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INSIGHT

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About the Journal

Insight: Journal of Applied Research in Education (IJARE) is an annual, peer-reviewed, refereed, open-access scholarly journal published in English by the Department of Education, School of Education and Behavioural Sciences, University of Kashmir. Established in 1994, IJARE has consistently contributed to the advancement of educational research and academic dialogue in India, with particular relevance to Jammu and Kashmir.

Originally launched as *Insight*, the journal was published as *Journal of INSIGHT in Education for Social Change* from 1997 to 2000. In 2002, it adopted its present title, *Insight: Journal of Applied Research in Education*, and was allotted ISSN 0975-0665 in 2009 by the National Centre for India. The journal is currently in the process of being upgraded to the advanced version of the Open Journal Systems (OJS) platform.

IJARE provides a multidisciplinary platform for academicians, researchers, professionals, practitioners, administrators, teachers, and research scholars to publish original theoretical and empirical research papers and book reviews. The journal aims to promote critical thinking, innovation, and reflective practice, contributing to the growth of educational theory, pedagogy, and policy.

Aligned with the vision of the National Education Policy (NEP) 2020, IJARE supports knowledge creation, research excellence, and interdisciplinary engagement. The journal encourages contributions that address contemporary educational challenges, evidence-based practices, inclusive and equitable education, digital learning, teacher development, and policy reforms. By fostering a strong research culture, IJARE seeks to strengthen the linkage between research, practice, and policymaking.

The scope of IJARE encompasses both theoretical and applied dimensions of education, including educational psychology, philosophy and sociology of education, history and development of education, guidance and counselling, inclusive and special education, environmental education, curriculum studies, educational administration and management, teacher education, adult education, educational and instructional technology, e-learning and ICT, and current issues and trends in education and allied fields.

Through its sustained publication and academic rigor, IJARE continues to serve as a meaningful forum for scholarly exchange and contributes to the realization of NEP 2020 goals by promoting quality research, innovation, and transformative educational practices.



Prof. (Mrs.) Nilofer Khan

Vice Chancellor
University of Kashmir
Hazratel Srinagar - 190006
Jammu and Kashmir (India)

April 07, 2026

MESSAGE

It gives me immense pleasure to note the publication of Insight: Journal of Applied Research in Education (JARE) by the Department of Education, School of Education and Behavioural Sciences, University of Kashmir. Since its inception in 1994, the journal has steadily evolved into a credible academic platform, reflecting the University's commitment to advancing educational research and scholarly inquiry.



Over the years, JARE has demonstrated consistency, academic rigor, and relevance by publishing high-quality theoretical and empirical contributions in education and its allied disciplines. The completion of 30 volumes so far testifies to the dedication of the editorial team and contributing scholars.

Aligned with the vision of NEP 2020, which emphasizes multidisciplinary research, innovation, and knowledge creation, JARE provides a valuable platform for academicians and researchers to engage with contemporary educational challenges and practices. Its focus on theory, application, and regional relevance supports evidence-informed policymaking and pedagogical reform. JARE plays an important role in nurturing critical thinking and promoting dialogue on contemporary educational issues, particularly within the Indian and Jammu & Kashmir contexts. Its broad scope, encompassing pedagogy, policy, psychology, inclusive education, technology, teacher education, and allied areas, provides a valuable forum for academicians, researchers, practitioners, and students to share insights and innovations.

I commend the Department of Education and the Editorial Board for their sustained efforts in maintaining the journal's quality and integrity. I am confident that JARE will continue to contribute meaningfully to knowledge creation and dissemination, supporting evidence-based practices and informed policymaking in education.

I extend my best wishes to the entire JARE team for their future endeavors and hope the journal reaches greater heights in the years to come.

Prof. Nilofer Khan

From the Chief Editor's Desk

I am delighted to present *INSIGHT: Journal of Applied Research in Education*, an esteemed publication of the Department of Education. This edition aims to promote understanding of the research conducted in the department. It provides a medium for the exchange of research experiences and outcome; providing a stencil to the budding researchers and enhancing the theory and practice of research in education. A total of **ten (10)** research papers have been recorded in this volume on host areas lying within the scope of this Journal. I am honored and highly encouraged by the widespread recognition this journal has received across India. I confidently affirm this journal to serve as a guiding hand to the readers and the users in their respective research endeavors.

I extend my humble gratitude and innumerable thanks to **Prof. Nelofer Hassan Khan** - the Hon'ble Vice-Chancellor of our University for her patronage, guidance, and wholehearted encouragement. **Prof. Naseer Iqbal** - the Registrar of our University, is equally acknowledged for his administrative support. I further express my gratitude to the Advisory Committee and the Editorial Board for their efforts and care in making this Journal a reality. On top of that, my sincere gratitude to our reviewers for their invaluable contributions in bringing this Journal to fruition.

I am indebted to **Prof. Najmah Peerzada**, the Editor, for her excellent vision, tireless efforts and professional support in making this Journal a success story. **Dr. Kounsar Jan**, the Associate Editor, merits appreciation for her work in the compilation and publication process of this Journal.

I acknowledge the valuable contribution of **Dr. Syed Noor-ul- Amin & Dr. Tariq Ahamad Wani**, Assistant Editors for their diligence, efficiency and unwavering support in giving the final shape to the Journal.

Prof. Amina Parveen
Chief Editor

BUILDING STRONG FOUNDATIONS: MULTIMODAL TEACHING FOR FOUNDATIONAL LITERACY UNDER NIPUN BHARAT MISSION

Atul Bamrara¹

Jagmohan Singh Kathait²

Mrs. Renu³

Abstract

Children start language learning since birth. As they grow and develop, their speech and language skills become increasingly complex. They learn to understand and use language to express their thoughts and emotions and to communicate with others. A child's reading and writing skills play a crucial role in determining how well they will perform in school and how useful they will be to society later in life. Although reading and writing skills continue to improve throughout life, the early years of childhood are the most critical for development. Strong reading and writing abilities not only allow students to explore the world of imagination and creativity, but also make understanding various subjects easier and more accessible. However, the ability to read and write does not develop naturally; it requires proper planning and implementation. Teachers and educational approaches that provide children with regular opportunities to express them in written and spoken formats, without forcing them into grammatical perfection or ideal handwriting. It enables students to truly grasp the purpose of these skills and become more valuable contributors to society.

Key Words: Language development, NIPUN Bharat, FLN, NEP 2020, Educational strategies

Introduction

Children come to school with their own language, experiences, and ways of viewing the world. The experiences they bring from home, family, and surroundings are rich and valuable. Their linguistic experiences should be used as a foundation for learning language. When a child first comes to school, they are already familiar with the meanings and effects of many words (Chandra, 2019). However, written symbols and the sounds associated with them are abstract for children, so reading should begin with meaningful content and serve a purpose. For example, the purpose could be to enjoy listening to and reading a story.

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Once children become familiar with written language, they naturally develop a curiosity for reading and understanding it, which leads to knowledge creation (Mallett, 2002; Flynn et al.,

2006). This creation is not driven by pressure or instruction but emerges from children's own experiences and needs. Therefore, it is essential to provide children with an environment where they can freely explore their surroundings according to their curiosity without restrictions. This same principle applies to their language development as well (Meitei et al., 2024; Fitzgerald et al., 2000).

When children come to school, they often find it difficult to express themselves freely because the language they are most comfortable using to express their thoughts, experiences, and emotions is usually not accepted in the school settings. Language teaching needs to be understood within a multilingual context. Children in the classroom come from diverse linguistic and cultural backgrounds. Their languages should be welcomed in the classroom, as rejecting a child's language is essentially rejecting their identity. At the primary level, it is crucial that children are able to use language appropriately in both familiar and unfamiliar contexts. They should be able to write in a simple, imaginative, effective, and organized manner, using precise words to make their language expressive (Tiwari, 2021). It is also important that children, across all four language skills (listening, speaking, reading, and writing), are able to construct meaning using their prior knowledge and understand the implied meanings of what is said. Reading and writing are the two main components of language learning.

Why 'Reading' And 'Writing'?

Reading, understanding, and responding are the core aspects of a rich reading process. It is not merely a book-based skill but a complex activity. In other words, reading is essentially a meaningful task. It involves deriving meaning from printed or written content based on context and inference. It's also important to understand that every piece of content has its own unique structure, and grasping that structure aids in interpreting meaning accurately.

Writing becomes a meaningful activity only when children are given the freedom to write in their own language, imagination, and perspective. They should be provided opportunities to develop their own language and style rather than merely copying from blackboards, books, or what the teacher has written (NCERT, 2017). The aim of

acquiring reading and writing skills is not merely for children to go through their textbooks or respond to end-of-lesson queries. The true purpose is to empower them to read and write meaningfully for various purposes. The process of learning to read and write should also incorporate the idea that different purposes require different approaches to reading and writing (Misquitta et al., 2023).

How one reads depend on the purpose of reading. For instance, reading an advertisement is different from reading a text book. Similarly, in writing, it's important to consider the audience (whom are we writing for?). If we are writing information about the school sports day for students and teachers, the content and language will differ from when it is meant for parents or the community (Philomina, 2015; Tiwari, 2023). In both cases, the writing style and language naturally change. Likewise, the purpose of reading determines how the reading is approached. For example, when someone reads a school notice about the annual day celebration, their focus will be on key details such as the date, venue, and time of the event.

Reading and Writing at the Preparatory Stage

At the preparatory stage, children are expected to respond and ask questions based on what they hear or write. Their use of language reflects whether they understand grammar well. However, to develop this grammatical understanding, it is necessary to help children identify various aspects of language through relevant texts and connections to their surroundings (NCERT, 2017). Their attention should be directed toward different language usages so they can grasp nuances and apply them appropriately in their own language. In terms of language learning and classroom environment, it's important to recognize that strategies used at one level can also benefit students in higher grades. Engaging and age-appropriate content should be selected to help children become familiar with different styles and tones of language and use them effectively. In this regard, diverse and interesting children's literature plays a vital role.

All language skills (listening, speaking, reading, and writing) are interconnected and support each other's development. They should not be treated as separate skills (Rose, 2008; McLachlan, 2013). For example, listening to or reading a piece of literature and then discussing it, expressing one's thoughts, or asking questions is linked to reading comprehension as well as listening and speaking abilities. Thus, listening, speaking, reading, and writing are integrally

connected.

Review of Literature

The foundational literacy and numeracy (FLN) in India are critical components of the country's educational development, with recent literature emphasizing both the current status and the multifaceted challenges involved. Kumar & Behera (2022) highlighted the significant influence of the home environment on children's foundational skills, indicating that socio-economic and familial factors play a vital role in early literacy and numeracy acquisition. This underscores the importance of contextual factors in shaping foundational learning outcomes.

The national policy framework, particularly the NEP 2020, aims to prioritize foundational literacy and numeracy as core objectives within a broader educational reform agenda. Bhardwaj and Bamrara (2023) described how NEP 2020 envisions universal access to quality education, with specific emphasis on achieving foundational skills for all children by 2025. The policy advocates for curriculum reforms, pedagogical innovations, and strengthened teacher training to support this goal, reflecting a systemic approach to addressing FLN challenges. Practical pedagogical approaches aligned with these policy directives are explored and emphasized play-based and experiential learning strategies in early childhood education (Meitei et. al., 2024). These approaches are designed to enhance engagement and facilitate foundational skill development, aligning with the policy's emphasis on holistic and child-centered pedagogy.

Despite these initiatives, studies reveal persistent gaps in FLN achievement. Inadequate skills hinder not only current learning but also future academic progression, with assessments indicating that many students, especially in rural government schools, struggle with basic tasks like subtraction (ASER 2024). Efforts to address these issues are supported by initiatives like NIPUN Bharat, which emphasizes foundational learning as a national priority. The recent reports underscore that progress is evident but uneven, with ongoing challenges related to resource allocation, teacher preparedness, and curriculum implementation. The state of FLN in India remains a concern, with research highlighting the need for targeted interventions to bridge learning gaps and ensure universal foundational skills (Bhardwaj et al., 2023).

Overall, the literature indicates that while India has made substantial policy commitments and implemented innovative pedagogical

strategies, achieving universal foundational literacy and numeracy remains a complex challenge. Addressing socio-economic disparities, enhancing teacher training, and adopting contextually relevant pedagogies are essential for advancing FLN in India (Kumar et al., 2022; Meitei et al., 2024).

Objectives

The following are the objectives of this research study:

1. To improve reading and writing skills, as these enhance the brain's ability to connect with events, thereby increasing attention span and focus.
2. To enhance regular reading practices among students, enabling them to strengthen their skills in sentence construction, correct word usage, and spelling. An expanded vocabulary empowers children and boosts their confidence.
3. To strengthen a child's creativity, analytical skills, and imagination, which helps students express their thoughts more effectively in public settings.

Activities Used in The Research

Various activities were conducted with students in the classroom through both digital and in-person modes to enhance literacy skills at the preparatory level. These interactions were conducted with fifteen students from Grade 3, Grade 4, and Grade

Story Completion

This activity fosters a strong sense of creativity among the students. Typically, we had narrated a story or discussed a concept. However, in this activity, after presenting a partial story or concept, we asked the students to complete it on their own. This provided ample scope for self-expression and exploration. The idea sparked healthy brainstorming sessions. There was noticeable enthusiasm among the students to participate in this activity. It promoted both self-directed learning and collaborative learning. Additionally, it catered to all three types of learners auditory, visual, and kinesthetic. This activity was conducted with students among Grades 3, 4, and 5.

Students as Authors

Stories are a powerful medium of expression that provides students with opportunities to expand their vocabulary, sentence structure,

and flow of ideas. As part of this exercise, learners were encouraged to compose a narrative at the start of each week. Their stories were inspired by the themes covered during lessons. We encouraged them to write short stories inspired by their everyday experiences. During the project duration, students maintained a notebook dedicated to writing such stories. The feeling of being an author empowered them to write more and to further develop their writing skills. This activity was conducted with Grades 4 and 5 students.

Audio-books

Using the library and reading books are fundamental activities for students. To assess what they read and learned from a book, students were typically asked to present a book review. Through this activity, students were not only encouraged to become enthusiastic readers but were also motivated to share the most interesting and important facts they encountered during their reading. Students maintained a notebook to write down significant quotes, phrases, etc., and would read the noted content aloud in front of the class. We recorded their readings on our phone and saved the files as audio recordings. The objective behind this activity was to cultivate a reading habit among students and to enhance their speaking and expressive skills. When students listened to their own audio stories, they felt more excited about reading and learning. Evaluation was based on both written and oral presentation. This activity was conducted with students of Grades 3, 4 and 5.

Predicting the Climax

This activity served as a creative and innovative way to re-imagine traditional stories. It broadened students' thinking and helped them develop a problem-solving approach to various real-life situations. Additionally, it contributed to the enhancement of their language skills and vocabulary. Traditional stories were shared with students through online platforms, and they were encouraged to imagine and create a different climax based on their own creativity. This activity was conducted with students of Grades 4 and 5.

Data Analysis

Assessment is a key component of learning as it supports students in their learning process and enables educators to adapt instructional strategies according to learners' needs. In the present study, assessment was conducted using a structured tool developed in alignment with the "Learning Outcomes (Elementary)" document published by NCERT, New Delhi. For each identified learning outcome,

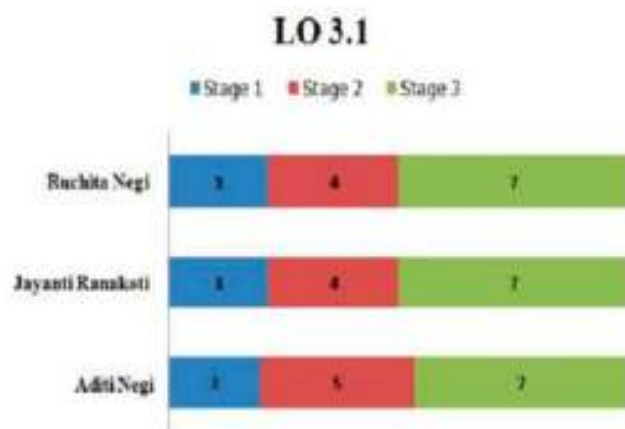
a test comprising 10 questions was designed to assess specific reading and writing competencies. The same structure was maintained across all three phases to ensure uniformity and comparability. Each correct response was awarded one mark, making the maximum score 10 for each learning outcome. Students were systematically assessed in three phases: Phase 1 (baseline, before the start of the study), Phase 2 (midline, in the 14th week), and Phase 3 (end-line, at the end of the 28th week). The scores obtained were converted into percentages, and improvement was calculated by comparing baseline and end-line scores using the formula:

$$\text{Percentage Improvement} = \frac{\text{End-line Score} - \text{Baseline Score}}{\text{End-line Score}} \times 100$$

This method enabled objective measurement of growth in students' reading and writing skills over time.

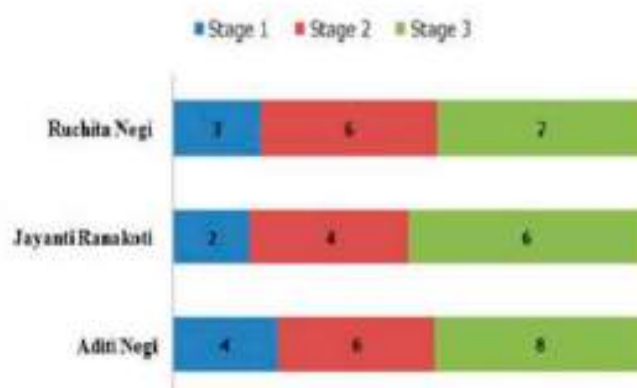
Learning Outcomes for Grade 3

The research study found that Learning Outcome 3.1 (Listens to and responds to oral communication, stories, poems, etc., with attention and gives feedback) was progressively achieved. All three students showed an improvement of up to 57.1% in their learning levels.



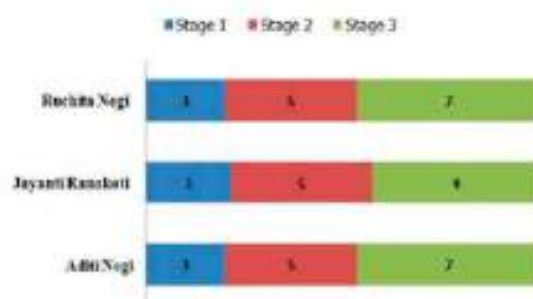
The research study found that Learning Outcome 3.2 (Narrates stories, poems, etc., with appropriate intonation, expression, pace, flow, and voice modulation) was progressively achieved. All three students showed improvement in their learning levels by 57.1%, 66.7%, and 50%, respectively.

LO 3.2



The research study found that Learning Outcome 3.2 (Describes, discusses, and asks questions about activities/events happening around them and their experiences in various situations) was progressively achieved. All three students showed improvement in their learning levels by 57.1%, 50%, and 57.1%, respectively.

LO 3.3



The research study found that Learning Outcome 3.3 (Reads and understands various types of texts/materials such as newspapers, children's magazines, etc., asks questions based on them, expresses opinions, and answers questions both orally and in writing) was progressively achieved. All three students showed improvement in their learning levels by 71.4%, 62.5%, and 57.1%, respectively.

LO 3.4



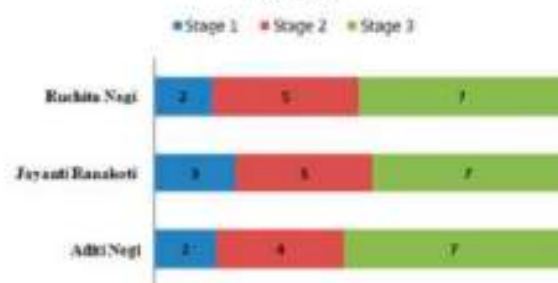
The research study found that Learning Outcome 3.5 (Uses punctuation marks such as full stops, commas, and question marks consciously while writing for different purposes) was progressively achieved. All three students showed improvement in their learning levels by 62.5%, 66.7%, and 71.4%, respectively.

LO 3.5



The research study found that Learning Outcome 3.6 (Writes self-regulated texts with conscious attention to spelling, either voluntarily or as part of teacher-assigned activities) was progressively achieved. All three students showed improvement in their learning levels by 71.4%, 57.1%, and 71.4%, respectively.

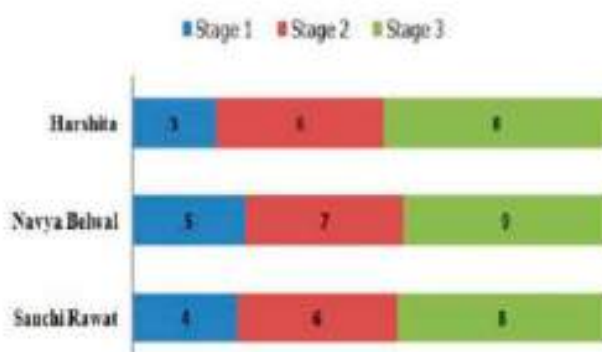
LO 3.6



Learning Outcomes for Grade 4

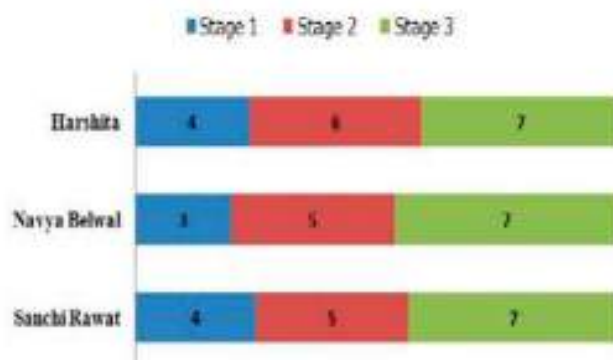
The research study found that Learning Outcome 4.1 (Listens carefully to what others are saying and responds by expressing opinions and asking questions) was progressively achieved. All three students showed improvement in their learning levels by 50%, 44%, and 62.5%, respectively.

LO 4.1



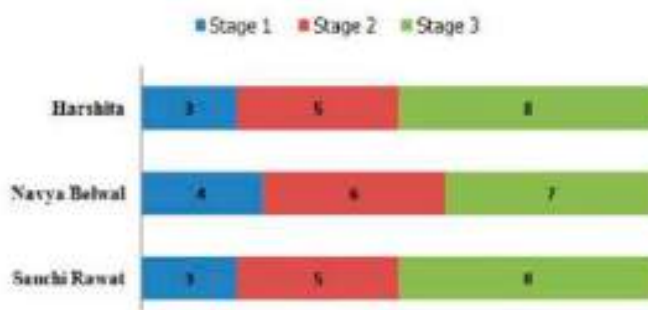
The research study found that Learning Outcome 4.2 (Retells stories, poems, or other content in their own words and adds their own story or ideas) was progressively achieved. All three students showed improvement in their learning levels by 42.9%, 57.1%, and 42.9%, respectively.

LO 4.2



The research study found that Learning Outcome 4.3 (Reads and comprehends their textbook as well as other materials such as children's literature, newspaper headlines, children's magazines, hoardings, etc.) was progressively achieved. All three students showed improvement in their learning levels by 62.5%, 42.9%, and 62.5%, respectively.

LO 4.3



The research study found that Learning Outcome 4.4 (Connects the read material with personal experiences and expresses the resulting feelings and ideas through original/oral or written expression) was progressively achieved. All three students showed improvement in their learning levels by 50%, 62.5%, and 42.9%, respectively.

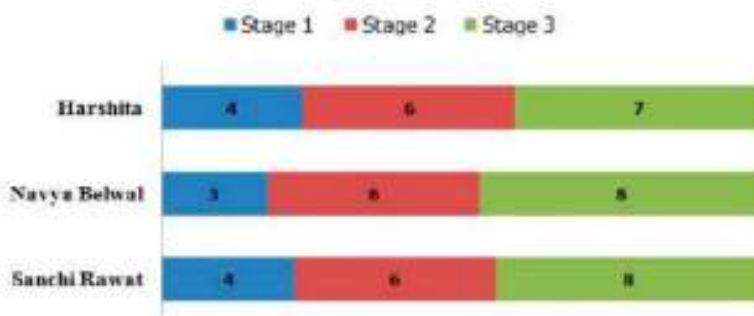
LO 4.4



The research study found that Learning Outcome 4.5 (Writes with awareness of language nuances such as word repetition, pronouns, adjectives, gender, number, etc.) was progressively achieved. All three students showed improvement in their learning levels by 62.5%, 50%, and 37.5%, respectively.

The research study found that Learning Outcome 4.6 (Uses punctuation marks such as full stop, comma, and question mark consciously while writing for different purposes) was progressively achieved. All three students showed improvement in their learning levels by 50%, 62.5%, and 42.9%, respectively.

LO 4.6



Learning Outcomes for Grade 5

The research study found that Learning Outcome 5.1 ("Engages in discussions/questions/gives independent comments/justifies their views/draws conclusions about listened or read compositions, subjects, events, pictures, characters, titles, etc.") was progressively

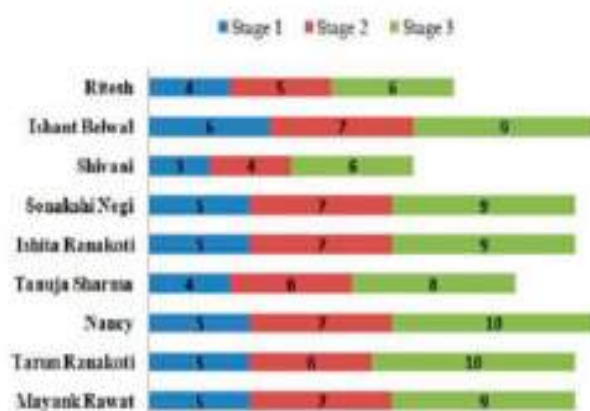
achieved. All nine students showed improvement in their learning levels by 57.1%, 37.5%, 42.9%, 40%, 33.3%, 37.5%, 40%, 60%, and 55.6%, respectively.

LO 5.1

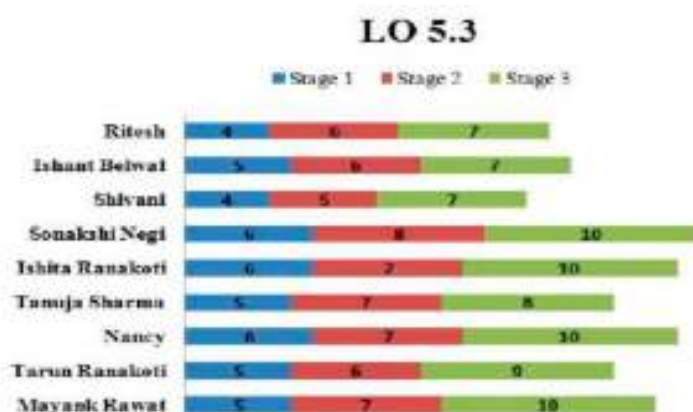


The research study found that Learning Outcome 5.2 ("Develops their oral language by paying attention to the nuances of language") was progressively achieved. All nine students showed improvement in their learning levels by 33.3%, 33.3%, 50%, 44.4%, 44.4%, 50%, 50%, 50%, and 44.4%, respectively.

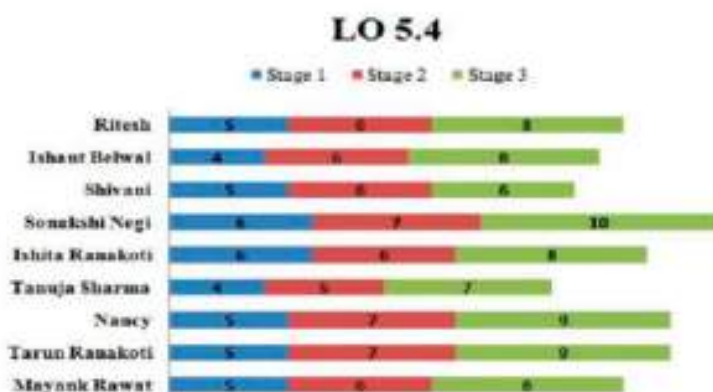
LO 5.2



The research study found that Learning Outcome 5.3 ("Expresses verbally or in writing the sensitive points found in various types of language materials such as newspapers, children's literature, posters, etc.") was progressively achieved. All nine students showed improvement in their learning levels by 42.9%, 28.6%, 42.9%, 40%, 40%, 37.5%, 40%, 44.4%, and 50%, respectively.



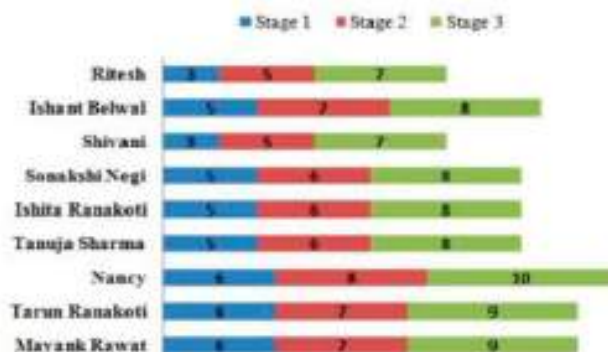
The research study found that Learning Outcome 5.4 ("Reads and comprehends materials other than the textbook (such as newspapers, children's magazines, hoardings, etc.) and talks about them") was progressively achieved. All nine students showed improvement in their learning levels by 37.5%, 50%, 16.7%, 40%, 25%, 42.9%, 44.4%, and 37.5%, respectively.



The research study found that Learning Outcome 5.5 ("Consciously use punctuation marks such as full stops, commas, question marks,

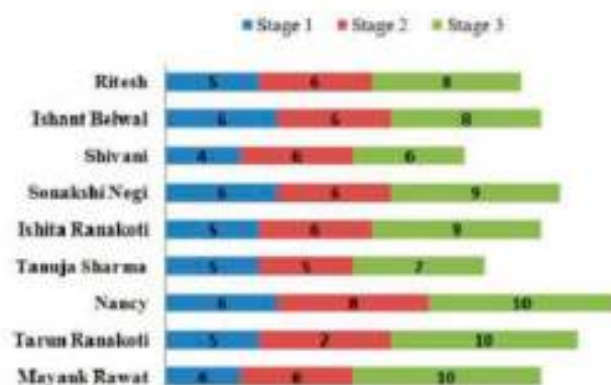
and quotation marks in their writing for various purposes”) was progressively achieved. All nine students showed improvement in their learning levels by 57.1%, 37.5%, 57.1%, 37.5%, 37.5%, 37.5%, 40%, 33.3%, and 33.3%, respectively.

LO 5.5



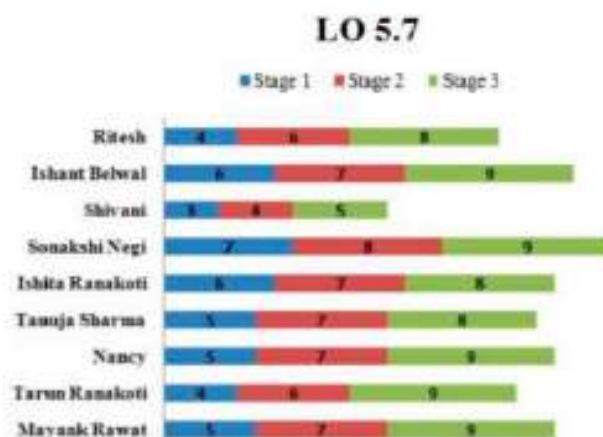
The research study found that Learning Outcome 5.6 (“Voluntarily or under teacher-assigned activities, students review their writing with a better understanding of the writing process and make changes according to the purpose of writing and the audience”) was progressively achieved. All nine students showed improvement in their learning levels by 37.5%, 25%, 33.3%, 33.3%, 44.4%, 28.6%, 40%, 50%, and 60%, respectively.

LO 5.6



The research study found that Learning Outcome 5.7 (“Students write stories, poems, letters, etc., using their imagination. They also continue

writing by extending poems or stories”) was progressively achieved. All nine students showed improvement in their learning levels by 40%, 33.3%, 40%, 22.2%, 25%, 37.5%, 44.4%, 55.5%, and 44.4%, respectively.



Conclusion and Implications

Listening, speaking, reading, and writing are the four fundamental components of language learning. In the early preparatory stage, reading and writing become more prominent skills compared to listening and speaking. The National Council of Educational Research and Training (NCERT) outlined clear educational objectives (LOs) that learners are anticipated to accomplish by the conclusion of every academic level. During the study, six learning outcomes for Grade 3 and Grade 4, as well as seven learning outcomes for Grade 5, were identified and mapped to the learners' reading and writing skills.

Before starting the study, learners' levels were assessed, and innovative activities such as story completion, students as authors, audio-books, and predicting story endings were conducted both inside and outside the classroom. Students participated enthusiastically in all activities because there was no pressure to complete them, and learners could engage in the activities according to their own interest. Most activities were either unrelated or only minimally related to the textbooks, which encouraged learners to complete them independently or with assistance.

The audio-book activity was highly appreciated by parents because the audio clips created by their children were presented during Parent-Teacher Meetings (PTMs), instilling a sense of pride in the parents. All students brought 15 to 20 new stories they had written, which empowered them to write more in the future and also improved their vocabulary. These self-written stories were sent for publication in renowned children's magazines and newspapers' children's corners.

Furthermore, there was an average 50% improvement in students' learning levels aligned with the identified learning outcomes related to reading and writing skills. These innovative activities enhanced learners' concentration and strengthened their brain's ability to focus. The activities attracted students and motivated them to read and write, as these habits had declined due to more digital engagements at home. Regular reading practice helped students develop better sentence formation and correct use of words and spelling. Vocabulary expansion empowered children and improved their academic performance.

Reading strengthened the students' creativity and imagination, which laid a strong foundation for concepts like coding and programming. These skills helped students communicate and speak publicly more effectively, which also led to improvements in memory and analytical abilities.

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NEP 2020 AND THE FUTURE OF HIGHER EDUCATION IN INDIA: REFORMS, OPPORTUNITIES, AND OBSTACLES

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Abstract

NEP 2020 is a landmark reform that will affect the higher education sector in particular. This paper examines the significant reforms that were proposed under NEP 2020: restructuring higher education institutions into multidisciplinary universities, introducing holistic and flexible learning frameworks, the Academic Bank of Credits, the Multiple Entry and Exit System, and the establishment of the Higher Education Commission of India. It further discusses the policy's vision to internationalize higher education that places India at the global academic standard, benchmark, and ranking. NEP 2020 thus aimed at improving access, equity, quality, and innovation while promoting research, skill development, and global competitiveness through these initiatives. Notwithstanding its transformative potential, NEP 2020's implementation faces significant challenges related to financial constraints, regulatory restructuring, digital divides, and differences in state-level preparedness. This paper concludes that NEP 2020 has a comprehensive and progressive blueprint for modernizing Indian higher education, but its success is contingent upon sustained investment, collaborative governance, and timely resolution of structural and administrative barriers.

Keywords: NEP 2020, Reforms, Multidisciplinary, Academic Bank of Credits,

Introduction

Education has always been central to national development, serving as the most powerful instrument for driving social, economic, and cultural transformation (Kurien & Chandramana, 2020). Since independence, India has recognised education as a vital tool for

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fostering social justice, promoting economic growth, and modernising the education system (Aithal & Kakde, 2024). Over the years, numerous educational reforms have been implemented to enhance the system and ensure it aligns with the country's developmental objectives. The initial National Education Policy (NEP 1968) was established based on the suggestions of the Kothari Commission (1964–66). It highlighted the importance of national unity, equal access to education, and the implementation of a common school system. The advancement, concentrating on increasing educational access, Enhancing adult literacy, and promoting women's empowerment through education. This policy was subsequently revised in 1992 to respond to the new challenges presented by a swiftly evolving society. Acknowledging the necessity for a policy tailored to the context of the 21st century, the Union Cabinet approved the National Education Policy (NEP) 2020 on July 29, 2020. This groundbreaking policy proposed a progressive and innovative vision for reshaping the entire educational framework, especially in higher education. NEP 2020 recognised the vital importance of higher education in fostering both individual and societal well-being and in contributing to India's comprehensive development. By focusing on flexibility, interdisciplinary learning, research, and innovation, the policy aims to position India's higher education system as globally competitive and socially responsible (Rashmi & Prakasha, 2023). One of the key modifications in NEP 2020 is the creation of a Higher Education Commission of India (HECI) that will serve as an overarching organisation for the entire higher education framework, with the exception of legal and medical education. As Kurien & Chandramana (2020) point out, NEP 2020 introduces fundamental changes, such as the establishment of HECI, multidisciplinary universities, and the Academic Bank of Credits (ABC), aimed at reshaping higher education. The NEP-2020 introduces fundamental changes to the existing education system, emphasising establishing multidisciplinary universities and colleges, aiming to enable students to choose combinations of subjects across disciplines with multiple entry-exit options through the Academic Bank of Credits. Besides this, universities and colleges should support students and researchers in

improving their experiences by creating a National Research Foundation that endorses high-quality, peer-reviewed research and effectively initiates academic studies at these institutions. Aithal & Kakde (2024) indicate that NEP 2020 seeks to increase access and equity in higher education via flexible curricula and skill development. According to Rashmi & Prakasha (2023), these reforms, more so the way higher education institutions can implement interdisciplinary learning and innovations, have the potential to change the outlook of higher education in India. This reflects the general goal of NEP 2020 in modernising higher education through innovation and research. However, IJABS (2023) postulates that there are challenges found, which include infrastructure, teacher training, and the digital divide, that would influence how these reforms will be put into practice.

Objectives

1. To explore key initiatives such as the Academic Bank of Credits and the Multiple Entry and Exit System, and their implications for flexibility in learning.
2. To examine the proposed regulatory regime under HECI and its role in
3. Bringing about transformation in the governance of higher education.
4. To assess the internationalization strategies commended by NEP 2020 for
5. Improving India's global academic competitiveness.
6. To identify the major challenges and constraints in higher education associated with the implementation of NEP 2020.

Methodology

The study relies solely on secondary data. An interpretative methodology is utilised, gathering and analysing qualitative data by reviewing research articles from journals, reports from various organisations and commissions, books, articles found in international, national, and local publications, as well as online documents.

Major Reforms Proposed in Higher Education

Restructuring of Higher Education Institutions

A key strategy introduced by the National Education Policy (NEP) 2020 to prevent fragmentation in higher education is the creation of large multidisciplinary higher education institutions. By the year 2040, it is envisioned that all HEIs in India will adopt a multidisciplinary model, equipped with complete academic and administrative autonomy, while single-discipline institutions will gradually be phased out. The traditional affiliation system is set to be abolished, and colleges will be motivated to gain autonomy and transition into degree-granting, multidisciplinary institutions. The policy emphasises the important role of the private sector in widening higher education options and maintaining quality and accessibility. HEIs are anticipated to deliver multidisciplinary education at both the undergraduate and postgraduate levels, merging teaching, research, and community engagement. They are also expected to make contributions to professional fields, train future educators, and foster innovations in school education. To enhance diversity and excellence, HEIs will be classified as research-intensive universities, teaching-intensive universities, or autonomous degree-granting colleges. Moreover, the policy seeks to elevate the Gross Enrolment Ratio (GER) in higher education from approximately 26.3% (in 2018) to a minimum of 50% by 2035, demonstrating a strong commitment to inclusion, quality, and the growth of higher education in India.

Multidisciplinary and Holistic Education

The National Education Policy (NEP) 2020 highlights the importance of providing a comprehensive and multidisciplinary education that aims to cultivate all aspects of human development—including social, moral, emotional, physical, intellectual, and aesthetic—in a cohesive way. This educational framework seeks to foster balanced individuals who possess the necessary skills and values for the 21st century across a wide range of fields, such as arts, humanities, social sciences, languages, sciences, vocational training, professional studies, and technical disciplines. The policy aims to establish at least one substantial multidisciplinary Higher Education Institution (HEI) in

every district by the year 2030. To accomplish this, all HEIs are encouraged to incorporate credit-based courses, projects, and hands-on learning opportunities focused on areas like environmental education and value-based education. Environmental education will cover topics such as climate change, waste management, sanitation, conservation of biodiversity, pollution management, forest and wildlife protection, and sustainable development practices. In contrast, value-based education will aim to instill ethical, humanistic, and constitutional values — such as truth, peace, non-violence, love, scientific mindset, social responsibility, and active citizenship — through community involvement and service-learning activities. Additionally, NEP 2020 supports practical learning experiences, urging students to engage in internships with local industries, artisans, businesses, and research establishments to improve their employability, creativity, and social consciousness. This integrated and experiential approach to learning aspires to develop responsible citizens who can contribute significantly to both national and global progress.

Academic Bank of Credits (ABC)

ABC is one of the most discussed and eagerly awaited initiatives under the new NEP 2020, which serves as an online repository for the credits amassed by learners, managed by the University Grants Commission. It aims to offer academic flexibility to students, allowing those in higher education to gather credit points by transitioning through different academic levels, such as certificate, diploma, postgraduate diploma, undergraduate, and postgraduate degree programs. This system provides multiple opportunities for entry and exit, enabling the pursuit of lifelong learning. Students will have the opportunity to leave higher education programs and return later, depending on their preferences, needs, and available resources. The ABC model enables students to take a break from their studies without forfeiting their earned credits and allows them to re-enroll within a designated timeframe, thus ushering in a transformative era driven by modern technology in the education sector. It will consequently offer students' academic flexibility through its innovative approach to credit accumulation, akin to a savings account where individuals deposit

and manage their hard-earned funds. Such initiatives will enable institutions to allow their students to explore a wide range of courses based on their preferences and interests, including music, dance, drama, and animation, alongside engineering and medical disciplines. Students will have the opportunity to earn minor degrees while working on their major programs and can choose to enter and exit courses according to their preferences (Jebaraj, 2021).

Multiple Entry and Exit System (MEES)

The Multiple Entry and Exit System is in the nature of a comprehensive reform within higher education under NEP 2020 and provides students with opportunities to pause and begin their studies when personal, professional, or financial conditions allow for entry or re-entry at will into the academic pipeline. As per NEP 2020, undergraduate programs will be of three or four years' duration, with multiple exit and re-entry points along with appropriate certification. A certificate will be provided after the completion of one year of study in a chosen discipline or vocational field, a diploma after two years, and a Bachelor's degree after three years. Students who complete a four-year program with a research component will receive a Bachelor's degree with Research, provided they undertake a substantive research project as specified by their higher education institution. In addition, the Policy has introduced the ABC (Academic Bank of Credits), a national-level digital repository that securely stores the students' academic credits acquired from recognised higher education institutions. These can later be transferred and accumulated to ensure academic mobility and continuity across universities and colleges. The MEES framework's structure lends flexibility while addressing the pressing challenge of dropout rates by allowing learners to acquire meaningful credentials at every stage of their academic journey. This will align education with lifetime learning principles, skill development, and employability so that students can effectively adapt to the changing demands at work. With it, higher education would become more oriented toward students, inclusive, and responsive to individual aspirations and socio-

economic realities.

Establishment of the Higher Education Commission of India (HECI)

A major modification in NEP 2020 is the suggestion to establish the Higher Education Commission of India, which will serve as a governing body for higher education, with the exception of medical and legal education. The revamped regulatory framework for higher education will guarantee that separate and empowered entities carry out distinct functions related to administration, accreditation, financing, and the establishment of academic standards. These four functions will be organised as independent verticals under the umbrella of a single institution, known as India's Higher Education Commission (HECI).

Internationalization of Education

NEP 2020 encompasses a major effort by the Government of India to raise higher education to world-class standards by bringing in international best practices, leveraging technological innovation, and encouraging high-quality academic frameworks. It also has among its central aims making India a global knowledge hub that will provide for better cross-border academic exchange and increase the international visibility of Indian institutions. The NEP 2020 outlines a set of forward-thinking approaches toward the internationalization of higher education. Among these are permitting top-performing foreign universities to establish campuses in India and supporting leading Indian institutions as they move toward establishing campuses overseas, which will foster reciprocal global engagement. The policy advocates for seamless transfer of academic credits through globally compatible credit frameworks such as the Academic Bank of Credits to ease the mobility of students across institutions and countries. Furthermore, NEP 2020 stresses the need for international research collaborations, faculty and student exchange programs, and jointly or dually awarded degrees to build a robust academic ecosystem for India. But above all, it also emphasises the imperative of technology-enabled learning, internationalization of curricula, and global

research networks to make Indian higher education competitive, inclusive, and innovation-driven in the 21st century.

Challenges in Implementation

Financial Constraints

Carrying out extensive reforms—such as multidisciplinary universities, enhanced digital infrastructure, recruitment of high-quality faculty, and investment in research—necessitates significant financial resources. Numerous states and institutions encounter budget constraints, hindering the complete realisation of these initiatives.

Collaboration Among the States

Given that education is a concurrent subject, many states operate their own school boards, which means that state governments need to step up to effectively implement this decision. Furthermore, the proposal to establish a National Higher Education Regulatory Council as the primary governing authority may face resistance from the states.

Regulatory Transition Challenges

The transition to a single regulatory framework under the Higher Education Commission of India presents enormous challenges on structural and administrative levels. Revamping well-entrenched bodies such as the UGC, AICTE, and NAAC into professional verticals requires wide-ranging policy alignment, legal restructuring, and operational clarity. Besides, the facilitation of coordination between the central and state governments with their diversity of priorities, capabilities, and regulatory environments remain an enormous challenge. This level of complexity reduces the pace of reform and introduces uncertainties for institutions in the transition to the new regulatory architecture.

Multidisciplinary Integration Issues

This transition from specialized or single-discipline institutions to a fully multidisciplinary university is not easy and is a gradual process.

It requires comprehensive curricular restructuring, hiring and training of faculty who can teach and collaborate across diverse disciplines, and significant upgrading or expanding of institutional infrastructure. These structural changes are at least as difficult as fostering a culture that values interdisciplinary thinking and collaboration, with long-standing academic practices, departmental boundaries, and institutional mindsets needing revision.

Conclusion

The NEP 2020 embodies one of the most transformative and forward-looking reforms in the history of Indian higher education. Its emphasis on flexibility, multidisciplinary learning, research orientation, and global engagement reflects the philosophy for an inclusive, learner-centric, and 21st-century-oriented education system. From the restructuring of higher education institutions to the Academic Bank of Credits, the Multiple Entry and Exit System, and, finally, the establishment of the Higher Education Commission of India, NEP 2020 strives to dismantle the old structures and aims at a coherent and progressive academic ecosystem. This policy also aims at positioning India as a global knowledge hub by encouraging international collaborations, cross-border academic mobility, and the internationalisation of curricula and research.

But the realisation of this vision depends considerably on overcoming persistent challenges accompanying such large-scale reforms. Financial constraints, limited institutional capacity, regulatory transitions, coordination between central and state governments, and disparities in digital and physical infrastructure remain significant bottlenecks for uniform implementation across the country. Overcoming these would need sustained political will, collaborative governance, strong investment, and continuous capacity building at all levels of the system.

In spite of these challenges, the NEP 2020 holds immense potential for transforming the higher education landscape in India. Done well, the reforms can establish institutions that are academically vibrant, socially responsible, globally competitive, and capable of cultivating a

generation of learners prepared with the knowledge, skills, and values required to advance the cause of national development. Ultimately, the NEP 2020 lays a sound foundation for establishing higher education as a dynamic driver of innovation, equity, and human progress, thereby reinforcing India's long-run aspiration to emerge as one of the most prominent knowledge societies in the world.

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ANALYSIS OF OPEN-BOOK EXAMINATIONS IN HIGHER EDUCATION

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Abstract

This paper examines the open-book examination (OBE) system, a form of assessment where students can use reference materials like textbooks and notes during the exam. The study uses a SWOT analysis to identify the key aspects of OBEs and further investigate the perspectives of university teachers on the factors that affect the integrity of these examinations. A mixed-methods research design was employed to fulfil the dual objectives of the study. The purposive sampling technique was used to select the research sample, which comprised 94 university teachers. Data was collected using a five-point Likert Scale and analyzed using frequency, percentage, and mean. The findings of the analysis showed that test paper design, administrative issues and unreliable evaluation are the main causes compromising the integrity of open-book exams. However, malpractice issues and diminishing education quality had a modest influence.

Keywords: Open-book, Assessment, University teachers, NEP, Council.

Introduction

The 21st century educational systems are transforming human capital into intellectual capital. It is deemed essential to nurture young individuals who are capable of independent and creative thinking. Many scholars suggest that the inclusion of open-ended tasks in assessments enhances skills and provides an enriched educational environment that allows students to interact with content more thoroughly and successfully answer complex questions (Kaur, 2016). The initiative for open-book examinations aims to provide a more

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engaging learning experience and alleviate the pressure often associated with traditional tests. Further, it was considered a strategic approach to enhance students' critical thinking, problem-solving, and analytical skills (The Hindu Bureau, 2024). In 2018, the All-India Council for Technical Education (AICTE) introduced its examination reform policy. This policy supported open-book assessments as a method to evaluate higher-order skills, aligning with Bloom's Taxonomy, and addressing the limitations of conventional examination formats (Sahasrabudhe et al., 2018). The open-book examination (OBE) is gaining popularity among policymakers and national boards as a novel approach. In an effort to align with the National Education Policy (NEP) 2020's focus on diverse assessment methods, the Central Board of Secondary Education (CBSE) is exploring the feasibility of open-book exams in the Indian education system. As part of this initiative, the CBSE has launched a pilot program for students in grades 9 through 12. The pilot program aims to assess the effectiveness of open-book exams and determine the time required for them, as well as their applicability for both classroom and final examinations. The subjects being evaluated are English, Science, and Mathematics for grades 9 & 10, and English, Mathematics, and Biology for grades 11 & 12. This research is being conducted in a select number of CBSE-affiliated schools, and it will include comprehensive feedback from students, teachers, and other key stakeholders (Goyal, 2024). Although the previous implementation of open-book examinations faced challenges that led to its discontinuation in 2017-2018.

Moreover, to make the system more robust, the Delhi Technological University has implemented AI-powered proctoring into its examination processes. This includes features like real-time monitoring, automated identity verification through facial recognition, and screen activity tracking. These innovations illustrate the potential of AI-enabled proctoring systems to maintain academic integrity in online and open-book assessments. However, the Times of India (2021) points out that the rapid technological advancement also poses challenges, meaning that maintaining academic integrity in this expanding digital landscape requires constant adaptation and

vigilance. Therefore, it is imperative to study the open-book examinations thoroughly.

Meaning and Concept of Open-Book Examination

According to Sharma (2023), an open-book exam (OBE) is an assessment method that permits students to consult their study materials, such as textbooks & notes, while taking the test. This format contrasts with the traditional closed-book examination system, which relies solely on a student's memory and comprehension of the subject matter. The core philosophy behind OBEs is the belief that real-world problem-solving often requires external resources, as professionals typically make decisions by referencing materials rather than relying solely on memorization.

Open-book exams are designed to test more than just your ability to memorize facts. They assess how well you can apply knowledge, think critically, and connect different concepts. This format is intended to simulate real-world scenarios where people can access resources and references to solve problems. By allowing students to use their study materials, educators create an evaluation environment that simulates a professional in a formal setting. This strategy encourages a more profound understanding of the subject and strengthens critical thinking skills through the effective interpretation and application of knowledge. OBEs are generally categorized into two types i.e. restricted and free-book. In a restricted format, candidates have limited access to pre-approved study materials. In contrast, free-book exams allow candidates unrestricted access to their books and learning resources. Given these variations, it is crucial for educators to meticulously design this examination system to accurately assess intended learning outcomes and provide a fair evaluation of students' abilities.

Closed-Book Vs. Open-Book Examination

Closed-book examinations are a widely accepted and extensively used method for evaluating students in higher education (Theophilides &

Koutselini, 2000). Unlike open-book exams, which allow students to use their textbooks and notes, the traditional testing method depends on a student's ability to recall information from memory

Despite being seen as unconventional by some, open-book examinations have gained popularity across all educational levels, from primary to higher education (Baillie & Toohey, 1997; Eilertsen & Valdermo, 2000). However, obstacles prevent their widespread adoption. Several studies indicate that students often spend more time searching for answers than formulating responses, which can lead to less time dedicated to exam preparation (Boniface, 1985; Theophilides & Koutselini, 2000; Rakes, 2008). Furthermore, research by Agarwal et al. (2008) has shown mixed results regarding the long-term retention of information with open-book exams. This issue is compounded by changes in students' study habits, influenced by their expectations of an open-book format, which may negatively affect long-term retention.

To maximize the effectiveness of open-book exams (OBEs), educators may need to adopt innovative teaching strategies that focus on various cognitive processes and knowledge levels. The design of these exams should give students ample opportunity to demonstrate their skills and knowledge within the time allotted. In a similar vein, Feller (1994) highlighted that educators should focus on teaching higher-level skills like conceptualization, problem-solving, and reasoning.

Early discussions on the topic raised concerns that OBEs might discourage students from studying, as a false sense of security could lead to minimal preparation (Kalish, 1958). Additionally, the widespread use of personal computers and search engines has significantly altered teaching methods in today's information-rich classroom. Consequently, open-book exams are being explored as a modern alternative to traditional assessment, with the potential to improve learning, lower stress, and develop essential skills.

Review of Literature

Assessing student competence and planning future teaching methods

both depend on effective evaluation (Izard, 1992; Johnson, 1977). According to Suchman (1972), evaluation in education is described as a deliberate process that aims to analyze the teaching and learning processes. Many academic disciplines have studied the relative merits of open-book and closed-book examinations, leading to a diverse and often inconclusive compilation of literature. To provide light on how each assessment method affects student learning outcomes and the educational process as a whole. According to Moore and Jensen (2007), open-book exams may hinder long-term retention of knowledge. The study suggested that the reliance on resources during the examination might reduce students' motivation to comprehend information. Research by Agarwal et al. (2008) indicates that although open-book tests yield better initial performance, these benefits may not last. Critics of closed-book exams, such as Williams (2006), argue that they encourage cramming and do not accurately measure deeper understanding, labeling them outdated.

In contrast, constructionist learning emphasizes that knowledge is created through active engagement rather than passive instruction. This approach upports the idea that open-book exams promote student engagement (Williams, 2006) and align with the focus on knowledge construction (Herrington & Standen, 2000). Further, Williams (2006) asserted that open-book exams are more authentic and better aligned with modern learning objectives, while Eilertsen and Valermo (2000) believe they encourage higher-order thinking and facilitate learning. Block (2012) claims that in a foundational statistics course, open-book exams reduced student stress and increased overall satisfaction, leading to more in-depth learning.

According to studies by Comas et al. (2021) and Janke et al. (2021), a significant increase in academic dishonesty was reported by students in Germany during the COVID-19 pandemic. Concurrently, there was an increased search for information regarding cheating in online examinations, reflecting a growing concern for academic integrity in digital learning environments. Interestingly, recent research has yielded contrasting evidence, indicating that the adoption of OBE is

associated with a significant reduction in cheating incidents, as observed by Nicola-Richmond and others (2023). This finding suggests that students may not inherently perceive the open book format as an opportunity for dishonesty; however, it is critical to ensure that they are adequately educated about academic integrity. The OECD Directorate for Education and Skills identifies academic dishonesty as a predominant challenge in higher education, particularly stressing the implications of the shift to online assessments (OECD, 2020).

When designed and implemented fairly, open-book exams can effectively help students develop critical thinking and decision-making skills. As highlighted by Er and Others (2023), students displayed reduced anxiety levels in open-book exam settings, emphasizing the need for effective operational mechanisms that facilitate smooth assessment experiences. To mitigate the risks associated with academic dishonesty, higher education institutions must prioritize the establishment of robust systems for open-book examinations. Recommendations include providing faculty with clear guidelines for question paper design and integrating advanced proctoring technologies to deter dishonest practices.

A study by Gharib et al. (2012) explored the effects of 'Cheat Sheets' within psychology courses. Their findings suggested that open-book exams performed marginally better than closed-book exams. Interestingly, students who expected better performance with open-book exams did not show significant improvement compared to those using cheat sheets, indicating a potential discrepancy between perceptions and actual performance. In their study at Delhi University, Ashri and Sahoo (2021) found that the average results of open-book exams were higher than those of closed-book exams. It was also noted that the university's insufficient focus on preparing students for open-book exams has been identified as a significant weakness. Further, the study of Pillai and Pillai (2022) highlighted the urgent need for educational institutions to guide students in developing analytical competencies to effectively utilize open-book examinations.

Rationale of the Study

The COVID-19 pandemic accelerated the need for innovative assessment methods. In response, Indian universities such as Delhi University (DU), Jamia Millia Islamia (JMI), and Jawaharlal Nehru University (JNU) incorporated open-book exams into their curricula during academic session 2020-2021 to prioritize analytical thinking over rote memorization. This shift aligns with the National Education Policy (2020), which emphasizes the need for better assessment practices to improve students' learning experiences. Similarly, the Central Board of Secondary Education (CBSE) is planning to introduce OBEs for students in grades 9 to 12 to reduce exam stress and move away from rote learning toward a competency-based approach. The National Curriculum Framework (2023) for School Education also supports this transformation, advocating for diverse assessment methods that cater to various learning styles, provide constructive feedback, and are aligned with learning objectives. However, the successful implementation of OBEs requires careful consideration of students' access to resources, particularly in a country with a diverse socioeconomic landscape (Jesiah, 2024). Studies indicate that many students experience stress, anxiety, and exam-related phobias at various points in their academic careers. Open-book exams are considered a viable alternative to traditional assessments. Research by Feldhusen (1961) and Jehu et al. (1970) suggests that OBEs can alleviate student anxiety and reduce the pressure of memorizing factual information. This examination format also promotes academic integrity by decreasing cheating and encouraging active learning during assessments (Tussing, 1951; Feldhusen, 1961). However, OBEs present their own challenges, such as students spending too much time consulting study materials, a potential decline in a thorough understanding of the subject matter, and an inability to answer questions appropriately (Kalish, 1958; Jehu et al., 1970; Tanner, 1970). Given these dynamics, a thorough examination of open-book exams is crucial, especially regarding their role in enhancing the integrity of assessments.

Objectives

1. To evaluate the strengths weaknesses, opportunities, and threats to open-book examinations.
2. To analyze the university teachers' perspectives on key factors that affect the integrity of open-book examinations.

Methods and Procedure

To investigate university teachers' perspectives on open-book exams, the authors conducted a study using a mixed-method research design, combining both qualitative and quantitative approaches.

Sample: A purposive sampling technique was employed to select university teachers from across India for the research sample. The sample comprises 94 university teachers, 80 were males and 14 were females. Among these 94 samples, 20 responses were from Professors, 10 from Associate Professors, and 64 from Assistant Professors. Regarding the teaching experiences, 12 university teachers had less than 5 years, 24 had 5 to 10 years, 31 had 11 to 15 years, and 27 had over 15 years of university experience.

Research Tool: A five-point Likert Scale was developed and administered by the authors, ranging from strongly disagree to strongly agree (1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree) to understand the perspectives of university teachers on various factors that affect the integrity of open book examination. The questionnaire has 15 items in total, with three items from each factor (i.e., problem in designing test paper, administrative issues, malpractice issues, unreliable evaluation, and diminishing education quality). The key factors were identified through consultation with colleagues and experts.

Procedure of Data Collection: The authors conducted the online survey and shared a link to the Google Forms through WhatsApp and Email to university teachers nationwide. The responses of the faculty were taken from 1st January to 31st March 2025.

Results and Discussion

Considering the aforesaid objectives, the authors presented the results in two parts i.e. SWOT analysis of OBEs and factors affecting the integrity of OBEs.

SWOT Analysis of OBEs

The SWOT framework is a strategic analysis tool that evaluates four key areas, i.e., strengths, weaknesses, opportunities, and threats. It originated in the 1960s at Stanford Research Institute, and Alfred Humphrey has been credited for the same (The Decision Lab, 2021; Puyt et al., 2023). Similarly, the institutions use SWOT analysis to identify internal strengths and weaknesses, as well as external opportunities and threats, when implementing a new system (Sammut-Bonnici & Galea, 2015; Namugenyi et al., 2019). An organization's internal strengths and weaknesses offer a competitive advantage, while external opportunities and threats emerge from its surrounding environment. Within the field of teaching-learning, the open-book examination system can be evaluated by its strengths, weaknesses, opportunities, and threats. This paper's SWOT analysis, presented below, is based on an extensive review of existing literature.

(i) Strengths

1. The approach stimulates critical thinking, as highlighted by Nadarajah et al. (2021), Ranjana & Verma (2022), and Spitzer et al. (2025).
2. It provides an engaging experience for students, according to Doghonadze & Demir (2013).
3. The method prepares students for real-world applications (Gupta, 2007; Green et al., 2016; Dimari & Tyagi, 2024).
4. This has a proven effect on lowering student stress and anxiety (Gharib, Phillips & Mathew, 2012; Doghonadze & Demir, 2013; Paul, 2014).
5. This approach effectively assesses the application of knowledge.

(ii) Weaknesses

1. There can be significant time management issues (Patel, 2017).
2. There is a risk of copying among students (Comas et al., 2021; Janke et al., 2021).
3. This could lead to surface-level learning.
4. There is a lack of quality instructional materials.
5. There is an insufficient focus on student preparation (Ashri & Sahoo, 2021; Ranjana & Verma, 2022).
6. Unfair assessment practices can occur (Doghonadze & Demir, 2013).
7. Faculty training is necessary, along with a template to frame open-book exams (Hegade & Shetter, 2023).

(iii) Opportunities

1. The availability of digital textbooks presents a significant opportunity (Weisberg, 2011).
2. There is potential for using ICT tools in the creation of question papers.
3. Promoting digital literacy skills among students is possible.
4. A computer-based system for examination and evaluation can be implemented.
5. Better proctoring of online exams could be achieved.
6. The availability of quality reference materials is on the rise (Weisberg, 2011).

(iv) Threats

1. Designing questions that accurately measure higher-order critical thinking poses challenges (Patel, 2017; Hegade & Shetter, 2023).
2. Organizing reference materials can be difficult.
3. There are concerns about the availability of online materials.
4. The lack of ICT infrastructure is a significant issue.
5. A digital divide exists among students, affecting access to resources.

Figure 1: Graphical Representation of SWOT Analysis

Key Factors Affecting the Integrity of OBEs

To analyze university teachers' responses on the integrity of open-book examinations, the authors calculated the percentage and mean of the data. The findings are presented below.

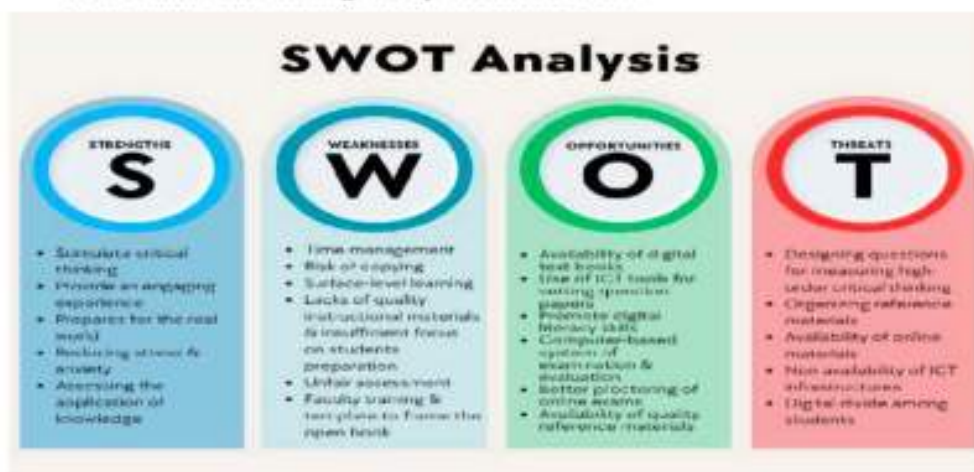


Table 1: Perspective of University Teachers on OBEs

S.N	Statements	Mean
1.	Teachers' language proficiency significantly influences the quality of questions.	4.13
2.	Teachers face a challenge in accurately determining the difficulty levels of questions.	3.55
3.	Do you think that a teacher faces challenges in designing a wide range of objective questions?	3.48
4.	The use of reference books and study materials significantly adversely affects the smooth conduct of OBE.	3.60
5.	Open-book exams cause disorder and disciplinary issues in the examination room.	3.22
6.	Do you think that the absence of suitable reference books and study materials significantly hinders the implementation of open-book exams?	3.84
7.	Open-book exams pose a significant challenge to the role of invigilators.	3.59
8.	Mass copying poses a significant threat to OBE.	3.54
9.	Do you think that a teacher may facilitate cheating?	2.52
10.	An open-book examination is often deemed an inaccurate measure of a student's comprehension of the subject matter.	3.37

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11.	Teachers' personal bias may influence the evaluation pattern of open-book examinations.	3.36
12.	Do you think OBE is a method of assessment that is subject to change and can be subject to interpretation?	3.55
13.	The use of study materials and reference books can significantly reduce the quality of education.	2.81
14.	Open-book exams significantly impact students' understanding of the subject through clearer concepts.	3.41
15.	Do you think that the quality of education is compromised in the OBE system?	3.26

Source: Research Survey

Table 1 shows the perspective of university teachers toward the influential factors that affect the implementation of open-book exams. The analysis and interpretation of data against each item are presented below:

Statement 1: *"Teachers' language proficiency significantly influences the quality of questions"* has a mean value of 4.13. It indicates that the majority of university teachers agreed that teachers' language proficiency had an impact on the quality of their questions.

Statement 2: *"Teachers face a challenge in accurately determining the difficulty levels of questions"* has a mean value of 3.55. It indicates that a large section of participants accepted that university teachers face difficulty in identifying challenging levels of questions.

Statement 3: *"Do you think that a teacher faces challenges in designing a wide range of objective questions?"* has a mean value of 3.48. It indicates that many university teachers agreed that creating a wide range of objective questions is difficult.

Statement 4: *"The use of reference books and study materials significantly adversely affects the smooth conduction of OBE"* has a mean value of 3.60. It indicates that a majority of participants acknowledged that the use of reference books and study materials significantly hinders the smooth execution of exams.

Statement 5: *"Open-book exams cause disorder and disciplinary issues in the examination room"* has a mean value of 3.22. It indicates that a

sizable portion of participants agreed that OBE leads to chaos and disciplinary problems in the exam room.

Statement 6: *"Do you think that the absence of suitable reference books and study materials significantly hinders the implementation of open-book exams?"* has a mean value of 3.84. It indicates that many respondents believed that the lack of appropriate reference books and study resources severely hampers the implementation of open-book examinations.

Statement 7: *"Open-book exams pose a significant challenge to the role of invigilators"* has a mean value of 3.59. It indicates that the majority of university teachers agreed with the statement made.

Statement 8: *"Mass copying poses a significant threat to OBE"* has a mean value of 3.54. It indicates that a majority of university teachers agreed that widespread copying is a serious threat to OBE.

Statement 9: *"Do you think that a teacher may facilitate the cheating?"* has a mean value of 2.52. It indicates that a majority of participants are neutral about this statement.

Statement 10: *"An open-book examination is often deemed an inaccurate measure of a student's comprehension of the subject matter"* has a mean value of 3.37. This indicates that many respondents felt that OBEs are considered an unreliable indicator of a student's understanding of the subject matter.

Statement 11: *"Teachers' personal bias may influence the evaluation pattern of open-book examinations"* has a mean value of 3.36. It indicates that the majority of university teachers agreed that teachers' personal bias may influence the evaluation pattern of OBE.

Statement 12: *"Do you think OBE is an assessment technique that is flexible and open to interpretation?"* has a mean value of 3.55. It indicates that a significant proportion of university teachers thought that OBE is a flexible and open-to-interpretation assessment technique.

Statement 13: *"The use of study materials and reference books can significantly reduce the quality of education"* has a mean value of 2.81.

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It indicates that more than fifty percent of the participants believed that using study materials might drastically lower the standard of education.

Statement 14: *“Open-book exams significantly impact students’ understanding of the subject through clearer concepts”* has a mean value of 3.41. It indicates that a majority of university teachers agreed with the statement made.

Statement 15: *“Do you think that the quality of education is compromised in the OBE system?”* has a mean value of 3.26. It indicates that a substantial number of participants felt that OBEs lower education quality.

Table 2: Perspective of University Teachers on Factors Affecting the Integrity of OBEs

S. N.	Factor	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Problems in test paper design	1.06%	16.67%	13.12%	47.52%	21.63%
2.	Administrative issues	4.61%	19.15%	11.35%	46.10%	18.79%
3.	Malpractice issues	9.22%	26.60%	14.89%	31.91%	17.38%
4.	Unreliable evaluation	4.26%	20.92%	15.96%	45.39%	13.48%
5.	Diminishing educational quality	9.57%	30.14%	10.28%	34.75%	15.25%

Source: Research Survey

Table 2 shows university teachers' perspectives regarding factors affecting the open-book examination system. Based on the responses of 94 participants, a significant majority (69.15%) agreed that the test paper is a problem. Similarly, most teachers (64.89 percent) felt that administrative issues have an impact on the open-book exam system. Interestingly, less than half of the respondents were sure about malpractice being an issue. A considerable portion of the teachers (58.87 percent) also believed that OBEs lead to unreliable evaluation. However, there were mixed responses regarding the diminishing

quality of education. Overall, the analysis shows that university teachers largely agree that the integrity of open-book exams is most affected by issues related to test paper design, administrative issues, and unreliable evaluation. The perceived impact of malpractice and diminishing educational quality was moderate.

Conclusion

This paper provides a comprehensive SWOT analysis of open-book examinations (OBEs), examining their strengths, weaknesses, opportunities, and threats. By reviewing the existing literature, the study identified several key strengths, such as stimulating critical thinking, providing an engaging experience, preparing for the real world, reducing stress and assessing the application of knowledge. However, the study highlights significant weaknesses, such as challenges with time management, the risk of cheating, and a tendency toward surface-level learning. Additionally, weaknesses include a lack of quality instructional material, insufficient focus on student preparation, unfair assessment practices, and a need for better faculty training and question-framing templates.

The research also points out several opportunities, including the availability of digital textbooks, the use of ICT tools for setting question papers, promoting digital literacy skills, a computer-based system of examination and evaluation, better proctoring of online exams, and the availability of quality reference materials. The study identifies several key threats to the effective implementation of open-book examinations. These include the difficulty of designing questions that truly measure high-order critical thinking, challenges with organizing reference materials, and the digital divide among students due to a lack of ICT infrastructure and online resources. The analysis of university teachers' responses further reveals key factors that impact the integrity of OBEs, with significant issues related to test paper design, administrative issues, and unreliable evaluation. However, the malpractice and diminishing educational quality factors have a moderate impact on the integrity of open-book examinations.

Recommendations

The present study provides a detailed set of recommendations for optimizing the implementation of open-book examinations in India. A crucial first step is to provide students with advanced notice about the new format, emphasizing the need for a deep understanding of course material over simple memorization. To help students prepare, well-structured mock tests should be conducted to clarify learning objectives and expected academic outcomes. The assessment items must be intellectually stimulating and meticulously crafted to encourage students' analytical thinking. Additionally, ample time should be allotted for exams so students can formulate their responses thoughtfully. It is also important to avoid overly simplistic tasks, as they can increase the likelihood of plagiarism and collusion. Instead, incorporating a varied range of assessment tasks can enable students to exhibit their learning through diverse strategies.

A strong framework for implementing open-book examinations begins with faculty development. Training sessions need to focus on the skills needed to construct effective and meaningful assessments. Faculty should be encouraged to design questions that stimulate critical thinking by using real-world case studies or practical problem-solving scenarios, rather than relying on a single question type. Additionally, encouraging collaborative learning environments and integrating technology are key to enhancing the overall learning experience. To ensure a smooth transition, it's essential to establish clear guidelines and explicit evaluation criteria for students.

Lastly, the educators should promote a culture of academic integrity and encourage the students to engage in reflective practices that can significantly contribute to the development of metacognitive skills and foster a greater awareness of their own learning processes. Collectively, these measures ensure that open-book examinations are not merely a testing format but a valuable educational instrument that enhances student learning and development.

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UNIVERSAL DESIGN FOR LEARNING: ACCELERATING LEARNING FOR ALL IN CONTEXT OF NEP-2020

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Abstract

Universal Design for Learning has emerged as a transformative framework aimed at creating flexible inclusive and equitable learning environments for diverse learners. The Universal Design for Learning framework gives you multiple ways to present content, involve students, and assess their responses. It helps you respond to diverse learning needs at the point of instruction and supports flexible learning pathways. UDL seeks to remove learning barriers and accelerate academic growth for all students irrespective of their abilities, backgrounds or learning preferences. This paper examines how UDL functions as a catalyst for improving learning outcomes by promoting learning Autonomy enhancing motivation and enabling differentiated instruction.

Keywords: UDL, NEP 2020, Inclusive Education, Students, Education System

Introduction

The Universal design for learning (UDL) framework was developed in the 1990s by Dr. David Rose and his team at the Centre for Applied Special Technology (CAST). It was influenced by the universal design (UD) movement in architecture and product design in the United States, but applies those ideas to educational settings. UDL is based on the understanding that every learner approaches learning differently, where they have identified special educational needs. Therefore, it argues that curriculum should be purposefully designed from the very beginning not modified later to ensure that:

- Learners can access and understand information through multiple formats.
- Learners can be motivated and engaged by connecting instruction with their interests, strengths and background knowledge and

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learners have different options to show what they have learned.

Although UDL evolved from concepts in architectural Universal Design, Rose and Colleagues emphasized that educational design is far more complex. Thus, they incorporated insights from neuroscience and progressive educational theories to shape the UDL framework.

The UDL Framework

The Universal Design for Learning (UDL) framework encourages educators, administrators and learners to view learning as a complex whole rather than an isolated component. Instead of focusing only on individual elements such as accessibility, UDL principles, or neuroscience. UDL stress how these pieces fit together to form a complete picture of learning (Perkins, 2009). According to the model, three interconnected principles support diverse classroom needs during instructional planning:

- 1) Multiple Means of Representation
- 2) Multiple Means of Expression
- 3) Multiple Means of Engagement



Source: <https://www.carleton.edu/its/blog/how-you-can-implement-universal-design-for-learning-udl-in-small-steps/>

These principles correspond to the brains learning systems, often described as the what, how and why of learning guiding educators to

design lessons that are accessible and meaningful for every learner.

UDL is supported by more than three decades of research in Neuroscience on how the brain processes information, learning differences and learning styles (Hall et al., 2012). Through this research, three brain networks have been identified as central to learning: recognition networks, strategic networks and effective networks (Courey et al., 2013 & Katz, 2012). Based on these networks UDL promotes flexibility and choice so that learners can engage with content in ways that best align with their individual strength.

Applying these principles requires curriculum and instruction to offer multiple ways for students to access content, express what they know and stay motivated (Lapinski et al., 2012; Ralabate, 2011). Multiple means of representation ensure students can take information in different formats (Abbel et al., 2011). Multiple means of expression provide different tools and methods for students to demonstrate learning and overcome barriers (Katz, 2012). Multiple means of engagement build motivation and ownership of learning by offering meaningful choices (Samuel, 2007). When teachers plan using all three principles learning becomes more flexible and adaptive, allowing each learner to participate and succeed uniquely. By deliberately integrating Neuroscience and the three UDL principles, teachers can design inclusive curricula that enhance learning goals, instructional methods and outcomes for all students (Ralabate, 2011). UDL requires purposeful planning to ensure that students engage in deep inquiry-based learning that helps them build authentic understanding and achieve academic success (Willms et al., 2009). Through this approach, classrooms become truly inclusive where students can display their learning in personally meaningful ways and be accepted for who they are and where they are developmentally (Dalton & Brand, 2012).

Ultimately the UDL framework is realized when students learn in an atmosphere that values developmental differences, supports individual learning styles and builds shared understanding of curriculum. Such outcomes depend on thoughtful instructional design grounded in knowledge of brain networks and deliberate use of multiple representation, expression and engagement pathways.

Who Benefits from UDL

Universal Design for learning supports both students and teachers by nurturing a classroom culture in which learners value one another similarities and differences. Rather than relying on a uniform curriculum, UDL promotes equal learning opportunities for all which enhances students' involvement and accommodates diverse learning needs (Gargiulo & Metcalf, 2013). Teachers also gain experience through the use of improved instructional practices that promote inclusivity and collaboration. Overall, UDL benefits every stakeholder in education by enabling a deeper understanding of learners and allowing educators to support students from the earliest stages of schooling. Although UDL was initially developed to ensure the inclusion of students with special needs. It has evolved into an instructional framework that benefits all learners (Rabalate, 2011). It promotes flexibility in learning processes, learning products and ways of demonstrating knowledge (Katz, 2012). This allows learners to showcase them strengthens whether musical. Kinetical, linguistic in varied and meaningful final products. UDL benefits learners who may struggle with traditional instruction by providing them more meaningful and engaging experience (Samuels, 2007). Teachers using traditional methods often struggle to achieve high level of engagement and achievement in their classrooms (Willms et al., 2009). Educational stake holders increasingly call for strategies that address the needs of learners with varied abilities within the general classrooms (Dalton & Brand, 2012). By applying UDL principles teachers can proactively reduce barriers and built flexibility into the curriculum making instruction more effective without increasing their workload (Ayala et al., 2012). The UDL framework strengthens teachers' natural ability and motivation to design meaningful learning experience by providing guidelines for flexible curriculum development and instructional practices. At any great level teachers can use UDL to manage classroom demands and offer equitable instruction (Dalton & Brand, 2012). UDL also promotes collaboration among educators by encouraging joint planning and additional professional dialogue. Additionally, it requires teachers to engage in continuous conversations with

students about their learning styles, strengths and skill needs.

Role of UDL in Inclusive Education

Universal Design for Learning (UDL) can be effectively integrating into inclusive education to create equitable and accessible learning experience for all students. Inclusive education focuses on accommodating learners with diverse needs in general classrooms and UDL supports this goal by offering multiple ways for students to access content, stay engaged by demonstrate their understanding. By proactively removing learning barriers through flexible material, assistive technology friendly resources and alternative formats. UDL makes instruction more accessible. It also naturally supports individualized learning by allowing students to choose methods that align with their strength, making differentiation easier for teachers and beneficial for all learners including those with disabilities and those who are gifted. UDL further promotes collaboration among teachers, specialists and support staff by offering a shared framework for planning instruction and foster a school culture that values diversity and inclusion. Additionally, UDL also provides a strong foundation for ongoing professional development, helping teachers to refine their methods and respond effectively to students evolving needs. Overall, by embedding UDL within inclusive education every student can participate, engage and succeed in a supportive learning environment.

UDL and NEP 2020

The National Education Policy 2020 presents a transformative vision for India's education system and its goals closely align with the principles of universal design for learning. NEP 2020 stresses equity and inclusion by ensuring quality education for all learners including those from disadvantage backgrounds and those with disabilities which UDL supports by offering accessible and flexible learning options. The policy's emphasis on curricular flexibility, student choice and multi-disciplinary learning is also reflected in UDL's approach of providing varied ways for students to access, engage and express their learning. NEP focuses on multi lingual education is strengthened by UDL ability to present content in different languages to support

linguistic diversity. Furthermore, NEP's call to reduce high stakes examination in favour of continuous and comprehensive assessment aligns with UDL's promotion of multiple forms of evaluation that match learner strength. The policy's encouragement of inclusive classroom practices and ongoing teacher professional development corresponds with UDL's structured guidance for adapting instruction to diverse needs. Additionally, NEP 2020 commitment to support gifted and talented learners is also supported by UDL which offers opportunities for enrichment and advance learning through differentiated instruction.

Conclusion

Over the past two decades UDL has emerged as an effective instructional model for promoting universal principles of learning design across schools and higher education institutions. Although, implementing UDL at all levels remains challenging continuous efforts are being made to expand its adoption, driven by its core philosophy that no learners should be excluded from meaningful educational access built on three foundational principles like multiple means of representation, action and expression and engagement offers a flexible interactive and proactive framework that benefits both general and disabled learners. As a paradigm shifts in inclusive education, UDL demonstrates strong potential to address diverse pedagogical needs within heterogeneous classrooms. However, its successful implementation requires significant transformation, moving from rigid, one sizes fits all curriculum models to dynamic, need based systems of content delivery and assessment. Never the less, if all structured reforms are embraced UDL holds promise as a powerful approach in Indian Education System.

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SOCIAL MEDIA USE, EMOTIONAL INTELLIGENCE, AND PSYCHOLOGICAL WELL-BEING AMONG ADOLESCENTS

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Abstract

The rapid expansion of social media has transformed adolescents' social interactions and emotional experiences. While these platforms offer opportunities for communication, identity exploration, and peer support, they may also expose adolescents to emotional stressors such as social comparison, cyberbullying, and digital pressure. This qualitative study explores adolescents' perceptions of the relationship between social media use, emotional intelligence, and psychological well-being. Semi-structured interviews were conducted with fifteen adolescents aged 14–18 years from senior secondary school of Central Kashmir. Data were analyzed using thematic analysis following Braun and Clarke's framework. Four major themes emerged: (1) Social media as a medium for emotional expression, (2) Emotional turbulence resulting from online interactions, (3) Emotional intelligence as a coping resource, and (4) Digital pressures influencing psychological well-being. The findings suggest that emotional intelligence may support adolescents in interpreting and regulating emotional responses to online experiences. The study highlights the importance of integrating emotional intelligence development and digital literacy education within school settings to support adolescents' well-being in digitally mediated environments.

Keywords: Social media, Emotional intelligence, Adolescents, well-being, Digital literacy

Introduction

Adolescence represents a critical period of psychological, emotional, and social development. During this stage, individuals experience significant changes in identity formation, peer relationships, and emotional regulation. In contemporary society, these developmental

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processes increasingly occur within digitally mediated environments. Social media platforms such as Instagram, TikTok, Snapchat, and WhatsApp have become integral components of adolescents' everyday lives. These platforms allow adolescents to communicate with peers, share experiences, and construct social identities in ways that were previously unavailable. Through digital interaction, adolescents can maintain social relationships, access peer support, and engage in self-expression. Despite these potential benefits, social media environments also present challenges. Adolescents may encounter unrealistic portrayals of others' lives, exposure to cyberbullying, pressure for social validation, and excessive digital engagement. Such experiences may contribute to emotional distress, reduced self-esteem, and diminished psychological well-being. The psychological consequences of social media use are therefore complex and influenced by individual differences. One factor that may shape adolescents' responses to digital experiences is emotional intelligence (EI). Emotional intelligence refers to the ability to recognize, understand, and regulate emotions effectively. Adolescents with stronger emotional competencies may be better equipped to interpret online interactions, regulate emotional responses, and maintain psychological balance.

Although numerous studies have examined the relationship between social media use and adolescent well-being, much of the existing research relies on quantitative approaches. Less attention has been devoted to adolescents' lived experiences and subjective interpretations of digital environments. Understanding these experiences is important for developing educational strategies that promote healthy social media engagement. This study therefore explores adolescents' perceptions of how social media use interacts with emotional intelligence and psychological well-being. By examining adolescents' experiences, the study seeks to contribute insights that may inform educational practices and interventions aimed at supporting emotional development in digitally connected environments.

Review of Literature

Social Media and Adolescent Development

Social media has become a dominant aspect of adolescents' social lives. Online platforms enable young people to communicate instantly with peers, maintain friendships, and share personal experiences. Research suggests that these digital spaces can support social connectedness and provide emotional support among adolescents. However, the use of social media may also expose adolescents to psychological risks. Studies have associated excessive social media engagement with increased levels of anxiety, depressive symptoms, and stress. Social comparison, fear of missing out, and exposure to cyberbullying represent some of the key challenges that adolescents may encounter in digital environments.

Emotional Intelligence in Adolescence

Emotional intelligence refers to the capacity to recognize, understand, and regulate emotions in one and others. Emotional intelligence plays an important role in interpersonal relationships, stress management, and psychological well-being. Adolescence represents a particularly important period for the development of emotional competencies. Research has shown that adolescents with higher emotional intelligence tend to demonstrate better emotional regulation, stronger social relationships, and greater resilience when facing stressful experiences.

Social Media, Emotional Intelligence, and Psychological Well-Being

The interaction between social media use and emotional intelligence has attracted increasing scholarly attention. Emotional intelligence may influence how adolescents interpret and respond to emotionally challenging online experiences. Adolescents with stronger emotional awareness may recognize unrealistic portrayals on social media and regulate feelings of inadequacy or envy. Conversely, adolescents with lower emotional regulation abilities may experience greater

vulnerability to online stressors.

Although these relationships have been examined through quantitative research, qualitative investigations exploring adolescents' subjective experiences remain limited. The present study addresses this gap by exploring adolescents' perceptions of the relationship between social media use, emotional intelligence, and psychological well-being.

Objectives

The study aims to explore adolescents' perceptions of the relationship between social media use, emotional intelligence, and psychological well-being. Specifically, the study seeks to:

1. Examine adolescents' experiences with social media use.
2. Identify emotional responses associated with online interactions.
3. Explore how adolescents regulate emotions related to social media experiences.
4. Understand adolescents' perceptions of the role of emotional intelligence in managing digital environments.

Methodology

Research Design

This study adopted a qualitative phenomenological design to explore adolescents' lived experiences related to social media use and emotional responses. Phenomenology focuses on understanding how individuals interpret and assign meaning to their experiences.

Participants

Fifteen adolescents aged 14–18 years from senior secondary schools of Central Kashmir participated in the study. Participants were selected through purposive sampling to ensure that all participants were regular users of social media platforms. Ethical approval was obtained prior to data collection. Parental consent and participant

assent were obtained to ensure ethical compliance.

Data Collection

Data were collected through semi-structured interviews. This approach allowed participants to discuss their experiences openly while ensuring that key topics were addressed.

Interview questions focused on:

- Patterns of social media use
- Emotional experiences related to online interactions
- Coping strategies used to manage digital stress
- Perceived role of emotional intelligence in navigating social media.

Each interview lasted approximately 45–60 minutes and was transcribed verbatim.

Data Analysis

Data were analyzed using thematic analysis following the six-phase framework proposed by Braun and Clarke.

The analysis involved:

1. Familiarization with the data
2. Generation of initial codes
3. Identification of potential themes
4. Review of themes
5. Definition and naming of themes
6. Reporting of findings.

Theme Saturation

Data collection continued until thematic saturation was reached, meaning that additional interviews did not produce substantially new insights.

Researcher Reflexivity

To enhance methodological transparency, the researchers maintained

a reflexive journal throughout the analysis process. This journal documented analytic decisions and reflections on potential researcher bias. Peer discussion with colleagues was also used to review coding and theme development.

Findings

Table 1: Summary of Themes and Sub-Themes

Theme	Sub-Themes
Social media as emotional expression	Sharing emotions, peer communication
Emotional turbulence from online interactions	Social comparison, negative feedback
Emotional intelligence as coping resource	Emotional awareness, self-regulation
Digital pressures affecting well-being	Excessive use, emotional fatigue

Social Media as Emotional Expression

Participants frequently described social media as a platform that allowed them to express emotions and maintain communication with friends. Sharing posts, stories, and messages enabled adolescents to communicate personal experiences and seek social support.

Emotional Turbulence from Online Interactions

Despite these benefits, many participants reported emotional challenges associated with online interactions. Social comparison and negative feedback were commonly mentioned sources of emotional distress.

Emotional Intelligence as a Coping Resource

Some participants described strategies that reflected emotional intelligence, such as recognizing unrealistic portrayals on social media and consciously regulating emotional responses to online feedback.

Digital Pressures Affecting Psychological Well-Being

Participants also noted that excessive social media use could lead to fatigue, stress, and sleep disruption. Continuous exposure to digital content sometimes created pressure to remain constantly connected.

Discussion

The findings highlight the multifaceted role of social media in adolescents' emotional lives. Social media platforms serve as spaces for communication and emotional expression while also presenting challenges related to social comparison and online validation. Emotional intelligence appears to influence how adolescents interpret and manage these experiences. Participants who demonstrated greater emotional awareness reported being more capable of regulating their reactions to online interactions.

However, these findings should be interpreted cautiously due to the small qualitative sample and context-specific nature of the study. Emotional intelligence may represent one of several factors influencing adolescents' experiences with social media.

Educational Implications

The findings underscore the importance of integrating social-emotional learning (SEL) and digital literacy education within school curricula. Educational programs that strengthen emotional intelligence may help adolescents develop healthier relationships with digital technologies. Such initiatives may enable students to regulate emotional responses to online experiences, critically interpret digital content, and maintain psychological well-being.

Limitations

The study involved a relatively small sample drawn from a specific geographical context, which may limit the transferability of findings. Additionally, the study relied on self-reported experiences, which may be influenced by recall bias. Future research may benefit from larger samples and mixed-method designs to further examine the relationship between emotional intelligence and digital experiences.

Conclusion

This study explored adolescents' perceptions of social media use in relation to emotional intelligence and psychological well-being. The findings suggest that social media plays both supportive and challenging roles in adolescents' emotional lives. Emotional intelligence may help adolescents navigate online environments by supporting emotional awareness and regulation. Educational initiatives that integrate emotional intelligence development with digital literacy education may therefore contribute to promoting adolescent well-being in digitally connected societies.

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SKILL, KNOWLEDGE, AND GROWTH: NEW EDUCATIONAL POLICY REFORMS IN TELANGANA

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Abstract

Skill, Knowledge, and Growth: New Educational Policy Reforms in Telangana would focus on the state government's efforts to overhaul the education system to be more responsive to modern economic needs. It would highlight key initiatives aimed at bridging the gap between academia and industry, fostering a culture of innovation, and preparing a skilled workforce for the future. The policy aims to integrate vocational training and practical skills into the academic curriculum at all levels, from school to higher education. This shift is designed to move away from a traditional knowledge-heavy model toward a more skill-oriented system that aligns with industry demands. A central component is strengthening partnerships between educational institutions and the corporate sector. This includes introducing industry-specific courses, providing opportunities for internships, and involving companies in curriculum design to ensure that graduates possess relevant and up-to-date skills. The policy recognizes the critical role of educators. There are plans to implement comprehensive teacher training programs focused on new teaching methodologies and emerging technologies. The government is also considering sending teachers abroad for exposure to global best practices. The government intends to invest in improving school infrastructure, particularly in government schools, to create a conducive learning environment. Additionally, there's a strong emphasis on leveraging digital learning to enhance student engagement and ensure equitable access to quality education. To support these reforms, the government is setting up specialized institutions like the Young India Skills University and a Young India Sports University. The goal is to provide targeted skill development for unemployed youth and promote excellence in sports. These reforms are guided by the Telangana Education Commission, which has been tasked with drafting a comprehensive policy document that considers the state's specific needs while aligning with the broader principles of the National Education Policy (NEP) 2020.

Keywords: Skill Development, Vocational Training, Industry-Academia Collaboration, Workforce.

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Introduction

States in India are free to adapt the National Education Policy (NEP) 2020 to local conditions. Telangana's government has recently moved to prepare its own state-level education policy that will draw from NEP-2020 while attempting to respond to the state's particular needs and political priorities. This article compares the broad vision and provisions of NEP-2020 with what is publicly known so far about Telangana's effort to frame a state policy, highlights likely points of divergence, and offers practical considerations for implementation.

Since its formation in 2014, Telangana has pursued a distinct political and developmental trajectory shaped by statehood aspirations, regional identity, and welfare-oriented governance. In recent years, particularly under the Congress-led government headed by Chief Minister A. Revanth Reddy (from December 2023), Telangana's political priorities have undergone a recalibration, balancing continuity with reform. The government's agenda reflects a renewed emphasis on inclusive welfare, social justice, employment generation, and institutional accountability, alongside sustained commitments to economic growth and infrastructure development. These priorities are framed within broader national visions such as *Viksit Bharat @2047*, while also addressing state-specific challenges related to agrarian distress, urbanization, fiscal sustainability, and equity in access to public services. Understanding Telangana's government political priorities is crucial for analyzing the evolving nature of sub-national governance in India, the role of welfare politics in electoral democracy, and the state's efforts to align development with social inclusion and participatory governance.

Short primer: NEP-2020

The National Education Policy 2020 (NEP-2020) is a comprehensive national framework covering school to higher education. Its headline reforms include restructuring school education into a 5+3+3+4 curricular/age structure (to give priority to foundational literacy and numeracy), emphasis on mother-tongue/local language as medium of instruction in early grades, multidisciplinary undergraduate degrees and consolidation of higher-education regulators, large-scale

expansion of vocational education, teacher professional development and a push to increase public spending on education toward 6% of GDP. NEP-2020 is deliberately principle-based and leaves many implementation details to states and to institutions.

Where Telangana stands now (public record)

Telangana's state administration has publicly announced it will study NEP-2020 and prepare a state policy adapted to local priorities. The state has formed committees and commissions to examine implementation issues such as medium of instruction (especially the role of English), infrastructure (including proposals for residential schools), teacher shortages and skill linkages. Political leadership has signaled a major investment drive to upgrade government schools and to prioritise teacher recruitment and digital/physical infrastructure. At the time of writing, Telangana's policy document is in preparation rather than being a final, published policy. Telangana state policy is likely to differ from the national NEP framework either by emphasis, timeline, or operational detail.

1. Federal adaptation and local priorities

NEP-2020: Gives a national vision but explicitly permits states to adapt implementation details (language strategy, timelines, and curriculum choices). The NEP anticipates large variation across states.

Telangana: The state policy will be an adaptation, reflecting Telangana's socio-demographic profile, existing institutional strengths (e.g., concentration of universities and private colleges around Hyderabad) and political commitments such as expanding residential schools and rapid teacher recruitment. Expect Telangana to prioritise strengthening government schools and bridging gaps with private sector schools within the state. Public announcements already indicate significant state investment proposals and specific programmes (e.g., integrated residential schools) that are state-led.

2. Language and medium of instruction

NEP-2020: Recommends mother-tongue/local language as medium

at least until Grade 5 (preferably till Grade 8), while allowing flexibility and encouraging a three-language formula.

Telangana: Public debates in the state (and seminars by state education bodies) show strong focus on the role of English (for employability) alongside strengthening Telugu and tribal languages. The Telangana Education Commission has held seminars specifically on English as medium of instruction, which suggests the state policy will provide a carefully negotiated approach — likely a bilingual/gradual English proficiency push while protecting regional languages. Expect explicit transitional measures (e.g., spoken English labs, teacher training) tailored for Telangana.

3. Governance, institutional design and funding

NEP-2020: Recommends systemic reforms (new regulator architecture, more autonomy for higher-education institutions and a national push to increase public education expenditure). **Telangana:** The state is likely to present a governance map that translates NEP principles into state institutions — e.g., a State Implementation Committee, changes in state directorates, and earmarked financing lines for flagship projects. Recent reporting shows the government preparing large funding proposals (including requests for fiscal flexibility to fund

a ₹30,000-crore education mission). This suggests Telangana may be more interventionist and programme-driven in the short term than the NEP's more phased, economy-wide prescriptions.

4. Curriculum, vocationalisation and skills linkage

NEP-2020: Strong emphasis on multidisciplinary education, integration of vocational education from Grade 6 onward, and stronger ties between education and employment. **Telangana:** Expect aggressive linking of schools and higher-education institutions to local industry (IT hubs, biotechnology and manufacturing clusters around Hyderabad). The state may fast-track vocational skilling and the Young India Skill University model to produce employable graduates, plus special projects for rural/tribal areas. The state's policy could therefore have a more immediate employability/industry focus compared with the gradual national rollout envisioned under NEP.

5. Teacher recruitment, training and accountability

NEP-2020: Calls for improved teacher education, continuous professional development, a national device for teacher license/registration and better recruitment norms to reach ideal pupil-teacher ratios.

Telangana: One immediate state priority has been accelerating teacher recruitment and filling long-standing vacancies — an action already visible in recent hirings. The state policy is likely to combine short-term recruitment drives with medium-term teacher-education reforms, in addition to in-service training focused on bilingual instruction and digital pedagogy. Expect concrete teacher hiring targets and time bound schemes in the state policy.

6. Equity, inclusion and special schemes for disadvantaged groups

NEP-2020: Places equity at the centre targeted scholarships, remedial programs, and special measures for socio-economically disadvantaged groups and children with disabilities. **Telangana:** With a large proportion of backward classes, SC/ST populations and rural learners, Telangana's policy is expected to tailor equity measures (reservation implementation, residential school expansion, mid-day meal strengthening and targeted scholarships). Public statements emphasise a large roll-out of government facilities and special programmes for backward regions. Because of Telangana's demographic profile, equity measures may receive strong emphasis and resources.

Implementation realities and challenges

1. **Fiscal constraints vs. ambitious programmes:** NEP-2020's financing targets are challenging; Telangana has signaled large investments but will need central support or fiscal innovations to sustain capital-intensive programmes like integrated residential schools. Recent state requests for fiscal flexibility indicate awareness of the funding gap.
2. **Capacity and timelines:** NEP envisages gradual systemic change. Translating major structural shifts (multidisciplinary higher education, revamped teacher education, new regulators) into action at

state level requires capacity building inside state departments and institutions; Telangana will have to sequence reforms carefully to avoid disruption.

3. **Materials, textbooks and assessments:** Local curriculum frameworks and textbooks must be redeveloped in line with NEP's competencies approach. Telangana will need state curriculum teams, aligned assessment reforms and strong monitoring (e.g., using PARAKH and other assessment tools) to ensure learning gains.

4. **Political economy and stakeholder buy-in:** Changes such as medium-of-instruction shifts and teacher evaluation can be politically sensitive. The state has begun stakeholder consultations (seminars, commissions), which is a positive signal; sustained consultation will be essential to minimize resistance.

Telangana (practical clues from NEP principles)

- (i) Publish a clear roadmap — timelines, costed action plans and phasing (foundational learning first, then system changes).
- (ii) Protect foundational learning — prioritise literacy and numeracy with measurable targets and teacher support in Grades 1-5.
- (iii) Adopt a pragmatic language transition plan — build Telugu and local language foundations while running intensive spoken English support rather than abrupt medium switches.
- (iv) Design a teacher strategy — short-term recruitment + medium-term professional development + a transparent performance and support system. Cost and finance realistically — align ambitious programmes with multi-year budgeting and explore central partnerships and development financing where needed.

NEP-2020 provides the blueprint; Telangana's forthcoming state policy will be the test of how national vision and local realities combine. Early signs show Telangana emphasising rapid strengthening of government schools, teacher recruitment, and selective flagship investments (residential schools and skill linkages). The final shape of the state policy will be judged by how well it translates NEP-2020's principles into locally feasible, funded and monitored actions that improve learning, equity and employability across the state. Given the political momentum and the administrative steps already visible, Telangana could either become a model of

effective NEP adaptation — or, if poorly sequenced and under-funded, risk partial implementation. Either way, the next 12–24 months will be decisive for how Telangana brings NEP principles to life.

Telangana's education landscape is witnessing a transformative wave of reforms, unified by the vision of Skill, Knowledge, and Growth. The state government under Chief Minister A. Revanth Reddy has embarked on a multi-faceted mission to bridge educational gaps, align education with future-ready skills, and widen access through innovation—aiming to nurture a highly capable, inclusive, and empowered youth.

Skill

- **Curriculum realignment:** From the 2025–26 academic year, degree programs in Telangana will now include 20% skill-based modules, reinforcing practical abilities alongside theoretical knowledge—especially in fields like engineering and core subjects combining computer science minors
- **UGC-backed skill courses:** Starting 2025–26, undergraduate degrees will allocate over 20 credits to value-added and skill-based courses (e.g., AI tools, cybersecurity, soft skills), supported by a restructured total of 142 credits for enhanced learning flexibility
- **Advanced skilling institutions:**
- **Young India Skills University (YISU):** Established late 2024 as a public-private partnership, YISU offers industry-aligned programs across logistics, healthcare, pharmaceuticals, BFSI, and soft skills, backed by leaders like Anand Mahindra
- **ITI transformation:** Traditional Industrial Training Institutes are being upgraded into Advanced Skill Development Training Centers via a ₹2,700 crore MoU with Tata Technologies, offering 9 long-term and 23 short-term courses starting from 2024–25, targeting around 100K beneficiaries

Knowledge

- **Digital learning ecosystem:** Telangana State Council of Higher

Education. (TSCHE)' revamped e-library now offers students access to 13,500+ international journals, an online grievance cell, newsletters, and research resources surpassing regional limitations.

- **Tech-enabled learning partnerships:** The government has forged MoUs with NGOs including EkStep, Physics Wallah, Khan Academy, Pi Jam, Prajwala, and Educate Girls to expand AI-driven platforms, STEM videos, coding instruction, competitive exam coaching, child safety training, and literacy outreach across thousands of schools.

Growth

- **Institutional reinvestment:** A landmark initiative, the Young India Integrated Residential Schools mission, plans investment of ₹30,000 crores: ₹21,000 crore for 105 tech-enabled residential campuses and ₹9,000 crore to strengthen colleges, digital infrastructure, and technical institutions—benefitting an estimated 2.7 lakh students directly and nearly 4 lakh indirectly

- **Systemic expansion:** Hundreds of new government schools (570 announced earlier in 2025) are being built in underserved regions, emphasizing inclusive education and high standards with added facilities and skill development modules from high school onwards

- **Holistic capacity building:** CM Reddy is personally overseeing education as a priority portfolio, with focused recruitment of 11,000 teachers in under two months, signaling an aggressive effort to restore quality and trust in government schools Together, these efforts weave Telangana's three pillars of Skill, Knowledge, and Growth into a cohesive strategy:

- **Skill empowers students with future-relevant capabilities.**

- **Knowledge enhances learning through digital access and quality enrichment.**

- **Growth ensures equitable expansion, infrastructure upgrades, and systemic support.** This unified reform agenda is pushing Telangana toward becoming a skill-driven, knowledge-enriched, and inclusive growth powerhouse, marking a new era for education in the state.

New Education Policy Reforms in Telangana

1. Policy Framework and Vision

- A seven-member committee has been formed to draft the Telangana Education Policy (*TEP*), adapting the National Education Policy (NEP) 2020 to the state's context. Chaired by Keshava Rao, with members including education secretaries and the TGCHE chairman, this panel will recommend reforms across school, higher, technical, vocational, and professional education. The aim is also to bolster research and academia-industry partnerships. Final report due by October 30, 2025.
- The State Education Commission (SEC), guided by CM Revanth Reddy, is tasked with preparing a comprehensive policy paper grounded in on-the-ground realities and including inputs from stakeholders like educators, experts, and citizens.

2. Infrastructure and Institutional Upgrades

- The government is pouring investments into building Young India Integrated Residential Schools and a Young India Skills University, aimed at delivering world-class schooling and employability-focused education.
- A Sports University and Sports Academy are underway to nurture rural sporting talent alongside the academic journey.
- ITIs across the state are being upgraded to Advanced Training Centers (ATCs) through a public-private partnership with Tata.

3. Academic Structure & Curriculum Changes

- Telangana is considering merging the Telangana Board of Intermediate Education (TG BIE) with the School Education Department, aligning with the NEP's 5-3-3-4 structure, replacing the current 5-2-3-2 model. This would unify Classes IX-XII under one administrative body.
- There are plans to introduce pre-primary classes Nursery, LKG, UKG—within government schools, initially as a pilot in one or

two schools per Mandal, from the 2025-26 academic year.

4. Technology-Enabled Learning and Support

- Coding, robotics, and AI are being introduced from primary school levels. Teachers have undergone training with pilot programs in place, and AI is being used to simplify learning via activity-based modules. The initiative is expected to scale state-wide by October.
- Tech-enabled coaching is being rolled out through partnerships with NGOs, including Khan Academy, Physics Wallah, EkStep, and others, offering AI-driven learning in foundational subjects, competitive exam prep, coding, child safety programs, and initiatives to boost girls' literacy.
- An AI-powered facial recognition attendance system has been deployed in 430 government junior colleges, enabling real-time attendance updates and better academic monitoring.

5. Teacher Engagement & Accountability

- To address vacant inspection roles, 2% of experienced teachers are being assigned as full-time school inspectors. They will conduct surprise checks on lesson planning, syllabus completion, infrastructure, and more—with targets set for daily and quarterly visits. Teacher unions, however, have raised concerns about added workload.

6. Language, Equity, & Enrolments Initiatives

- Telugu has been made mandatory for Classes 1-10 across boards like CBSE, ICSE, and IB, based on a 2018 state act.
- RTE (Right to Education) admissions in private schools will now apply only where nearby government schools are unavailable or full—strengthening public education utilization and reducing state reimbursements to private schools.
- Since the Congress government came to power, over 300,000 new enrolments have been recorded in government schools, and 11,000 teachers were appointed within 55 days. Annual infrastructure funding stands at ₹130 crores.
- CM Revanth Reddy reiterated that students must uphold

values, avoid drug abuse, and participate actively in building the state.

Table-1

Area	Initiatives / Reforms
Policy Framework	Dedicated TEP committee; SEC-directed policy paper involving stakeholders; report by Oct. 30
Infrastructure	Residential schools, Skills & Sports Universities, ATCs via PPPs
Curriculum Structure	Possible merger of BIE with School Education Department; unified structure; pre-primary in schools
Tech & Learning	AI, coding, robotics, NGO partnerships, AI-based attendance systems
Teacher Oversight	Teachers as inspectors; enhanced recruitment and training
Language & Equity	Telugu compulsory; refined RTE norms; massive increase in government school enrolments

Reforms in Telangana Education

1. Infrastructure & Resource Expansion

- Massive teacher recruitment: Over 11,000 teachers hired in just 55 days.
- Annual ₹130 crore investments to upgrade school infrastructure.
- Young India Integrated Residential Schools: ₹30,000 crore missions for establishing 105 modern residential campuses + bolstering colleges and digital infrastructure to benefit ~2.7 lakh students directly.

2. Curriculum Enhancements

- **Coding, Robotics, AI** introduced from primary level, with AI used for interactive learning. Pilot rolled out and expected to scale by

October.

- **NGO Partnerships:** EkStep, Physics Wallah, Khan Academy, Pi Jam Foundation, Educate Girls, and Prajwala Foundation providing AI tools, STEM content, coding, coaching, safety programs, and support for girls' education.
- **Higher Education Reforms (2025–26):**
- Skill-based modules form 20% of engineering/degree curricula.
- Digital library access to over 13,500 international journals.
- Industry-linked internships and open lectures (T-SAT) with global linkages.
- **Vocational Integration:** Skills and vocational training are being embedded from Class 6 onwards (targeting 30% of curriculum). Collaboration with CII and EY- Parthenon led to introduction of a Skill University and conversion of ITIs to Advanced Technology Centres.

3. Policy Blueprinting

- Formation of a seven-member committee to tailor a Telangana Education Policy (TEP) based on NEP-2020, focused on digital transformation, equity, research, and industry collaborations. Report due by 30 October 2025.

Aspect	NEP 2020 (India)	Telangana Education Reforms
Vision	Holistic, multidisciplinary, flexible education system with focus on knowledge economy	Skill, knowledge, and employment- oriented reforms to meet regional needs
School Structure	5+3+3+4 model (Foundational, Preparatory, Middle, Secondary) replacing 10+2 system	Gradual implementation of new structure, focus on strengthening government school and Gurukul institutions
Medium of Instruction	Emphasis on mother tongue/regional language up to Grade 5	Telugu made compulsory in schools; English medium also expanded in government schools

Curriculum Focus	Multidisciplinary, skill-based, focus on critical thinking, coding, arts integration	Strengthening vocational education, digital learning, and introduction of coding, robotics, AI in higher classes
Higher Education	Multidisciplinary universities, 4- year UG program with multiple exit options, Academic Bank of Credits	Plans to align universities with NEP, but with focus on local employability, skill-based courses, and tie-ups with industries
Vocational Education	To be integrated from Grade 6	Telangana already started vocational and skill training in schools and intermediate colleges
Teacher Training	National Professional Standards for Teachers (NPST); 4-year integrated B.Ed.	Telangana State Teacher Eligibility Test (TET), teacher digital training, and recruitment drives to fill vacancies
Assessment	Shift from rote-learning to competency-based; National Assessment Centre (PARAKH)	Telangana State Board reforms: formative assessments, continuous evaluation, and state-specific digital tools
Technology Integration	National Educational Technology Forum (NETF) for digital learning	Digital classrooms in govt schools, T- SAT channels, Telangana's Digital Education Initiative
Equity and Inclusion	Gender Inclusion Fund, Special Education Zones for disadvantaged groups	Strengthening of Gurukul schools for SC/ST/BC/Minorities; free residential schooling model expanded
Research & Innovation	National Research Foundation to fund and promote research	Telangana planning state-level research support, emphasis on applied research, industry collaboration
Implementation	Phased implementation across states with central guidelines	Customized implementation based on local needs; state-level curriculum revisions and reforms

Challenges in Education

1. Teacher Training & Practical Skills Gaps

A recent SCERT study revealed that over 40% of D.El.Ed trainees show only moderate competence, with 35% citing inadequate practical training and just 26% engaging in professional development. The curriculum remains overly theoretical, with digital readiness disparity across language mediums.

2. Digital & Infrastructure Divide

- ASER 2024 shows sharp declines in foundational literacy rates (e.g., third graders reading proficiency dropped from 12.2% to 6.8%).
- Stark disparities in digital infrastructure: 91.1% of schools lack computers; only 21.9% have internet, versus national average of 46.2%. Smart classrooms and science labs remain limited.
- **Safety, sanitation, and facility gaps** in government schools persist: A volunteer noted schools with no washrooms, makeshift and unsanitary conditions, especially affecting girls.

3. Policy Implementation & Governance Issues

- Lack of autonomy: The State Education Department has limited decision-making authority, slowing down NEP-2020 rollouts despite central programs like NISHTHA.

4. Higher Education Fragmentation & Privatization

- Telangana has nearly 2,000 higher education institutions (HEIs)—most small, privately run, disparate in management and geography making consolidation and standardization challenging.
- Reliance on contractual faculty is high, with only 10% regularized lecturers in universities; infrastructure and staffing gaps persist.

5. Affordability & Fee Structures

- **EAPCET fee uncertainty:** Disparate fee hikes (some institutions charging over ₹2 lakh, others under ₹45k) without clear

regulations, creating anxiety among students and parents.

- **Commercialization concerns:** TEC advocates using Intermediate exam marks

rather than entrance tests for undergrad admissions; they highlighted infrastructure, transport, dropout, and financial challenges in public institutions.

- **Fee exploitation:** Government is considering a regulatory commission to curb ransom-like late fees and arbitrary charges.

Table-3

Area	Policy Reforms	Challenges
Teacher Quality	Massive hiring, coding & AI training, NISHTHA implementation	Practical teaching skills lacking; poor institutional support
Infrastructure & Digital	Residential schools, AI tools, NGO collaborations, digital libraries	Digital access low; literacy dropping; inadequate facilities
Higher Education	Skill modules, e-libraries, internships, vocational focus	Fragmentation, faculty shortages, privatization issues
Policy Framing	TEP committee to adapt NEP-2020 locally	Slow governance, limited autonomy
Affordability	Reform proposals, fee regulation plans	Fee disparities, stress for students/families

Final Thoughts

Telangana is driving forward bold educational reforms spanning infrastructure, curriculum, skills, and policy direction. However, to truly achieve equitable and sustainable impact, these reforms must be accompanied by systemic strengthening of teacher expertise, digital access, institutional governance, and affordability safeguards. Addressing these foundational challenges will be vital for building a resilient, inclusive, and growth-oriented education ecosystem.

Implementation Challenges

Despite Telangana progressive push toward skill-integrated and industry-aligned education under recent policy reforms, the

implementation of these initiatives faces several structural, institutional, and socio-economic challenges.

Institutional Capacity and Faculty Preparedness

One of the foremost challenges lies in the capacity of higher education institutions to deliver skill-based curricula effectively. Many universities and degree colleges face shortages of adequately trained faculty capable of teaching interdisciplinary and technology-driven skill modules. Faculty up skilling, curriculum delivery in emerging areas (AI tools, cyber security, data analytics), and resistance to pedagogical change pose significant hurdles, particularly in rural and semi-urban institutions.

Infrastructure and Resource Constraints

The successful implementation of skill-oriented education requires modern laboratories, digital infrastructure, and industry-standard equipment. While urban institutions are relatively better positioned, colleges in backward districts struggle with inadequate infrastructure, unreliable internet connectivity, and limited access to practical training facilities. This creates uneven implementation and risks widening regional disparities in access to quality education.

Industry-Academia Collaboration Gaps

Although policies emphasize industry-aligned learning, sustained and meaningful industry partnerships remain limited. Many institutions lack local industry ecosystems to support internships, apprenticeships, and live projects. Additionally, aligning academic calendars with industry requirements and ensuring consistent employer engagement remains a logistical and administrative challenge.

Credit Transfer and Curriculum Integration Issues

The integration of skill modules within traditional degree programs has raised concerns regarding academic overload, credit transfer mechanisms, and coherence of learning outcomes. Students and faculty often find it difficult to balance core theoretical subjects with

skill-based courses, particularly when assessment frameworks and credit portability systems are still evolving.

Equity and Inclusion Concerns

While skill-based reforms aim to enhance employability, students from marginalized backgrounds including first-generation learners, rural students, and those from economically weaker sections face disadvantages due to limited digital literacy, language barriers, and lack of exposure to technology-driven learning environments. Without targeted support mechanisms, these reforms risk reinforcing existing inequalities in higher education.

Coordination across Governance Levels

Effective implementation requires coordination between state agencies (TGCHE, universities, skill departments), central bodies (UGC, AICTE), and private partners. Overlapping mandates, regulatory delays, and administrative fragmentation can slow decision-making and dilute accountability, affecting the pace and quality of reform execution.

Monitoring, Evaluation, and Outcomes Measurement

Challenge is the absence of a robust framework to measure learning outcomes, employability gains, and long-term impact of skill-based reforms. Without systematic monitoring and feedback mechanisms, it becomes difficult to assess whether policy objectives are translating into meaningful student outcomes and workforce readiness. Telangana educational reforms represent an important shift toward integrating skill, knowledge, and growth, their success ultimately depends on addressing implementation challenges related to capacity building, infrastructure, equity, and governance. Bridging the gap between policy intent and ground-level execution will be critical for ensuring that these reforms contribute effectively to inclusive development and sustainable human capital formation.

Conclusion

The new educational policy reforms in Telangana, aligned with the spirit of India's National Education Policy 2020 yet tailored to the state's unique socio-economic and cultural needs, mark a significant step toward building a holistic and future-ready education system. By prioritizing skill development, knowledge integration, and inclusive growth, Telangana seeks to bridge the gap between traditional learning and modern industry demands. Initiatives such as curriculum redesign, digital learning integration, vocational training, and stronger industry-academia linkages demonstrate the state's commitment to preparing students for both local opportunities and global competitiveness. However, challenges remain in ensuring adequate infrastructure, faculty training, and equitable access across rural and marginalized communities. Addressing these issues will be crucial for achieving the intended outcomes of the reforms. Overall, Telangana's educational policy vision reflects a forward-looking approach that not only nurtures intellectual growth but also empowers youth with employable skills, thereby contributing to social equity, economic progress, and sustainable development.

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SHAPING MINDS: EDUCATION'S NEURO-NUTRITIONAL DIMENSION

Farooq Ahmad Bakloo

Abstract

The paper investigates the role of neurons in the learning process and the emerging field of neuroplasticity, shedding light on how our brains adapt when acquiring new skills. It emphasizes the need for a neuron-oriented curriculum to revolutionize teaching and learning methods. Socioeconomic status is scrutinized for its profound impact on brain development, with studies revealing the structural differences in the brains of children from impoverished backgrounds. Chronic stress, often linked to low economic status, further jeopardizes cognitive development. The paper also highlights the influence of diet on cognitive abilities, emphasizing the importance of essential nutrients, omega-3 fatty acids, antioxidants, and B vitamins. It underscores how a balanced diet can significantly affect a child's mood, energy levels, and learning capabilities. Furthermore, the paper advocates for a comprehensive approach to education, considering the intricate interplay of education, neurons, and nutrition. By recognizing the importance of both mental and physical well-being, educators and policymakers can pave the way for a brighter, more holistic future for students.

Keywords: Neurons, Neuroplasticity, Learning Process, Nutrition, cognitive development.

Introduction

Education is like the tablet that eliminates the ailments of ignorance, illiteracy, and wild behavior, additionally; the tablet energizes or delivers power to the wires of intellect, logic and rationality (author). Thus, to attain this type of education there is a need for a holistic ecosystem of education in which one's mental horizon gets broadened. For such a type of education that makes the students think on a big canvas, there is a need for a quality education system. For this, the different governments in the country made different steps to establish good infrastructure and recruited quality teachers and several studies

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were also conducted by the researchers, and NGOs to study the magnitude of these steps and interventions. Despite these efforts, the entire Indian education system is falling behind compared to the education system of well-developed countries. According to the survey 2020 Indian education system in terms of quality stands at 33rd rank. Approaching the subject of this easy education and neurons, the author has some research questions in mind for instance what are neurons? What is the role of these neurons in the process of learning? What is the social impact on the connections of these neurons? What are the activities that will help the student to provide more energy to their neurons?

In the Indian milieu, neuroscience and learning is the area to which educationists, teachers and researchers have not paid much devotion. In the field of education, the utmost of studies done by Indian universities was on the issues of dropouts, school infrastructure, education and women empowerment, education status of subaltern groups, academic achievement concerning socioeconomic status etc. From the survey of the literature, it is inferred very few works were done in the domain of the human brain concerning learning. Educational Physiologists and neuroscientists are still exploring this area and are trying to develop the "Neuron-Oriented Curriculum". With the help of this neuron-oriented curriculum, a novel technique of teaching and learning approaches will be uncovered in the world.

Neurons

Coming on to the first question: what are neurons? These are nerve cells electrically charged when communicating with another nerve cell through special connections called synapses. A typical neuron consists of a cell body (soma) dendrites and a single axon. Hence this is the simple meaning of neurons.

Neurons and learning

Throwing light on the second question: the role of neurons in learning. This is quite significant to know how these neurons play a heart role in learning. The literature survey reports that when one learns a novel

skill, some alterations occur in the brain called neuroplasticity. Lara body brain Researcher at the University of British Columbia in her talk how do we learn? According to her, whenever we learn new skills or facts we learn through the process of neuroplasticity. Furthermore, according to her, this neuroplasticity process consists of three phases. All these three phases of neuroplasticity support learning, these phases are mentioned below:

Chemical signals: As the amount of transferring these chemical signals takes place in the neurons, learning takes place and this learning leads to short-term memory.

Altering the structure: when the connections between the neurons change and it takes a little bit of time and this supports long-term memory.

By altering the brain functions: this takes place whenever we use the brain region so it becomes more exciting to use it again.

So it is because of this neuroplasticity that students or humans acquire new things. Consequently, from the neuroscience perspective when two neurons communicate with each other, this is the time when learning takes place (R. Douglas, 2020). According to neuroscientists learning and memory, formation is made by the strengthening and weakening of the connections among the brain cells, when two neurons frequently interact they form a bond that allows them to transmit more easily and accurately (Donald J. Ford, 2011).

Hence, from the biological milieu, the more synaptogenesis took place, the more one learns the new skills so at what velocity these new connections develop in the mind determines the degree of learning. If these connections are slowly developing that means one can learn the skills very slowly. Teaching and learning are predominantly neurobiological phenomena, in learning the teacher execute certain actions to ease learning and the student intern directly or indirectly promises to act in ways to receive that learning (Melinda T. Owens and Kimberly D. Tanner, 2017). Hence, to make teaching and learning effective the teachers have to understand the brain morphology of the students and the entire teaching-learning ecosystem in which the student is learning.

Socioeconomic status and Brain

In this regard, a groundbreaking study by Kimberly Noble, a neuroscientist and pediatrician at Columbia University, and Elizabeth Sowell from children's hospital Los Angeles, California (2015) studied the brains of 1099 children, adolescents and young adults in various USA cities with the help of M.R.I scans. The study reported that for children from the poorest families, income disparities of a few thousand dollars were associated with a major difference in the brain, primarily in the areas with language and decision-making skills. Hence this study shows how poverty impacts the brain structure of children, adolescents and young adults (Shannon Proudfoot, 2020). The other study was conducted by Martha Farah, a cognitive neuroscientist and her team, who scanned the brains of 44 African Americans, and they found that infants associated with lower socioeconomic status had smaller brains (Sara Reardon, 2015).

Sometimes stress caused by poor socioeconomic conditions not only affects the brain but the entire biological system of the person. If the stress is not controlled on time the person becomes the target of many lifestyle diseases that directly or indirectly impact the learning outcomes of the person. In this regard a study on Stress alters children's genomes was conducted in 2014 by Jyoti Madhusoodanan, the study reported that poverty and unstable family environments shorten chromosomes protecting telomeres in nine-year-olds. Research findings are evident about the possible impacts of poverty on cognitive development (Sebastian, J. Lipine, 2017). From the above-cited studies, it is evident that low economic status is not good for the cognitive development of children. This directly or indirectly negatively impacts the learning of the child. Moreover, this low economic status in most cases leads to high stress which according to research is not fruitful for the well-being of cognitive development of children. According to the Premier Neurology and wellness center in Stuart,

Florida USA. The negative impact of high-stress areas is that stress damages memory, stress can make alterations to mind structure, a

person with stress is more prone to mental illness, stress kills brain cells and stress shrinks the brain.

In the prevailing education system especially in India which is based on grades, a significant population of the country believes that if their children achieve good grades in the class, he or she are considered intelligent. This high-grade mindset puts several students under stress that directly and indirectly negatively influences their studies and learning process. From the examination of literature, it is divulged that during the process of learning novel connections were created in the brain and also prevailing ones are strengthening this is in normal conditions. However, a recent study done by the University of Bonn 2022 published in Science daily, this study was conducted on rodents, the study reported that during the stressful environment rodents lost their 15 percent of their contacts, this means that stress negatively disturbs and harms the movement centers of brain (University of Bonn. 2022). Therefore, teachers should generate the positive environment rather than the stress full conditions. As in the positive environment the learning capabilities increases among the students. As a result, the school administration and the teachers need to be trained how to maintain the positive environment in the class as well as in the campus. To flourish this there is requirement of special programs to train the teachers in order to design the neuron oriented lessons.

Diet and Neurons

Diet can play a significant role in supporting the health and function of neurons, which are the cells responsible for transmitting information in the brain and nervous system. Here are a few key points about diet and neurons

Essential Nutrients

Consuming a balanced diet that includes essential nutrients is crucial for optimal neuronal function. Nutrients such as omega-3 fatty acids, antioxidants (vitamin C, vitamin E, and beta- carotene), B vitamins, magnesium, and zinc are particularly important for brain health.

Omega-3

Fatty Acids: Omega-3 fatty acids, found in fatty fish (such as salmon, mackerel, and sardines), flaxseeds, chia seeds, and walnuts, are critical for brain health. They help maintain the structure of brain cells and support communication between neurons.

Vitamins: Vitamins, such as B6, B12, and folate, play a crucial role in maintaining the health of neurons and producing neurotransmitters. Good dietary sources of B vitamins include whole grains, legumes, leafy greens, eggs, poultry, and lean meats.

Antioxidant-Rich Herbs and Spices: Herbs and spices like turmeric, ginger, cinnamon, and rosemary contain compounds with antioxidant and anti-inflammatory properties that may help protect neurons and support cognitive function.

Mediterranean Diet: The Mediterranean diet, which emphasizes fruits, vegetables, whole grains, legumes, fish, and healthy fats like olive oil, has been associated with a reduced risk of cognitive decline and neurodegenerative diseases. It provides a variety of nutrients beneficial for brain health.

Hydration: Staying adequately hydrated is important for the overall health of your brain and neurons. Even mild dehydration can impair cognitive function, so it's essential to drink enough water throughout the day.

Antioxidants: Antioxidants help protect neurons from oxidative stress, which can damage cells and contribute to age-related cognitive decline. Foods rich in antioxidants include berries, citrus fruits, dark leafy greens, and colorful vegetables like bell peppers and tomatoes. Therefore, the food we consume provides our body with the fuel to think and energy to move our muscles. It not only influences our physical, mental and social wellbeing, but also impacts the learning abilities of a child, which if not corrected on time will continue to be with him as an adult. If a child consumes a healthy diet the body reflects it. The child feels healthy and energized. Whereas, a malnourished child will surely have to bear the repercussions of not providing their bodies what they need to function properly. The said children experience mood swings, feel tired, unfocused, lethargic, and sick which makes them irritable and anti-social and negatively impact

their learning (perceiving) abilities. A study (*Junk food' diet and childhood behavioural problems: results from the ALSPAC cohort, 2007*) that children who consumed highly processed food were more likely to be hyperactive than those who did not. Further the study suggest that processed foods can also cause volatile mental and physical energy, fatigue, and poor concentration

Diet is an important parameter that determines our health and fitness, in this article we classify the diet into two parts, one diet what we eat to maintain our biological health. Another diet is social diet this means our interaction with the members of our society, social food for our brain.

So, in the context of biological diet a significant number of the children, adolescents in this modern period loves to eat outside their homes. They probably love the food that ultimately not good for their health. It is because of this we see how the modern youth and even children became victim of life style diseases. These life style diseases ultimately affect their cognitive power and some left their studies because of these life style diseases. In the context of India, the school children's like mostly the street food, Maggi etc. the reason of this their parents are not aware about the negative effects of these type of food on the health of their children. We see the school going, collage going even university going students are gathered near the fast food corners and most like the eating of Chinese Momos, Barger, etc. in additions to this due the sedentary life style of some students made it worse for their health and their learning capabilities. According to the Society for Neuroscience, that diets with tall levels of saturated fats actually harm learning and memory. Regrettably, foods with saturated fats are repeatedly the most affordable and widely offered in schools (Grace Chen, 2022).

Conclusion

The paper has illuminated a multifaceted connection between education, the human brain, and dietary habits, underscoring the significance of a holistic approach to learning and personal growth. In the journey to enhance educational systems and foster cognitive development, several key takeaways emerge:

1. The paper has unraveled the intricate role of neurons in the learning process, shedding light on the fascinating realm of neuroplasticity. By understanding how our brains adapt and form new connections during skill acquisition, educators can embrace a neuron-oriented curriculum to revolutionize teaching and learning methodologies.

2. **Socioeconomic Status and Brain Development:** This study has laid bare the profound impact of socioeconomic status on brain structure, particularly among children from disadvantaged backgrounds. Chronic stress stemming from poverty exerts a detrimental influence on cognitive development, emphasizing the urgency of addressing economic disparities in education.

3. **Nutrition's Crucial Role:** The pivotal role of nutrition in cognitive abilities cannot be overstated. A balanced diet, rich in essential nutrients, omega-3 fatty acids, antioxidants, and B vitamins, can significantly affect a child's mood, energy levels, and capacity to learn. Understanding the link between diet and cognitive function underscores the need for nutritious school meal programs and parental education on healthy eating habits.

The paper presents a compelling case for a comprehensive, interdisciplinary approach to education. It underscores that education is not merely the transmission of knowledge but a synergistic interplay between the intellect, neuroscience, and physical well-being. Policymakers, educators, and parents alike must recognize the symbiotic relationship between education, neurons, and nutrition and strive to create an ecosystem where every child can thrive intellectually, emotionally, and physically. By embracing this holistic perspective, we can foster brighter, more empowered generations poised to overcome the challenges of tomorrow.

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UNDERSTANDING SCREEN DEPENDENCY AMONG ADOLESCENTS: A MULTIPLE CASE STUDY ANALYSIS

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Abstract

Screen addiction among adolescents has become a significant behavioral and psychosocial concern due to the widespread use of digital devices. Adolescence, marked by emotional sensitivity and identity formation, is particularly vulnerable to excessive screen use. While prior research has focused on quantitative trends, this qualitative case study explores the lived experiences of ten adolescents aged 14–18 exhibiting problematic screen behavior. Data were collected through semi-structured interviews with adolescents and parents, behavioral observations, and daily screen-time logs, and analyzed thematically. Findings revealed common patterns including increased screen time, disrupted sleep, declining academic performance, and reduced attention. Emotional effects such as irritability, restlessness, and resistance to device restrictions were frequently reported. Social withdrawal was also evident, with adolescents preferring digital engagement over face-to-face interactions. Family relationships were often strained due to conflicts over screen use, though adolescents viewed digital media as a coping mechanism for stress, loneliness, and academic pressure. The study highlights that screen addiction is multifaceted, linked to emotional regulation and family dynamics rather than merely behavioral excess. It underscores the need for early, empathetic, and individualized interventions, particularly family-centered approaches that promote communication and support. Further research is recommended to strengthen intervention strategies and inform policy.

Key Words: Screen Addiction; Case Study; Cognitive Functioning; Parent-Child Communications

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Introduction

The rapid growth of digital technologies has transformed the daily

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lives of adolescents, offering new opportunities for education, social interaction, and entertainment. However, alongside these benefits, concerns about excessive screen use—often described as *screen addiction* or *digital dependency*—have intensified. Screen addiction typically involves compulsive and uncontrolled use of digital devices such as smartphones, tablets, computers, and gaming consoles,

Introduction

Often resembling behavioral addiction patterns found in gambling or substance use behaviors. Adolescents are particularly vulnerable due to ongoing brain development, heightened emotional sensitivity, and increased social pressures. Research has linked excessive screen use to a range of negative outcomes, including attention difficulties, disrupted sleep patterns, reduced academic performance, social isolation, anxiety, and depressive symptoms. As screens become increasingly embedded in daily routines, understanding the nuanced experiences of adolescents affected by screen dependency is essential.

Rationale for Case Studies

While large-scale quantitative studies provide valuable statistical insights into the prevalence and correlates of screen addiction, they often fail to capture the lived experiences, personal histories, and contextual factors that shape an individual's relationship with digital technologies. Case studies offer a unique opportunity to examine the phenomenon in depth, highlighting the complexities and variations that standardized measures may overlook. This approach is especially important for adolescents, whose screen-use motivations and vulnerabilities can differ widely depending on family environment, peer dynamics, emotional needs, and academic pressures. By documenting ten distinct cases, this paper seeks to illuminate how screen addiction manifests in everyday life and how it interacts with broader psychosocial factors.

Objectives

The primary objective of this study is to present detailed case analyses of ten adolescents aged 14–18 who demonstrates significant patterns of screen addiction. Through these case studies, the paper aims to:

1. Identify common behavioral, emotional, and academic consequences associated with excessive screen use.
2. Explore individual differences in the types of digital content consumed, triggers for screen dependency, and coping mechanisms.
3. Examine family perspectives and the dynamics surrounding attempts to reduce screen time.
4. Contribute qualitative evidence that may guide educators, parents, clinicians, and policymakers in addressing screen addiction more effectively.

Together, these objectives support a deeper understanding of the multifaceted nature of adolescent screen addiction and provide a foundation for more targeted interventions and future research.

Methodology

Study Design

This study employs a qualitative, multiple-case study design to explore the behavioral, emotional, and social dimensions of screen addiction among adolescents aged 14–18 years. The case study approach allows for in-depth examination of individual experiences and contextual factors, enabling the identification of both shared and unique patterns across participants. A cross-case analytical framework was used to compare findings and develop overarching themes. This methodology is suited for complex psychosocial issues where subjective experiences and environmental influences are central.

Participant Selection

Participants were selected using purposive sampling to ensure the inclusion of adolescents who demonstrated clinically significant signs of screen addiction. Eligibility criteria included:

- Age between 14 and 18 years
- Daily screen use exceeding 5–6 hours beyond school requirements
- Presence of at least three behavioral indicators resembling screen or digital addiction (e.g., loss of control, withdrawal symptoms,

tolerance, neglect of responsibilities)

- Parental confirmation of persistent concerns regarding screen habits
- Ten adolescents meeting these criteria were recruited through school counselors, community youth workers, and referrals by parents. All participants and their guardians provided informed consent, and anonymity was assured through the use of pseudonyms.

Data Collection Methods

To capture comprehensive and triangulated data, several sources and techniques were employed:

Semi-Structured Interviews

Individual interviews were conducted with each adolescent to explore motivations for screen use, emotional triggers, perceptions of dependency, and perceived consequences. Complementary interviews were conducted with at least one parent or guardian to gain insight into family dynamics and observed behavioral changes.

Behavioral Observations

Naturalistic observations were made when possible (e.g., during after-school periods or breaks) to document interaction patterns with digital devices, emotional responses to screen restriction, and social engagement behaviors.

Screen-Time Logs

Participants were asked to maintain a 7-day log documenting:

- Total daily screen time
- Type of activity (gaming, social media, streaming, browsing, messaging)
- Time of day and duration
- Concurrent behaviors (eating, multitasking, isolating)

Supplementary Measures

Where available, informal academic reports, teacher notes, or sleep

tracking data were reviewed to support analysis of school performance and sleep hygiene.

Data Analysis

Data were analyzed using thematic analysis guided by Braun and Clarke's six-phase approach. The procedure included:

1. **Familiarization** with interview transcripts, observation notes, and logs
2. **Initial coding** to identify significant behavioral, emotional, and contextual features
3. **Generating themes** across individual cases
4. **Reviewing themes** to ensure coherence and reliability
5. **Defining and naming themes** that captured cross-case patterns
6. **Producing a narrative synthesis** integrating similarities, differences, and unique case characteristics

A within-case analysis was conducted first, followed by cross-case comparison to identify broader patterns. Reflexive journaling was incorporated to minimize researcher bias.

Ethical Considerations

Ethical guidelines for research involving minors were strictly followed.

- Informed consent was obtained from parents/guardians and assent from adolescents.
- Participants' identities were anonymized and sensitive details were altered to protect privacy.
- Participation was voluntary, with the option to withdraw at any time.
- Potential emotional discomfort was addressed by offering referrals to school counselors when needed.
- This section ensures that the research upholds ethical integrity while handling sensitive behavioral health issues among adolescents.

Case Studies

Case Study 1 – “Ali (Age 14, Male)”

Ali is a fourteen-year-old boy living with his parents and younger sister and attending a public school. He had no prior behavioral concerns and was previously engaged in academics and sports. Over time, however, his daily screen use increased to approximately seven to nine hours outside schoolwork, primarily involving online gaming and YouTube content related to gaming. Most of this activity occurred during late evening hours, often extending into the night.

As his screen engagement intensified, Ali began to display classic signs of behavioral dependency, including difficulty controlling gaming time and heightened irritability when interrupted. Academic responsibilities and household chores were increasingly neglected, and longer gaming sessions were required to achieve the same level of satisfaction. These changes were accompanied by declining academic performance, particularly in mathematics and science, reduced participation in after-school sports, chronic sleep deprivation, and frequent headaches.

Ali’s parents reported daily conflicts over gaming limits and observed a growing pattern of social withdrawal, especially after school hours. Multiple interventions, such as timers, Wi-Fi restrictions, and designated tech-free evenings, were attempted but failed to produce lasting change. Some improvement was noted following the involvement of a school counselor, although Ali continues to struggle with impulse control. This case reflects an early onset of screen addiction, with gaming serving as a coping mechanism for academic pressure and stress.

Case Study 2 – “Behrein” (Age 15, Female)

Behrein is a fifteen-year-old girl living with her mother in a single-parent household. Over the past year, her daily screen use has increased to approximately eight to ten hours, largely centered on social media platforms such as Instagram and TikTok, along with constant engagement in messaging applications. Much of this activity takes the form of repetitive checking of notifications and extended periods of late-night scrolling.

Behrein exhibits several indicators of screen-related dependency, including compulsive phone use and heightened anxiety when disconnected from her device. Sleep disruption has become a persistent concern; as nighttime social media engagement frequently extends into the early hours. These patterns have had noticeable effects on her emotional and academic functioning. She reports declining self-esteem driven by social comparison on digital platforms, increasing difficulty concentrating in class, and gradual withdrawal from offline friendships.

From her mother's perspective, attempts to restrict phone use often lead to visible distress and emotional agitation. Interventions such as digital wellbeing applications and requiring the phone to be stored away at bedtime have been implemented but resulted only in temporary compliance. Behrein is currently attending weekly counseling sessions, which have contributed to moderate improvements in sleep hygiene and emotional awareness. Her case highlights the emotional vulnerabilities associated with excessive social media use during adolescence, particularly in relation to self-image and anxiety.

Case Study 3 – "Ilyas" (Age 16, Male)

Ilyas is a sixteen-year-old boy living in a large household where limited personal space shapes much of his daily routine. Over time, his screen use escalated to approximately nine to twelve hours per day, with a strong focus on competitive online gaming and prolonged engagement on Discord platforms. Much of his digital activity was intense and uninterrupted, often extending across long sessions.

Clear signs of behavioral dependency were evident in Ilyas's routine, including skipped meals during gaming periods, aggressive reactions to internet connectivity issues, and increasing secrecy surrounding his device use. These behaviors began to interfere significantly with his daily functioning. He frequently missed school assignments, showed a marked decline in physical activity, and gradually withdrew from interactions with his siblings, preferring isolation in digital spaces.

His parents reported persistent irritability and frequent conflicts,

particularly with his younger brothers, which they attributed to frustration arising from disrupted gaming sessions. Attempts to manage his screen use through account bans and temporary device confiscation proved ineffective and often escalated tensions, leading Ilyas to seek alternative devices in secrecy. He has recently been referred to a digital addiction workshop and is in the early stages of behavioral intervention. This case reflects a more severe form of screen dependency, strongly reinforced by the competitive and immersive nature of online gaming environments.

Case Study 4 – "Dalia" (Age 17, Female)

Dalia is a high-achieving student living in a two-parent household who is generally regarded as academically capable and responsible. Her daily screen use ranges between six and eight hours and is primarily devoted to academic browsing and binge-watching television series. While her screen engagement initially appeared purposeful and controlled, it gradually evolved into a habitual pattern, particularly during periods of academic pressure.

Dalia increasingly relied on streaming platforms as an emotional coping mechanism, finding it difficult to stop watching mid-episode or mid-season. This behavior often led to distracted multitasking, with academic work performed alongside screen viewing, reducing overall efficiency. As a result, she experienced growing stress related to incomplete school projects, diminished sleep quality, and a tendency to avoid in-person responsibilities.

Her parents expressed concern that Dalia was using screen-based entertainment to escape academic anxiety rather than addressing underlying stressors directly. Interventions such as structured study schedules and content restrictions produced only short-term improvements. More sustained progress was observed after the introduction of planned study breaks, which helped restore a degree of balance between academic demands and screen use. Dalia's case illustrates a form of screen dependence rooted in stress avoidance rather than social media or gaming engagement.

Case Study 5 – “Ubaid” (Age 15, Male)

Ubaid is a fifteen-year-old introverted boy who lives with his grandmother, who serves as his primary caregiver. His daily screen use has increased to approximately ten to eleven hours, largely centered on multiplayer online games and live-streaming platforms. Over time, these digital spaces have become central to his social and emotional world.

Ubaid demonstrates a strong emotional dependence on online gaming communities, often prioritizing virtual interactions over offline activities. Extended gaming sessions are frequently accompanied by reduced appetite and a persistent mental preoccupation with game strategies, even during non-screen hours. These patterns have contributed to withdrawal from outdoor play, missed school deadlines, and noticeable mood swings.

His grandmother reports difficulty enforcing screen limits due to limited familiarity with digital technologies. Attempts to restrict access through brief internet shutdowns resulted in increased secrecy rather than behavioral change. Ubaid is currently participating in a school-based mentorship program aimed at improving engagement and support. His case highlights how digital communities can function as emotional substitutes for offline relationships, particularly in the absence of consistent adult supervision and peer interaction.

Case Study 6 – “Farah” (Age 18, Female)

Farah is an eighteen-year-old student preparing for college entrance examinations and living with her parents. Her daily screen use ranges between seven and nine hours and is divided among social media platforms, study applications, and online educational videos. Although much of her screen engagement appears academically oriented, it is characterized by frequent switching between tasks and platforms.

Farah exhibits signs of screen dependency through compulsive multitasking and procrastination disguised as productive activity. She reports anxiety when separated from her phone, even during short breaks. These patterns have led to inefficient studying, increased mental fatigue, and elevated stress levels. Her parents have observed

a noticeable decline in family interaction, along with recurring conflicts related to time management and screen boundaries.

Interventions such as app timers and structured “study-with-me” sessions yielded limited results. More consistent improvement was noted after the introduction of offline study blocks, which helped reduce distractions and improve focus. Farah’s case illustrates a form of screen dependence rooted in constant connectivity and habitual task-switching rather than overt recreational overuse.

Case Study 7 – “Aaqib” (Age 14, Male)

Aaqib lives with both parents and has a diagnosed attention-deficit/hyperactivity disorder, which significantly influences his daily routines and behavior. His screen use ranges between eight and ten hours per day and is primarily focused on fast-paced video games and short-form video content that provide rapid stimulation.

Aaqib displays a strong craving for constant sensory input, often becoming intensely absorbed during screen use and experiencing marked difficulty transitioning to non-screen activities. This hyperfocus, while temporarily engaging, has contributed to a worsening attention span in academic settings, persistent struggles with homework routines, and heightened emotional reactivity. His parents report frequent meltdowns when screens are removed, particularly when transitions are abrupt or unstructured.

Various behavioral strategies, including charts and reward systems, have been implemented with limited success. Aaqib is currently working with a therapist to develop self-regulation and transition management strategies.

His case illustrates how neurodevelopmental conditions can amplify vulnerability to screen dependency, underscoring the need for tailored and supportive intervention approaches.

Case Study 8 – Hajira” (Age 17, Female)

Hajira lives with her parents and two siblings and spends approximately six to seven hours daily engaged with screens. Her primary activities include social media browsing and the use of digital

art applications, which initially served as creative outlets but gradually became central to her emotional routine.

Hajira demonstrates a persistent need for online validation, often seeking feedback and affirmation for her creative work. She finds it difficult to disengage from creative apps and becomes irritable during connectivity disruptions. These patterns have led to delayed homework completion, reduced in-person social interactions, and physical complaints such as eye strain and fatigue. Her parents observe a growing emotional reliance on online responses and engagement.

Attempts to redirect her interest toward offline creative activities yielded only partial success. More noticeable improvement occurred after Hajira joined an offline art club, which provided social interaction and validation beyond digital platforms. Her case illustrates how screen dependence can be closely linked to identity formation and creative expression during adolescence.

Case Study 9 – “Imran” (Age 16, Male)

Imran lives with his father and older sister and spends approximately nine to eleven hours each day engaged with digital devices. His screen use is largely devoted to gaming, online shopping, and participation in internet forums, often extending late into the night.

Imran exhibits compulsive browsing behavior, accompanied by impulse spending on in-game purchases and difficulty maintaining concentration during offline activities. These patterns have contributed to academic decline, financial strain within the household, and a noticeable reduction in meaningful interaction with family members. His father reports increasing secrecy surrounding device use, particularly during nighttime hours.

Interventions such as parental control settings and budgeting restrictions have led to some reduction in impulsive spending. However, Imran continues to struggle with persistent browsing urges and difficulty disengaging from online content. His case highlights the intersection between screen addiction and impulse control difficulties, emphasizing the need for strategies that address both

behavioral regulation and financial awareness.

Case Study 10 – “Jehangir” (Age 18, Female)

Jehangir is an eighteen-year-old living in a blended family environment, where adjustments to changing family dynamics form part of his daily experience. He spends approximately seven to nine hours each day engaged with screens, primarily through streaming platforms, social media, and online chatting. These digital spaces have gradually become his primary source of social connection and emotional comfort.

Jehangir shows difficulty initiating offline activities and demonstrates a growing emotional reliance on online peer groups. Late-night screen use has disrupted his sleep routine, resulting in persistent fatigue and difficulty waking up for school, which has led to missed morning classes. Over time, he has also reduced engagement in hobbies that previously provided enjoyment and balance.

Stepparents report that Jehangir becomes withdrawn and disengaged when offline, particularly during periods of restricted screen use. Interventions such as family screen-free nights and counseling referrals have been introduced, with structured routines contributing to gradual improvement. This case illustrates how screen addiction can function as a form of social escape, especially within complex family settings.

Cross-Case Analysis and Discussion

An integrated analysis of the ten adolescent case studies reveals a set of consistent and interrelated patterns that collectively illuminate the nature of screen addiction during adolescence. Despite variations in age, gender, family structure, and preferred digital activities, excessive daily screen use emerged as a defining characteristic across all cases. Screen engagement consistently exceeded recommended limits, ranging from approximately six to twelve hours per day outside of academic requirements. Gaming, social media use, and streaming content dominated screen activity, often serving not only as entertainment but also as emotional regulation tools and social substitutes.

Behavioral indicators commonly associated with addictive patterns

were evident in nearly all participants. Adolescents demonstrated a progressive loss of control over screen time, frequently continuing use beyond intended limits despite negative consequences. Withdrawal-like symptoms were widely reported, including irritability, anxiety, restlessness, and emotional outbursts when access to devices was restricted or interrupted. Many adolescents also displayed increased tolerance, requiring longer or more intense engagement to achieve the same level of satisfaction. These behavioral shifts were accompanied by neglect of routine responsibilities, such as schoolwork, household chores, personal hygiene, and family interaction, signaling functional impairment rather than casual overuse.

The emotional and psychological impact of excessive screen engagement was particularly pronounced. Mood instability, irritability, and heightened anxiety were recurrent features, often closely linked to disrupted or denied access to digital devices. Adolescents primarily engaged in social media exhibited vulnerability to social comparison and validation-seeking behaviors, contributing to diminished self-esteem and emotional dependence on online feedback. In contrast, those focused on gaming frequently demonstrated frustration, aggression, or emotional dysregulation when gameplay was interrupted or unsuccessful. Across both groups, screens functioned as coping mechanisms for stress, boredom, loneliness, or academic pressure, reinforcing dependency cycles.

Academic consequences were evident in all cases, although the severity varied. Screen use interfered with sustained attention, effective study habits, and task completion, leading to delayed assignments, declining grades, and reduced classroom engagement. Multitasking with screens during study time emerged as a particularly detrimental pattern, creating an illusion of productivity while undermining learning efficiency. Over time, academic stress further reinforced screen use as an avoidance strategy, creating a self-perpetuating loop of distraction and underperformance.

Sleep disruption and physical health complaints formed another shared dimension across cases. Late-night screen use delayed sleep

onset and reduced overall sleep duration, resulting in chronic fatigue and difficulty waking for school. Several adolescents reported headaches, eye strain, reduced appetite, or prolonged sedentary behavior, reflecting the physical toll of sustained screen engagement. These physiological effects often compounded emotional and cognitive difficulties, further impairing daily functioning.

Family dynamics played a central role in both the manifestation and management of screen addiction. Parents and caregivers consistently described heightened conflict surrounding device use, including arguments, resistance to limits, secrecy, and emotional withdrawal. While most families attempted interventions such as screen-time restrictions, parental controls, or device confiscation, these strategies were typically short-lived or met with circumvention. The need for constant monitoring placed additional strain on family relationships, particularly in households with limited supervision capacity, blended family structures, or caregivers unfamiliar with digital technologies.

Alongside these shared patterns, meaningful differences across cases highlight the heterogeneity of adolescent screen addiction. The type of digital activity significantly influenced symptom expression, with competitive gaming linked to impulsivity and aggression, social media use associated with emotional dependency and self-esteem issues, and streaming behavior connected to stress avoidance and procrastination. Underlying motivations for screen use varied, including the need for social connection, emotional escape, stimulation, or identity exploration. Adolescents with neurodevelopmental conditions such as ADHD or with introverted personality traits demonstrated heightened vulnerability to compulsive patterns, often requiring more specialized intervention approaches.

Responsiveness to intervention was uneven across cases. Adolescents who received supportive guidance, structured routines, and professional counseling showed more consistent improvement than those exposed primarily to restrictive or punitive measures. Interventions that acknowledged emotional needs and provided alternative sources of engagement were more effective than device-focused control strategies alone. Conversely, complex family

dynamics, limited adult supervision, or inconsistent enforcement were associated with slower progress and higher relapse risk.

When situated within the broader research landscape, these findings align with existing literature linking excessive adolescent screen use to sleep disruption, academic decline, emotional dysregulation, and social withdrawal. However, the present case series extends prior knowledge by illustrating how individual contexts such as family environment, psychological vulnerabilities, and preferred digital platforms shape both the trajectory and expression of screen addiction. Unlike large-scale quantitative studies that emphasize prevalence and correlation, this qualitative approach captures the lived experiences, motivations, and coping mechanisms that sustain problematic screen behavior.

The findings carry important implications for parents, educators, and clinicians. Early identification of behavioral warning signs, including irritability, withdrawal, and neglect of responsibilities, is essential for timely and effective intervention. Holistic approaches that integrate parental involvement, counseling support, structured daily routines, and digital literacy education appear more sustainable than restrictive measures alone. Personalized intervention strategies, tailored to the adolescent's emotional triggers, digital preferences, and family context, are likely to enhance compliance and long-term outcomes. Promoting healthy offline alternatives such as physical activity, creative pursuits, and face-to-face social interaction can help reduce reliance on screens as the primary source of comfort or identity formation.

Despite the insights generated, the study is not without limitations. The small sample size restricts generalizability, and reliance on self-reported data introduces the possibility of bias or underreporting. Additionally, the relatively short observation period may not capture long-term behavioral trajectories or relapse patterns. Nevertheless, these case studies offer valuable qualitative insight into the complexity of adolescent screen addiction and provide a nuanced foundation for future research, prevention strategies, and

Understanding Screen Dependency Among Adolescents: A Multiple Case Study Analysis

intervention models.

Conclusion

This study presents ten detailed case studies of adolescents aged 14–18 who exhibit significant patterns of screen addiction, highlighting both commonalities and individual differences. Across cases, excessive screen use was linked to behavioral,

emotional, academic, and social consequences, including loss of control, irritability, sleep disruption, declining academic performance, and family conflicts. Despite these shared patterns, differences emerged in preferred digital activities, underlying triggers, and responsiveness to interventions, emphasizing the multifaceted nature of adolescent screen dependency.

The findings underscore the importance of early identification, personalized intervention strategies, and family engagement in mitigating the negative effects of screen addiction. Holistic approaches that combine structured schedules, counseling, digital literacy, and promotion of offline activities appear to be more effective than device restrictions alone.

Future research should examine larger and more diverse adolescent populations, explore long-term outcomes, and evaluate the efficacy of tailored intervention programs. By providing in-depth qualitative insights, these case studies contribute to a deeper understanding of how screen addiction manifests in real-life contexts and offer guidance for parents, educators, and clinicians aiming to support adolescents in developing healthier digital habits.

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GAMIFICATION AS A PEDAGOGICAL TOOL IN PRIMARY AND SECONDARY EDUCATION

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Abstract

Gamification is now a cutting-edge teaching method that raises student success, motivation, and engagement. It aims to increase the interactivity and enjoyment of learning experiences by integrating game design features like points, badges, leaderboards, and challenges into instructional procedures. This review paper synthesizes theoretical perspectives and empirical evidence from the past decade to examine the role, benefits, and limitations of gamification in primary and secondary education. The findings indicate that gamification fosters active learning, collaboration, and intrinsic motivation when effectively designed and aligned with curricular goals. However, its success depends on thoughtful implementation, teacher preparedness, and a balanced emphasis on both intrinsic and extrinsic motivators.

Keywords: Gamification, Pedagogical Innovation, Instructional Design, Digital Learning.

Introduction

The educational landscape of the twenty-first century is being profoundly reshaped by rapid technological innovation, increasingly diverse learner profiles, and the growing demand for digital competence. Learners today are immersed in a world characterized by interactivity, instant feedback, and digital engagement, which often makes traditional teaching approaches centred on lectures, memorization, and passive learning less effective in sustaining their attention and curiosity. Consequently, educators are seeking innovative pedagogical strategies that are consistent with students' evolving learning preferences and the realities of a digital society (Chu et. al., 2016).

Gamification, which is the use of game design elements and concepts such as points, badges, leaderboards, levels, and challenges into non-

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gaming educational situations, is one such new strategy. Unlike full-fledged game-based learning, gamification does not involve playing complete games; rather, it utilizes specific motivational and interactive components of games to enrich the learning process. By embedding these elements within classroom activities, gamification transforms conventional lessons into dynamic, goal-oriented experiences that encourage active participation and sustained engagement. It leverages learners' natural tendencies towards competition, achievement, and collaboration, thereby promoting deeper involvement in academic tasks (Sikora et.al.,2024).

In the context of primary and secondary education, gamification has garnered significant attention for its potential to improve academic attainment and motivation in subjects like science, math, and language acquisition. Through challenges, quests, and progress tracking, students develop persistence, problem-solving skills, and intrinsic motivation. Additionally, gamified learning environments encourage collaboration, critical thinking, and creativity competencies essential for 21st-century learners (Al-Khresheh, 2025). This review examines the theoretical foundations, pedagogical advantages, and implementation challenges of gamification as an instructional tool. It seeks to shed light on how well-designed gamified approaches can transform classroom learning into an engaging, meaningful, and student-centred educational experience.

Theoretical Framework

Gamification as a pedagogical approach is deeply rooted in several established learning theories that collectively explain its effectiveness in enhancing motivation, engagement, and achievement. These theoretical underpinnings shed light on how game-based components like challenges, points, levels, and rewards might be systematically incorporated into teaching strategies to promote significant learning opportunities.

Self-Determination Theory (Deci & Ryan, 1985) emphasizes that when students' psychological demands for relatedness, competence,

and autonomy are met, they become intrinsically driven. Competence is the sensation of mastery and efficacy, relatedness is a sense of connection with others, and autonomy is the sense of control and choice in one's learning experience. Gamification supports all three by offering students opportunities to make independent choices within learning activities, acknowledging their progress through badges or achievements, and encouraging collaboration through shared goals and peer interaction. These elements together nurture intrinsic motivation, sustaining student engagement beyond external rewards.

Constructivist Learning Theory (Piaget, 1973; Vygotsky, 1978) posits that knowledge is actively constructed through experience rather than passively received. Gamified learning environments align with this theory by engaging learners in exploration, experimentation, and problem-solving tasks. Through interactive challenges and scenario-based learning, students develop understanding by applying concepts in meaningful contexts. Moreover, Vygotsky's concept of the *Zone of Proximal Development (ZPD)* is reflected in gamification's progressive structure, where increasing levels of difficulty guide learners from assisted performance to independent mastery.

Flow Theory (Csikszentmihalyi, 1990) provides another critical lens, suggesting that optimal learning occurs when the difficulty of a task is balanced with the learner's skills. Gamification achieves this equilibrium through tiered challenges, instant feedback, and adaptive progression systems. When learners experience this state of "flow," they become deeply absorbed in the task, leading to enhanced concentration, satisfaction, and long-term retention of knowledge.

Behaviourism (Skinner, 1953) underscores the role of reinforcement and feedback in shaping behaviour. Gamified instruction reflects these principles through point systems, badges, and rewards that serve as positive reinforcements for desired learning behaviors. Immediate feedback, a core component of gamified design, helps learners recognize errors and adjust strategies effectively, thereby reinforcing persistence and performance improvement.

Objectives

1. To examine the pedagogical benefits of gamified learning, including

its impact on student motivation and student engagement.

2. To identify challenges and limitations associated with implementing gamification in classrooms.

Methodology of Review

This review adopts a qualitative synthesis approach. Peer-reviewed journal articles, doctoral dissertations, and conference papers published between 2014 and 2024 were analysed using databases such as ERIC, Google Scholar, shodhganga and Scopus. Selection criteria included empirical studies focusing on gamification in primary and secondary education, with emphasis on learning outcomes, engagement, and motivation.

Pedagogical Benefits of Gamification

Gamification reshapes traditional pedagogy by transforming learning into a participatory, motivational, and skill-enriching process. It encourages engagement and motivation and also fosters collaboration, experiential learning, and the holistic development of learners—preparing them to thrive in both academic and real-world contexts. A potent pedagogical technique to improve student learning experiences is the incorporation of game-based components like points, levels, badges, and leaderboards into learning experiences. It transforms conventional classroom activities into interactive, motivating, and engaging processes that sustain students' interest and participation. By merging educational goals with game dynamics, gamification promotes deeper learning, collaboration, and the development of key skills in 21st-century.

Enhanced Student Engagement

Boosting student involvement is one of gamification's most important pedagogical benefits. Traditional teaching methods can sometimes lead to passive learning, where students act as mere recipients of information. Gamified learning environments, however, introduce elements of play, challenge, and reward that capture learners' attention and sustain their motivation. Dichev and Dicheva (2017)

found that gamified classrooms increase student involvement and foster positive attitudes toward learning. While competition and rewards encourage curiosity and perseverance, features like points, levels, and instant feedback make learning more dynamic. In addition to making learning fun, this interactive method promotes consistent participation and focus.

Increased Student Motivation

Gamification also effectively merges extrinsic and intrinsic motivation to drive learning. Extrinsic motivators, such as badges, leaderboards, and tangible rewards, appeal to students' desire for recognition and achievement. Simultaneously, intrinsic motivators—such as personal growth, mastery of skills, and the satisfaction of overcoming challenges—fulfil learners' internal drive for self-improvement (Kapp, 2012). By aligning rewards with progress and mastery, gamified education encourages students to take ownership of their learning, set personal goals, and persist through difficulties. This dual motivation framework helps sustain long-term engagement and nurtures a sense of accomplishment.

Active and Experiential Learning

Gamification promotes experiential learning by encouraging active participation rather than passive reception of knowledge. Through game-like tasks such as simulations, quests, or problem-solving challenges, students learn by doing. For example, virtual lab simulations in scientific education enable students to conduct experiments, investigate, and track outcomes in a risk-free virtual environment. This method closes the gap between theory and practice and enhances conceptual understanding. It also allows for repeated trials and instant feedback, helping students learn from mistakes and refine their skills through iterative experiences.

Development of 21st-Century Skills

Beyond academic achievement, gamification prepares students for the demands of the contemporary world by fostering essential 21st-century skills. Through interactive and technology-driven learning,

students develop critical thinking, creativity, adaptability, and digital literacy. They learn to analyse problems, devise innovative solutions, and apply digital tools effectively. These competencies are vital for lifelong learning and professional achievement in a world that is becoming more linked and digital.

Challenges and Limitations of Gamification

Gamification has a lot of pedagogical potential, but there are obstacles to overcome when implementing it in educational contexts. One significant issue is the overemphasis on extrinsic rewards, such as leaderboards, badges, and points, which may unintentionally lower students' intrinsic drive once the external incentives are taken away. Gamified learning must thus strike a balance between possibilities for autonomy, mastery, and purpose and external rewards in order to maintain meaningful engagement.

A second challenge lies in teacher preparedness. Many educators lack sufficient training in instructional design, digital pedagogy, and the technical competencies necessary to integrate gamified strategies effectively. Without proper professional development, gamification risks becoming a superficial add-on rather than a transformative learning approach.

Equity and accessibility also pose critical concerns, as students in underprivileged or rural schools may have restricted access to digital tools and stable internet connectivity. Such disparities can exacerbate existing educational inequalities. Furthermore, the complexity of design and implementation can undermine effectiveness if game elements are poorly linked with learning objectives, leading to a focus on entertainment rather than educational depth.

Finally, sustainability remains a pressing issue. Maintaining student engagement over time requires continuous innovation, adaptive content, and ongoing evaluation to ensure that gamification remains relevant, meaningful, and pedagogically sound.

Implications for Educational Practice

The effective implementation of gamification demands thoughtful pedagogical planning and intentional design. Educators must align game-based elements with curricular objectives, foster inclusivity, and maintain a balance between competition and collaboration to ensure positive learning experiences. Professional development initiatives should equip teachers with the necessary digital pedagogical skills and instructional design competencies to apply gamification effectively. Furthermore, Educational leaders and policymakers must invest in technological infrastructure and equitable resource distribution to enable all learners to benefit from gamified educational practices and to ensure sustainable, scalable innovation in teaching and learning.

Future Directions

Longitudinal studies should be given top priority in future research to assess the long-term impacts of gamification on students' academic achievement, motivation, and engagement. Comparative studies across different subjects, grade levels, and demographic groups can further clarify the contextual factors influencing its effectiveness. Furthermore, investigating the incorporation of cutting-edge technologies like artificial intelligence and adaptive learning platforms may make gamified learning experiences more individualized and data-driven. Such innovations could enhance responsiveness to individual learner needs, optimize instructional outcomes, and support the creation of digital learning environments that are more successful and equitable.

Conclusion

Gamification has become a vibrant and cutting-edge teaching strategy capable of transforming traditional, teacher-centred instruction into a more engaging, participatory, and learner-driven experience. By integrating elements of play, competition, and achievement into academic settings, it enhances motivation, fosters active participation, and promotes deeper cognitive engagement among students. Beyond improving academic performance, gamification also nurtures

essential twenty-first-century skills such as problem solving, collaboration, and self-regulation. However, the success of gamification depends on careful instructional design, pedagogical alignment with learning objectives, and the competence of teachers in integrating game-based strategies effectively. Equitable access to technological resources and careful consideration of learners' diverse needs are also critical to ensuring inclusivity and sustainability. As education continues to evolve in response to digital transformation, gamification stands out as a promising tool for creating meaningful, joyful, and effective learning experiences. When strategically implemented, it can serve as a bridge between traditional pedagogy and modern learner expectations, enriching both teaching practices and educational outcomes.

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UNDERSTANDING DISABILITY THROUGH LIVED EXPERIENCES: DETAILED CASE STUDIES FROM AN INCLUSIVE SCHOOLS IN KASHMIR

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Abstract

Inclusive education, as envisioned in the National Education Policy (NEP) 2020 and mandated by the Rights of Persons with Disabilities (RPwD) Act 2016, emphasizes equitable participation, individualized support, and barrier-free learning environments for children with disabilities. However, the gap between policy intent and ground realities remains significant, particularly in resource-constrained contexts such as Jammu and Kashmir. This study presents five detailed qualitative case studies of children with diverse disabilities—Spina Bifida, Cerebral Palsy, Autism Spectrum Disorder, Hearing Impairment, and Dyslexia—enrolled in mainstream schools across urban and rural regions. Data were gathered through in-depth interviews, classroom observations, and interactions with teachers, parents, and resource personnel. The cases reveal recurring challenges including infrastructural inaccessibility, limited teacher preparedness, insufficient assistive support, inconsistent classroom accommodations, peer insensitivity, and emotional stress experienced by children and families. Simultaneously, the narratives highlight examples of teacher empathy, peer collaboration, parental resilience, and the transformative potential of resource teachers. Cross-case analysis identifies five major themes shaping inclusive education outcomes: physical accessibility, pedagogical adaptation, emotional wellbeing, peer relationships, and institutional readiness. Findings underscore the need for systematic teacher training in special pedagogy, school-wide sensitization programs, structured Individualized Education Plans (IEPs), accessible infrastructure, and stronger policy implementation mechanisms. The study concludes that meaningful inclusion requires not only enrollment but sustained, coordinated efforts across schools, families, and policy frameworks.

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These case studies provide evidence-based insights to inform educational reform, strengthen inclusive practices, and promote the dignity and participation of children with disabilities in mainstream schooling.

Keywords: Disability Studies; NEP 2020; RPwD Act; Spina Bifida; Cerebral Palsy; Autism Spectrum Disorder

Introduction

Inclusive education has emerged as a central pillar of contemporary educational reform in India, reflecting a paradigm shift from segregation to full participation of children with disabilities in mainstream schooling. The National Education Policy (NEP) 2020 reaffirms this commitment by advocating barrier-free access, flexible curricula, differentiated instruction, and the meaningful integration of learners with special needs within regular classrooms. Complementing this vision, the Rights of Persons with Disabilities (RPwD) Act 2016 mandates non-discrimination, reasonable accommodation, and equal opportunities for children with disabilities, positioning inclusion not merely as a pedagogical preference but as a legal and moral imperative.

Yet, despite progressive legislative and policy frameworks, the lived experiences of children with disabilities often diverge from these ideals. Particularly in regions such as Jammu and Kashmir—characterized by geographic constraints, infrastructural limitations, and uneven distribution of educational resources—the implementation of inclusive education remains inconsistent. Schools frequently struggle with inadequate physical accessibility, limited assistive technologies, minimal teacher training in special pedagogy, and insufficient availability of resource personnel. Moreover, social factors such as peer attitudes, stigma, and community perceptions continue to shape the day-to-day experiences of children with disabilities in profound ways.

Understanding these complex realities requires moving beyond broad policy statements and statistical indicators to closely examine the granular, everyday experiences of children navigating inclusive school environments. Case studies serve as a powerful methodological tool in this context, offering nuanced insights into the interactions, emotions,

challenges, and coping strategies that define inclusion as it unfolds in real settings. Through detailed narratives, they illuminate the interplay of structural, pedagogical, and socio-emotional factors that facilitate or hinder effective inclusion.

This paper presents five qualitative case studies of children with diverse disabilities—Spina Bifida, Cerebral Palsy, Autism Spectrum Disorder, Hearing Impairment, and Dyslexia—studying in mainstream schools across urban and rural areas of Kashmir. By exploring their personal journeys, school interactions, family involvement, and the institutional responses of teachers and administrators, the study seeks to understand how inclusion functions in practice. These cases not only reveal systemic gaps but also highlight instances of resilience, empathy, and adaptive pedagogy that contribute to meaningful participation.

Through these narratives, the paper aims to bridge the gap between policy aspirations and ground-level realities, offering evidence-based insights that can inform future reforms, teacher training, school readiness, and the creation of genuinely inclusive learning ecosystems.

Methodology

This study employed a qualitative, case study-based research design to explore the lived experiences of children with disabilities in inclusive schools across different regions of Kashmir. The aim was to generate rich, context-specific insights into how inclusive education unfolds within real classroom settings, and to identify the interplay of personal, pedagogical, and institutional factors shaping these experiences.

Research Design

A multiple case study approach was adopted, enabling in-depth examination of individual learners while also allowing cross-case comparison. Five children with diverse disabilities—Spina Bifida, Cerebral Palsy, Autism Spectrum Disorder (ASD), Hearing Impairment, and Dyslexia—were purposefully selected to capture a broad spectrum of needs, challenges, and support systems

commonly encountered in inclusive educational environments.

Sampling Strategy

Purposive sampling was used to identify participants who met the following criteria:

- Enrolled in a mainstream (government or private) school
- Diagnosed with a disability recognized under the RPwD Act 2016
- Receiving some form of educational support (formal or informal)
- Accessible to the researcher for multiple interactions

The sample included:

- 1 child from a private inclusive school in Srinagar
- 2 children from urban private schools with partial inclusion
- 2 children from rural government schools with limited inclusion structures

This diversity enabled examination of inclusion across socio-economic and institutional contexts.

Data Collection Methods

Four complementary qualitative methods were employed:

1. In-depth Interviews

Semi-structured interviews were conducted with:

- Each child participant
- Parents or primary caregivers
- Class teachers
- Resource teachers or special educators
- School administrators (where relevant)

Interviews explored academic experiences, emotional well-being, peer interactions, teacher support, infrastructural accessibility, and family engagement.

2. Classroom Observations

Multiple observation sessions were carried out during:

- Regular classroom teaching
- Group activities
- Games periods or outdoor sessions
- Transition times (movement between classes, breaks, etc.)

Observations focused on participation, interaction patterns, accessibility barriers, teacher strategies, and peer responses.

3. Document Review

Where available, the following documents were examined:

- Individualized Education Plans (IEPs)
- School support records
- Assessment reports
- Teacher reflections
- Medical or psychological evaluation reports provided by families

4. Home Visits

Home visits were conducted for three participants to understand:

- The caregiving environment
- Parental expectations and challenges
- Family-school communication patterns
- Accessibility issues related to transportation and daily routines

Data Analysis

Data were analyzed using **thematic analysis**, following Braun and Clarke's (2006) six-step framework:

1. Familiarization with data
2. Generating initial codes
3. Identifying themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the final narrative synthesis

Themes emerged around:

- Physical accessibility
- Pedagogical adaptation
- Peer acceptance and stigma
- Emotional resilience
- Role of parents
- Institutional readiness

These themes informed both individual case narratives and cross-case analysis.

Ethical Considerations

The study adhered to ethical standards required for research involving minors:

- **Informed consent** was obtained from parents/guardians, and assent from children.
- Names of children, schools, and teachers were anonymized to protect confidentiality.
- Participation was voluntary, with the right to withdraw at any time.
- Sensitive information was handled with care, ensuring dignity and respect for all participants.

Limitations

Key limitations include:

- Small sample size, limiting generalizability
- Reliance on self-reported data from children and teachers
- Variation in school environments, making uniform comparisons difficult

Despite these limitations, the depth of qualitative insights offers valuable evidence for understanding inclusive education in the Kashmiri context.

Case Study 1: Experiences of a Child with Cerebral Palsy in an Inclusive Government School

Background of the Child

Aamir, a 10-year-old boy studying in Class 5 in a government middle school in Budgam, has spastic cerebral palsy affecting his lower limbs and fine-motor coordination. He walks with the support of a walker and struggles with writing speed and hand control. His speech is slightly slurred, but he communicates effectively. Aamir lives with his grandparents and mother, who is a single parent working as a tailor.

Despite his disability, Aamir is curious, bright, and passionate about mathematics. His inclusion in school is highly dependent on the school environment, teacher sensitivity, and infrastructural conditions.

Method of Data Collection

- Structured interview with Aamir
- Interviews with two teachers and the school head
- Observation during classroom instruction and recess
- Home visit to understand caregiving context

Case Narrative

1. Classroom Participation and Academic Adjustments

Aamir sits at a modified desk with raised height to accommodate his walker. His class teacher describes him as:

"He learns quickly, but writing is difficult for him. I allow him to answer orally during class tests."

Because of his difficulty in handwriting, Aamir is allowed extra time during exams and occasionally dictates answers to a scribe arranged by school staff.

Aamir says:

"I can solve sums faster than many, but writing them takes me a long time. I wish my hand listened to me the way my mind does."

His mathematics performance is high, but written-language tasks slow him down. He receives individualized worksheets from the resource teacher twice a week, especially for writing practice and muscle strengthening.

2. Peer Support and Social Experience

Aamir shares:

"My friends help me carry my bag, and they wait for me when we go out. But sometimes they run fast in the playground, and I just watch." Peers generally accept him, but the physical layout of play areas limits his participation. A few students mimic his walking pattern, which hurts him deeply. His best friend often accompanies him outside during recess, choosing indoor games so Aamir can participate. The school has never conducted disability-awareness sessions, leaving misconceptions unaddressed.

3. Teacher Attitudes and Institutional Gaps

Teachers acknowledge that they try their best but lack training. The headteacher states:

"We want to support him, but we need an assistant or mobility aide. Only one resource teacher covers nine schools."

Infrastructure is minimal—no ramps, narrow corridors, and uneven school grounds make mobility tiring and unsafe for Aamir.

4. Emotional Wellbeing and Self-Perception

Aamir appears cheerful but sometimes expresses frustration:

"I want to run like others. But I am happy that at least I am in school." His mother reports that he practices walking every morning, motivated to become "more independent."

Analysis and Implications

Aamir's experience highlights:

- The importance of adaptive assessments and alternative modes of writing
- The value of peer support, but also the need for formal sensitization programs
- The necessity of physical accessibility in government schools
- The emotional resilience children develop despite barriers

Case Study 2: Experiences of a Child with Autism Spectrum Disorder (ASD) in a Private Inclusive School

Background of the Child

Sara, an 8-year-old student in Class 3 at a private school in Srinagar, has been diagnosed with high-functioning Autism Spectrum Disorder. She has strong vocabulary, excellent memory, and a remarkable ability to recite long poems. However, she struggles with sensory sensitivity, social communication, group tasks, and sudden routine changes. Her parents enrolled her in an inclusive school believing structured classrooms would support her learning and reduce social isolation.

Method of Data Collection

- Two interviews with Sara's parents
- Interviews with the class teacher and special educator
- Classroom observation during group activities
- Analysis of her Individualized Education Plan (IEP)

Case Narrative

1. Classroom Learning and Sensory Challenges

Sara excels in reading and vocabulary-based tasks but becomes distressed by loud noises, sudden announcements, or crowded spaces. Her class teacher shares:

"If the class gets noisy, she covers her ears and starts crying. We allow her to go to the resource room to calm down."

Her IEP includes:

- Visual schedules
- Breaks between tasks
- Reduced homework
- Sensory corner visits

Sara says:

"I like when things happen slowly. When everybody talks at once, I feel like my head is full."

Her handwriting is neat, but she dislikes group projects, preferring to work alone.

2. Peer Interactions and Social Difficulties

Sara wants friends but struggles to interpret social cues. She often

takes jokes literally and becomes anxious when classmates change games without informing her.

A boy in her class teased her by saying, "We don't want you on our team." She cried for days believing she was permanently disliked.

However, a small group of girls have become her support circle, patiently explaining tasks and inviting her for quiet games.

The resource teacher has initiated weekly social-skills training sessions for her.

3. Teacher Efforts and Limitations

The class teacher is supportive but says:

"I wish I had clearer training. Sometimes I don't know how to respond when she has a meltdown."

Sara's school is better equipped than many but still lacks:

- A trained shadow teacher
- Sensory-friendly classrooms
- Enough teacher training modules on ASD

4. Emotional Experience and Self-Awareness

Sara is highly self-aware. During an interview, she said:

"I know I am different, but being different is okay. I like my brain."

Her parents worry about the future, especially whether secondary school environments will be equally supportive.

Her emotional resilience is strong, but frequent anxiety episodes indicate the need for regular counseling.

Analysis and Implications

Sara's case underlines:

- The necessity of sensory-friendly learning environments
- Importance of predictable routines and visual supports
- Need for teacher training on ASD and shadow teachers
- Reinforcement of collaborative peer relationships
- Importance of social-skills interventions for long-term adjustment

Case Study 3: Experiences of a Child with Hearing Impairment in a Rural Government School

Background of the Child

Mehreen, a 13-year-old student in Class 8, lives in a remote village in Kupwara. She was diagnosed with moderate bilateral hearing impairment at age five. She uses a hearing aid in one ear, but the device often malfunctions due to battery issues and lack of local repair services. Mehreen communicates through a mix of spoken language and basic sign gestures taught by her mother.

Her school is not formally inclusive—there are no sign-language-trained teachers—yet the headmaster has been supportive and encouraged her enrollment.

Method of Data Collection

- Semi-structured interview with Mehreen
- Interviews with two teachers and the headmaster
- Observation during language and social science classes
- Home visit to understand socioeconomic context

Case Narrative

1. Classroom Experience and Academic Adjustments

Because of her hearing difficulty, Mehreen relies heavily on lip-reading. She sits in the front row in every class. Her English teacher explains:

"She is bright, but she misses half of what we say when the class gets noisy. We slow down when speaking, but we need training."

During observation, Mehreen repeatedly leaned forward to catch words but became anxious when instructions were too fast.

Mehreen says:

"I like studying, but when teachers turn their face to the board, I feel lost."

She completes written work with dedication but struggles with oral assessments. The school allows her extended time for tests and

accepts written responses instead of oral tasks.

2. Peer Interactions and Social Participation

Mehreen has a close friend, Sana, who acts as her informal interpreter. Sana often repeats instructions in simple words or gestures. Mehreen's peers generally include her but sometimes grow impatient during group work because of the effort required to communicate. A few students mock her speech clarity, causing her to speak less in public. She admits:

"I don't talk much because some girls laugh when I pronounce wrong." Despite this, she enjoys craft activities and excels in drawing competitions, where communication barriers matter less.

3. Teacher Efforts and Institutional Gaps

Teachers are empathetic but untrained in sign language or special strategies. The headmaster acknowledges systemic limitations:

"We want to support her, but without training, audio logical support, or a resource teacher, we do what we can."

The school lacks:

- Sound-treated classrooms
- Basic hearing-aid maintenance support
- Visual learning aids
- Trained special educators

Her progress largely depends on individual teacher sensitivity and peer goodwill.

4. Emotional Wellbeing and Resilience

Mehreen is introverted but emotionally strong. She says:

"I know I am slow in hearing, but I am not slow in learning."

Her self-confidence is rooted in strong family support, especially from her mother, who reinforces the value of education.

Analysis and Implications

Mehreen's case demonstrates:

- Need for teacher training in sign-supported instruction and basic rehabilitation communication
- Importance of visual and written instructions alongside oral teaching
- Critical requirement of functional, reliable hearing aids and support services
- Peer-sensitization programs to prevent stigma
- Use of multimodal teaching (gestures, pictures, written cues) to enhance learning in rural schools

Case Study 4: Experiences of a Child with Learning Disability (Dyslexia) in an Urban Private School

Background of the Child

Yusuf, a 9-year-old boy in Class 4 of a private school in Srinagar, was diagnosed with dyslexia after his parents noticed persistent reading and spelling difficulties. He reverses letters, struggles with phonological awareness, and reads below grade level. Despite these challenges, Yusuf has exceptional skills in art and spatial reasoning. The school maintains an inclusive philosophy, but practical implementation is inconsistent.

Method of Data Collection

- Reading assessment and classroom observation
- Interviews with Yusuf, his parents, English teacher, and resource teacher
- Review of his academic records and previous support plans

Case Narrative

1. Reading and Writing Challenges

Yusuf explains his frustration:

"When I look at big words, they dance and jump. I try hard, but they don't stay still."

During reading tasks, he guesses words based on pictures rather than decoding them. His writing shows letter reversals (b/d, p/q).

inconsistent spacing, and phonetic spelling.

The English teacher says:

"He understands concepts but avoids reading aloud because he fears classmates will laugh."

The school has not yet adopted structured literacy programs, so Yusuf's progress depends primarily on the resource teacher.

2. Strengths and Talents

Yusuf is exceptional in art and visual tasks. He constructs complex models using Lego bricks and draws detailed landscapes with surprising accuracy. These strengths support his confidence.

His class teacher notes:

"If learning were all about creativity, Yusuf would be the topper."

Recognizing these strengths is essential for his emotional balance.

3. Peer Experience and Classroom Dynamics

Peers are generally kind, but some occasionally remark, "He reads too slowly," making Yusuf self-conscious. He often hides his notebook to avoid classmates noticing his spelling errors.

Group activities reduce his anxiety, especially tasks involving drawing or map-making. However, competitive reading activities trigger stress.

Yusuf admits:

"I feel scared when it's my turn to read."

4. Teacher Attitudes and School Support

The resource teacher works with him four days a week using multisensory techniques—sand tracing, phonics drills, flashcards, and comprehension building. She says:

"With the right techniques, Yusuf improves quickly, but the classroom pace is too fast for him."

The school lacks:

- Universal screening for learning disabilities
- A structured phonics-based reading program

- Formal accommodations such as reduced-copy work, oral assessments, and alternative evaluations

5. Emotional Wellbeing and Self-Esteem

Yusuf is sensitive and internalizes mistakes. His parents report that he sometimes says:

"Maybe I am not made for studying."

This highlights how academic struggles easily affect self-worth in children with dyslexia.

Analysis and Implications

Yusuf's case emphasizes:

- Urgent need for early screening for dyslexia
- Implementation of multisensory structured literacy programs
- Importance of accommodations such as extra time, reduced written load, and oral evaluations
- Recognition and nurturing of creative strengths
- Teacher training to eliminate stigma and promote supportive pedagogy

Case Study 5: Experiences of a Child with Spina Bifida in an Inclusive School

Background of the Child

Rabia, aged twelve, is enrolled in a private inclusive school in Srinagar. Diagnosed with Spina Bifida, she uses a wheelchair and requires catheter assistance twice daily. Her mother accompanies her to school every afternoon during the lunch break to support her needs—a role she performs with unwavering dedication.

Rabia is academically average, enjoys reading, and expresses a strong desire to participate in school activities. Yet, her participation is hindered by mobility barriers, peer attitudes, and infrastructural limitations. Her case epitomizes the intersection of disability, gender, and geographical constraints.

Method of Data Collection

The findings presented here are drawn from:

- an in-depth interview with Rabia
- conversations with her class teacher and resource teacher
- an interview with her mother
- classroom observations
- reflections from field visits as part of a longitudinal qualitative research project

Data were analyzed thematically to uncover patterns related to academic adaptation, peer relationships, teacher attitudes, parental involvement, and emotional wellbeing.

Case Narrative

1. Daily School Experience

Rabia begins her narrative by stating:

"I look very different from everyone. I cannot walk and roam around in school. I usually read books during games period because I cannot do much."

This simple expression captures the layered nature of her experience—physical limitation, emotional distance, and the silent adaptation she undergoes each day. Rabia's wheelchair restricts her movement across the campus, especially since the school lacks ramps, accessible toilets, and barrier-free entry in several blocks.

The games period becomes symbolic: a time meant for joy, but for Rabia, it becomes a reminder of exclusion. Yet she finds solace in reading, constructing a private world where limitations dissolve momentarily.

2. Academic Participation and Classroom Accommodations

Rabia sits in the front row to ensure easy access and teacher monitoring. Her class teacher acknowledges:

"Rabia is disciplined and sincere, but I often struggle to give her enough attention because the class is large. I wish we had more training to handle such needs."

Despite goodwill, the teacher lacks formal training in special pedagogy, a gap highlighted in NEP 2020, which emphasizes the need

for specialized modules and extended internships in inclusive schools. Rabia reports that:

"Sometimes the teacher goes fast, and I cannot copy everything. My friend helps me finish the notes." Peer support partially compensates for the absence of individualized lesson pacing. The resource teacher works with her thrice a week, helping her with written assignments, comprehension difficulties, and exam preparation. Rabia describes this relationship warmly:

"My resource teacher listens to me. She tells me that I can do well in studies if I keep trying." This rapport strengthens her academic confidence and reinforces the importance of dedicated resource support in inclusive classrooms.

3. Peer Interactions: Acceptance and Insensitivity

Peers play a pivotal role in shaping the social climate of an inclusive classroom. Rabia's experience reflects both acceptance and hurtful encounters.

She recounts:

"Some girls help me move my wheelchair, but a few ignore me. Once someone called me 'the girl with wheels' and laughed."

Such remarks reflect the subtle yet damaging stigma that children with disabilities face. Although many classmates are kind, isolated incidents leave lasting emotional effects. Rabia admits:

"I feel bad when they talk like that. I wish they understood me better."

Peer insensitivity arises not from malice but from lack of awareness—a gap that peer-sensitization programs could effectively address.

Yet, Rabia has a circle of supportive friends who help her navigate the classroom, pass notebooks, accompany her during lunch, and provide emotional comfort. Their acceptance contributes profoundly to her wellbeing.

4. Emotional Experience and Self-Perception

Rabia's emotional world is sensitive and introspective. When describing herself, she says:

"I am not like other children. I feel left out when they run or play. But I know it is not my fault."

This balanced yet poignant statement reveals both vulnerability and resilience.

Feelings of isolation, especially during outdoor activities and school events, are recurrent. She expresses sadness about missing events held on the playground or upper floors. However, she compensates through academic engagement and creative interests.

Her mother observes:

"Rabia never complains. She has accepted her condition, but I worry that she hides her pain."

This highlights an important dimension: internalized emotional labor, where children mask their struggles to avoid burdening caregivers.

5. The Role of the Mother: Invisible Labour and Emotional Resilience

Rabia's mother is central to her schooling experience. She says:

"My mother comes to school every day during lunch break. She never complains. She says I am never going to be a burden."

This unconditional support is both practically essential and emotionally grounding.

For Rabia's mother, inclusion demands daily sacrifices—time, mobility, and psychological strength. She organizes her life around Rabia's needs and expresses the anxiety that accompanies each school day:

"Every morning I pray that she manages without problems. Her courage gives me courage."

Such parental resilience is rarely acknowledged in policy frameworks, yet it remains indispensable for inclusion, especially in high-need cases like Spina Bifida.

6. Teacher Attitudes and Institutional Gaps

Rabia's class teacher shows empathy but admits to limitations in training. The resource teacher is enthusiastic but overburdened, handling multiple students with varying disabilities. Both highlight the absence of:

- structured training in inclusive pedagogy
- adequate teaching aids
- assistant staff for high-need children
- infrastructural support such as accessible toilets and ramps

These gaps are systemic rather than individual shortcomings.

Rabia's school reflects a common situation in Kashmir: willingness but inadequate capacity.

Analysis of the Case

Rabia's experience illustrates several key dimensions of inclusive education:

1. Inclusion Requires More Than Physical Placement

Although Rabia attends a regular school, structural barriers (stairs, inaccessible washrooms, uneven grounds) restrict her participation. True inclusion demands architectural accessibility and universal design—not merely enrollment.

2. Teacher Preparedness Matters Immensely

The teacher's empathy is not enough without special training. NEP 2020 emphasizes sensitivity training, early identification, and continuous professional development—needs strongly highlighted by Rabia's experience.

3. Peer Sensitization is a Critical Determinant

Positive peer interactions enhance emotional wellbeing, while teasing undermines self-confidence. Structured programs on empathy, disability awareness, and collaborative learning can transform classroom dynamics.

4. Parental Involvement Sustains Inclusion

Rabia's mother plays the role of caregiver, assistant, advocate, and emotional anchor. Inclusion often relies heavily on such invisible labour, which schools must acknowledge and support through flexible schedules and caregiver involvement.

5. Resource Teachers are the Bridge between Policy and Practice

Rabia's progress is significantly attributed to her resource teacher, whose motivation compensates for systemic gaps. Schools need adequate numbers of trained special educators.

Cross-Case Discussion

Analysis of the five case studies reveals a set of recurring themes that shape the lived experience of children with disabilities in mainstream schools in Kashmir. Although the children represent diverse disabilities—Spina Bifida, Cerebral Palsy, Autism Spectrum Disorder, Hearing Impairment, and Dyslexia—their narratives converge around common structural, pedagogical, social, and emotional dimensions. These cross-case patterns highlight both the strengths and limitations of inclusive practices within the current educational ecosystem.

1. Physical Accessibility as a Foundational Barrier

Across cases, the first and most visible barrier to inclusion is inadequate infrastructure:

- Absence of ramps, accessible toilets, and barrier-free entry affected Rabia (Spina Bifida) and Aamir (Cerebral Palsy).
- Noise-filled classrooms and lack of visual supports hindered Mehreen (Hearing Impairment).
- Limited sensory-friendly spaces aggravated anxiety for Sara (ASD).

Despite varying disabilities, none of the schools fully met the infrastructural expectations mandated by RPwD Act 2016, underscoring a systemic implementation gap. Accessibility remains dependent on individual adjustments rather than institutional readiness.

2. Teacher Preparedness and Pedagogical Adaptation

Teachers across all cases demonstrated empathy but lacked formal training in special education. This led to inconsistent accommodations:

- Rabia's teachers struggled with individualized pacing.
- Aamir's teachers relied on oral assessments due to his handwriting difficulty.
- Sara required structured routines and sensory supports that teachers were uncertain how to provide.
- Mehreen depended entirely on teacher speech clarity and positioning.
- Yusuf's teachers lacked exposure to structured literacy approaches for dyslexia.

These cases show that empathy cannot compensate for the absence of training. Teachers often "did their best," but without knowledge of disability-specific strategies, their support remained fragmented and reactive.

3. The Pivotal Role of Resource Teachers

In all cases where resource teachers were involved, they significantly improved educational participation:

- Rabia's academic confidence was rooted in her interactions with her resource teacher.
- Aamir and Yusuf showed progress when guided through multisensory methods.
- Sara benefited from a structured IEP and emotional regulation support.

However, availability was inconsistent—many schools shared a single resource teacher across multiple institutions. This resulted in overburdening and reduced quality of support, indicating the need for stronger staffing norms and workload regulation.

4. Peer Relationships: Inclusion through Social Climate

Peer interactions emerged as one of the most powerful determinants of emotional wellbeing:

Positive patterns

- Supportive classmates helped Rabia maneuver her wheelchair and assisted Aamir with mobility.

- Sara's small peer group provided empathy and stability.
- Yusuf's peers appreciated his artistic strengths.

Negative patterns

- Teasing and mimicry caused lasting emotional hurt (Rabia, Aamir, Mehreen, Yusuf).
- Misunderstanding of autism-specific behaviours contributed to Sara's social anxiety.
- Slow readers and differently abled students were often stigmatized.

These patterns indicate that peer sensitization is either absent or inadequate. Without structured awareness programs, stigma continues to emerge organically in classroom cultures.

5. Emotional Resilience and Hidden Struggles

All five children demonstrated remarkable emotional strength, yet also internalized significant distress:

- Rabia suppressed feelings to avoid burdening her mother.
- Aamir expressed longing to run like others but maintained hope.
- Sara was highly self-aware but suffered from anxiety during sensory overload.
- Mehreen avoided speaking to prevent ridicule.
- Yusuf experienced reduced self-esteem due to reading difficulties.

A recurring theme across cases was the silencing of emotional pain—children seldom expressed distress openly, often attempting to “fit in” despite exclusionary experiences. This highlights a largely unmet need for school-based counseling and socio-emotional support.

6. Centrality of Family Support

Families played an indispensable role in enabling schooling:

- Rabia's mother provided daily physical assistance.
- Aamir's mother and grandparents ensured therapy and motivation.

- Sara's parents maintained consistent routines across home and school.
 - Mehreen's mother ensured hearing-aid maintenance in a resource-poor context.
 - Yusuf's parents advocated for academic accommodations.
- These examples reveal that inclusion in Kashmir is often family-driven rather than institution-driven, making parental commitment a critical but unequalizing factor.

7. Inclusion as a Continuum, Not a Binary

The cases collectively demonstrate that inclusion is not simply about enrolling children with disabilities in mainstream schools. Instead, it represents a continuum of participation, shaped by:

- Accessibility
- Instructional adaptation
- Emotional safety
- Peer acceptance
- Institutional commitment

While some schools displayed encouraging practices, none provided a completely inclusive environment. Inclusion remained partial, functioning more effectively for children with mild-to-moderate needs (Dyslexia, mild Cerebral Palsy) than for those requiring higher levels of support (Spina Bifida, ASD, Hearing Impairment).

8. Policy-Practice Gap

Despite strong policy frameworks (NEP 2020, RPwD Act 2016), implementation barriers were visible in all five cases:

- Lack of IEPs in government schools
- Absence of disability-specific teaching aids
- Irregular availability of resource teachers
- Limited monitoring of accommodations
- Minimal teacher training modules

The cases underscore that policy awareness exists, but policy operationalization remains limited, especially in rural schools.

Synthesis

The cross-case synthesis shows that the success of inclusive education in Kashmir is shaped by:

- Human factors (teacher empathy, parental resilience, peer attitudes)
- Structural factors (infrastructure, staffing, training)
- Cultural factors (stigma, awareness)

Together, these reveal that inclusive education is a multi-layered process requiring systemic reform rather than isolated interventions.

Implications for Practice and Policy

Findings from the five case studies highlight several critical implications for strengthening inclusive education in Kashmir and similar contexts. These recommendations address gaps identified across infrastructural, pedagogical, administrative, and socio-emotional domains.

1. Strengthening Teacher Training and Professional Development

Teacher preparedness emerged as one of the most important determinants of meaningful inclusion. Schools and government bodies should:

- Introduce mandatory modules on special pedagogy in pre-service and in-service teacher training.
- Offer disability-specific workshops covering cerebral palsy, autism, hearing impairment, learning disabilities, and mobility challenges.
- Expand the role of DIETs/SCERT in providing regular training on IEP development, differentiated instruction, and classroom accommodations.
- Promote mentorship programs where trained special educators guide general teachers.

Such training will help teachers shift from intuition-based support to evidence-based inclusive practices.

2. Enhancing Infrastructure and School Accessibility

Accessibility remains a structural barrier for most children with physical, sensory, or mobility challenges. Schools must:

- Construct ramps, accessible toilets, and barrier-free pathways in all blocks.
- Create sensory-friendly classrooms or quiet rooms for children with ASD.
- Install visual aids, sound-absorption materials, and speaker systems to support learners with hearing impairment.
- Ensure emergency evacuation plans that accommodate children with disabilities.

Government schemes such as SAMAGRA Shiksha should allocate dedicated funds for disability-friendly infrastructure.

3. Strengthening Resource Teacher Deployment

Resource teachers play a central role in bridging policy and practice. To improve support:

- Reduce the student-to-resource-teacher ratio, especially in rural clusters.
- Ensure regular availability of resource teachers in each school.
- Equip resource rooms with assistive devices (communication boards, multisensory materials, phonics kits).
- Encourage collaboration between resource teachers and class teachers to co-develop IEPs.
- Regular monitoring can prevent uneven access and ensure accountability.

4. Prioritizing Emotional and Psychological Support

Children in all five cases experienced anxiety, distress, or emotional isolation. Schools should:

- Appoint school counselors or partner with trained psychologists.
- Conduct weekly socio-emotional learning (SEL) sessions focusing on empathy, self-regulation, and peer acceptance.

- Provide individual and group counseling for children with disabilities.
- Establish safe reporting mechanisms for bullying and teasing. Mental health support must be seen as an integral component of inclusive education.

5. Peer Sensitization and School Culture Reform

Peers significantly influence inclusion. To foster an inclusive school climate:

- Conduct regular disability-awareness programs.
- Implement buddy systems pairing students with and without disabilities.
- Integrate cooperative learning models where group work promotes shared responsibility.
- Use school assemblies, art activities, and storytelling to normalize disability as part of human diversity.

Building an empathetic peer culture reduces stigma and encourages acceptance.

6. Strengthening Home-School Collaboration

Families compensate for institutional gaps. Schools should:

- Involve parents actively in IEP planning and progress reviews.
- Provide training on home-based support strategies.
- Maintain consistent communication to track daily needs and challenges.
- Recognize parental labour—especially for high-support-needs children—and offer flexibility in procedures.

Inclusive education thrives when school and family form a collaborative partnership.

7. Policy Monitoring and Implementation

To close the policy-practice gap:

- Strengthen implementation oversight of RPwD Act standards in all schools.

- Ensure equitable distribution of special educators across districts.
- Introduce disability audits at school and district levels.
- Encourage research and documentation of inclusion practices to inform future reforms. Effective monitoring ensures that inclusion moves beyond rhetoric into measurable reality.

Conclusion

The five case studies presented in this study provide a rich, ground-level understanding of how inclusive education operates within mainstream schools in Kashmir. While the children differ in their disabilities, backgrounds, and school environments, their shared experiences reveal a consistent pattern: inclusion is often upheld by individual goodwill—of teachers, families, or peers rather than systemic readiness.

Despite progressive policies such as NEP 2020 and the RPwD Act 2016, significant gaps persist in infrastructure, teacher training, resource availability, and school culture. These gaps manifest in restricted participation, inconsistent accommodations, emotional distress, and reliance on parental labour. Yet, the cases also highlight resilience, empathy, and commitment—qualities that illuminate the transformative potential of inclusive education when supported appropriately.

True inclusion requires more than physical placement in mainstream schools; it demands regular professional training, accessible environments, supportive peer cultures, strong home-school partnerships, and continuous policy implementation. When these components align, schools become not only academic institutions but nurturing spaces where every child—irrespective of disability—can learn, grow, and participate with dignity.

In conclusion, inclusive education in Kashmir stands at a critical junction. The foundations have been laid through policy frameworks, but the journey toward full participation requires sustained, coordinated, and compassionate effort. These case studies serve as evidence and inspiration, urging policymakers, educators, and communities to commit to building an educational ecosystem where inclusion is not the exception, but the norm.

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