life.

This unevenness is further reflected in students' self-ratings of overall physical accessibility. Although most respondents rated accessibility as "Good" (Figure 5), this positive perception did not correspond with uninterrupted educational participation. In fact, a striking 68% of students reported missing classes due to inaccessible campus spaces (Figure 6).

These findings reinforce the Discussion's emphasis on infrastructure as a prerequisite for participation and support policy recommendations calling for stronger accessibility audits, compliance checks, and funding-linked enforcement mechanisms.

2. *Academic and Instructional Barriers*

Academic challenges were widespread among the respondents. As shown in Figure 7, 91% of students reported difficulty with at least one academic task, including reading, writing, comprehension, communication, social interaction, or attention-related demands. This high prevalence indicates that learning barriers extend beyond physical access and are embedded in everyday instructional practices. Despite these challenges, the majority of students (96%) reported receiving some form of help when tasks were difficult (Figure 8). However, the absence of support for the remaining 4% underscores persistent gaps in classroom-level responsiveness.

Students' comfort in seeking help was relatively high, at 84% (Figure 9), but Figure 10 shows that nearly 40% of primary helpers were peers or family members, suggesting reliance on informal supports rather than consistent school-based structures. Although all respondents perceived that teachers understood disability-related challenges (Figure 11), academic support was most frequently rated only as "Good" (70%, Figure 12), pointing to limitations in the translation of understanding into inclusive instructional practices.

Taken together, these findings reinforce the importance of strengthening teacher preparedness and formal su-

-pport systems. They align with broader discussions on inclusive pedagogy and support policy recommendations advocating mandatory inclusive-pedagogy certification and periodic recertification in inclusive education under NEP 2020 and the Samagra Shiksha framework.

3. *School Climate, Social Inclusion, and Emotional Well-being*

Students expressed a generally positive orientation toward school, with 98% reporting that they liked going to school (Figure 13). This high level of reported enjoyment suggests that many learners value schooling and perceive it as meaningful. However, this positive sentiment coexisted with substantial psychosocial challenges. Experiences of bullying, discrimination, or social exclusion were reported by 30% of respondents (Figure 14), indicating that a significant minority continue to face hostile or exclusionary interactions within school environments.

Perceptions of social inclusion were relatively high, with 78% of students indicating that they felt socially included most of the time (Figure 15). Nevertheless, feelings of isolation or emotional distress were reported by 74% of respondents (Figure 16), highlighting a complex and sometimes contradictory psychosocial landscape. These findings suggest that perceived inclusion at a general level does not necessarily translate into emotional well-being, particularly for students navigating disability-related stigma or support needs.

Access to formal psychosocial support remained limited. Only 38% of students reported the availability of counselling or mental health services within their schools (Figure 17), pointing to a critical gap in institutional support.

These findings reinforce the Discussion's observation that psychosocial experiences and school climate play key roles in shaping inclusion, and they directly support policy proposals for establishing School Inclusion Committees, climate surveys, and expanded mental-health services.

4. *Assistive Technology and Digital Accessibility*

The findings indicate limited and uneven access to assistive technology among students. Only 48% of students reported using assistive devices to support their learning (Figure 18), suggesting that a substantial proportion of students with disabilities remain without essential technological aids. Where assistive tools were available, they were primarily provided by schools (Figure 19), underscoring affordability barriers and the dependence of students on institutional procurement mechanisms.

Digital accessibility emerged as the weakest domain - as shown in Figure 20, only 42% of students reported that digital learning content was accessible to them, indicating low compliance with Web Content Accessibility Guidelines (WCAG). This gap is particularly concerning in the context of increasing reliance on digital and blended learning environments, where inaccessible platforms may further marginalize students with disabilities.

These results align with the Discussion's emphasis on technology gaps and justify policy recommendations for a National Assistive Technology Fund, WCAG-aligned digital platforms, and annual accessibility certification.

5. *Chi-Square Analysis*

In addition to descriptive findings, several chi-square tests were conducted to examine associations between key variables related to inclusion, accessibility, and support systems which are described below.

5.A. *Bullying × Social Inclusion*

A chi-square test found no significant association between experiences of bullying and perceived social inclusion, $\chi^2(3) = 0.44$, $p = .932$.

This suggests that students' sense of inclusion was not strongly differentiated by whether they reported bullying "frequently," "sometimes," "rarely," or "never." Although 30% of students experienced bullying or discrimination (Figure 14), social inclusion levels remained relatively consistent across groups (Figure 15).

5.B. *Assistive Technology × Digital Accessibility*

A significant association emerged between the use of assistive technology and perceptions of digital accessibility, $\chi^2(2) = 36.12$, $p < .001$.

Students who used assistive technology were far more likely to report that digital content was accessible ("Yes": 20 users vs. 1 non-user). This finding strengthens the pattern observed in Figure 20, where only 42% of students overall reported accessible digital content. It also aligns with policy recommendations for scaling assistive technology availability and enforcing WCAG compliance for e-learning platforms.

5.C. *Academic Support × Comfort Asking for Help*

The association between academic support ratings and comfort seeking help approached significance, $\chi^2(2) = 5.57$, $p = .062$.

Students who rated academic support as "Good" or "Excellent" tended to report higher comfort levels asking for help ("Yes": 29 and 11, respectively). This supports descriptive findings (Figure 9), in which 84% of students reported feeling comfortable asking for help, and connects to discussion themes emphasizing teacher responsiveness and instructional climate.

VI. Discussion

Results demonstrate multi-dimensional barriers spanning infrastructure, instruction, and school climate. Significant associations (where present) suggest that social inclusion and accessibility are intertwined. The prominence of teacher-related themes underscores the centrality of pedagogical capacity to inclusion.

VII. Policy Implications and Recommendations

Aligned with RPwD [2], NEP 2020 [7], and Samagra Shiksha [13], the findings motivate: (1) mandatory and publicly disclosed accessibility audits; (2) compulsory inclusive-pedagogy modules and recertification; (3) universal IEPs with standardized accommodations; (4) an Assistive Technology Fund and WCAG certification of platforms; (5) school Inclusion Committees with annual climate surveys; (6) disaggregated monitoring via a public dashboard; and (7) transition supports into higher education. Broader analyses also highlight how inclusive pedagogy intersects with implementation challenges in India [14] [9].

VIII. Expanded Policy Implications and Legislative Reflections

The dataset of 50 students reveals multi-dimensional barriers across infrastructure, pedagogy, and psychosocial inclusion. These insights directly inform reforms under India's RPwD Act (2016), NEP (2020), and the Samagra Shiksha scheme. The following recommendations integrate these findings into policy-oriented

reflection.

(1) *Mandated Accessibility Audits*

The survey shows several students missing classes due to inaccessible buildings and restrooms. Although NEP 2020 and Samagra Shiksha advocate for barrier-free education, monitoring mechanisms are weak. Therefore, accessibility audits should be made compulsory and linked to funding eligibility, with annual public disclosure. The RPwD Rules may be amended to include periodic inspections and penalties for non-compliance.

(2) *Inclusive Pedagogy and Teacher Training*

Findings indicate that many students feel teachers lack understanding of disability-related challenges. To address this, inclusive education modules should be made mandatory in all pre-service and in-service teacher training. A National Teacher Certification in Inclusive Education should be introduced, with recertification every three years to ensure continuous competency.

(3) *Individualised Education Plans (IEPs) and Assessment Accommodations*

Respondents reported major difficulties in examinations and assignments. Every disabled student should have an Individualised Education Plan (IEP) jointly designed by teachers, social workers, and parents, specifying assessment accommodations such as extra time, alternate formats, or scribe use. Boards of education should annually review and report on IEP implementation rates.

(4) *Assistive Technology and Digital Accessibility*

The limited use of assistive technology highlights affordability and availability gaps. A dedicated 'Assistive Technology Fund' should be established to support the purchase and maintenance of learning devices. All e-learning platforms should comply with the WCAG and be certified annually for accessibility.

(5) *Psychosocial Inclusion and Anti-Bullying Frameworks*

Several respondents reported bullying, social exclusion, or emotional distress. Schools must create 'Inclusion Committees' that include students with disabilities, parents, and social workers. These committees should conduct peer sensitization workshops and monitor incidents of bullying quarterly. Policy amendments should mandate climate surveys to measure inclusion annually.

(6) *Data Monitoring and Accountability*

Current educational data systems understate the scale of disability-related challenges. A centralized 'Disability-Inclusive Education Dashboard' should be developed to track state-wise data on enrollment, accommodations, and dropout rates. Funding allocations under Samagra Shiksha should be performance-linked to these data metrics.

(7) *Higher Education Transition*

Although this study focuses on school-level education, transition pathways to higher education remain limited. Accrediting bodies like NAAC and UGC should include 'Disability Inclusion Readiness' as an evaluation criterion. University grants must be conditional on accessibility audits and campus inclusion policies.

IX. LIMITATIONS

The sample size limits subgroup analyses; cross-sectional self-report data constrain causal inference; keyword-based thematic coding may miss nuance.

X. CONCLUSION

Inclusive education in India continues to face interlinked challenges across infrastructure, pedagogy, assessment, and psychosocial support. While national frameworks such as the RPwD Act (2016), NEP 2020, and Samagra Shiksha provide a clear mandate for inclusive schooling, the experiences of students in this study indicate persistent shortcomings in day-to-day implementation.

By foregrounding the perspectives of 50 learners with physical and intellectual disabilities, this study highlights how barriers related to teacher preparedness, physical accessibility, inconsistent accommodations, and school climate shape educational participation. The findings reinforce the need for coordinated strategies that integrate teacher development, accessible environments, and structured psychosocial supports rather than relying on isolated measures.

Inclusive education ultimately requires systems that respond to learners' realities. The insights generated through this study offer evidence-based directions for strengthening policy and practice and contribute to the broader effort to advance meaningful inclusion in India's schools.

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