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RESEARCH PAPERS

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on Reducing Aggression Among School-Aged Adolescents:
A Systematic Review

Smart Classroom Integration in Schools: Perspectives of
In-Service Teachers in Odisha

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English Learning: A Structural Equation Modelling Approach

Beyond the Monolingual Mindset: Embracing Organic
Pluralism in Pre-Service English Teacher Education in India

Perspectives of State Functionaries on Inclusive Education
with Focus on Children with Disabilities

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INDIAN EDUCATIONAL REVIEW

The *Indian Educational Review* is a bi-annual journal, brought out by the National Council of Educational Research and Training (NCERT), New Delhi. The journal publishes articles and researches on educational policies, practices and values material that is useful to practitioners in the contemporary times. The journal also provides a forum for teachers to share their experiences and concerns about schooling processes, curriculum, textbooks, teaching-learning and assessment practices.

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EDITORIAL

The Viksit Bharat 2047 vision seeks to transform India into a developed nation through inclusive quality education aligned with the National Education Policy (NEP) 2020. Education in India serves as a key pillar, fostering innovation, skill development, digital literacy, and a society that meets Fourth Sustainable Development Goal (SDG 4). The NEP 2020 emphasises holistic education to nurture intellectual, social, physical, emotional, and moral capacities in an integrated manner. Accordingly, every attempt should be made for the development of the creative potential of each individual. Education should offer opportunities and learning experiences by promoting students' active participation. The motivation and empowerment of teachers is also required to ensure the best possible future for our children and our nation. Professional support is needed to ensure students' well-being and academic excellence. The language of transaction between teachers and students in the classroom is an important concern. Students need to engage with related domain knowledge in a variety of ways. They will apply different abilities, like critical and creative skills, in the courses of their study if adequate opportunities are provided [National Curriculum Framework for School Education (NCF-SE), 2023].

Adolescence represents a critical stage in a student's life. Successfully coping with the demands and pressures of their environment fosters achievement and overall well-being. The period of adolescence is concerned with emotional development and long-term behavioural outcomes. Specifically, adolescents change over time in negotiating age-specific issues and life transitions. Adolescents with poor emotional control display emotional outbursts and aggression. Emotional dysregulation has been identified as a major contributor to aggressive behaviours. A systematic review was conducted on the effect of life skills training in emotional regulation on reducing aggression among school-aged adolescents by Deepti Singh and Rashmi Soni. They synthesised evidence on interventions targeting emotional regulation and coping with emotions, and life skills among adolescents from 35 studies. The results demonstrated reductions in physical, verbal and relational aggression, with interactive approaches. Secondary benefits included improved academic engagement, peer acceptance, and resilience. The study has suggested that integrating structured emotional regulation programmes into school curricula represents an effective and holistic strategy for promoting adolescent's well-being.

The significance of infusing technology in the teaching-learning process is acknowledged by the NEP 2020. A smart classroom aligned with cutting-edge technology boosts learner engagement. A study by Kunu Nayak and Pinkal Chaudhari explored teachers' perceptions of the integration of smart classrooms with special reference to the availability of resources, student participation, pedagogical practices, and professional development training and challenges. The perspectives of in-service teachers in Odisha revealed that a smart classroom makes learning more enjoyable and has a significant impact on student participation. However, the quality of the internet, insufficient technical support, health concerns, and the digital literacy level of teachers impede the effective integration of the smart classroom.

Students' attitude toward learning English are influenced by a variety of factors, such as learning environment, teaching method, available teaching-learning material, influence of parents, community, and peer groups. Ujjal Tripura and Sashapra Chakrawarty, adopting Partial Least Squares Structural Equation Modelling (PLS-SEM) tried to study how these factors interact and determine the attitude of high school students of Assam towards English learning. Results confirmed that the teaching methods, teaching-learning materials, and peer influence greatly affect the students' attitude towards learning English positively; whereas the learning environment, parental, and community influence did not have a significant effect. Learning environment and teaching-learning materials were positive predictors of teaching methods. The teaching methods, in turn, mediated the effect of teaching-learning materials and the learning environment on students' attitudes. The findings underscore that effective pedagogy and adequate learning resources are central to enhancing students' engagement and attitudes towards English.

The NEP 2020 advocates multilingual pedagogy at the school level. English language teaching in multilingual classrooms can support equitable learning. A study by Geeta Rai and Harichandan Kar depicts the views of the learners' linguistic repertoires that reinforce monolingual ideologies and marginalise home languages due to English-only teaching practices. The authors examined how pre-service teachers navigate English language teaching in multilingual classrooms during their school experience programme. The study showed that classroom practices limit learner engagement due to a focus on rote learning. Post-lesson reflections obtained through lesson plans, reflective journals, and classroom observations from a teacher education institute revealed a growing recognition of the pedagogical value of multilingual

strategies. Hence, the study advocates for embedding multilingual and translanguaging approaches into pre-service teacher education programmes to sustain the organic pluralism of Indian classrooms.

Finally, implementing inclusive education for children with disabilities as per the NEP 2020 requires state level initiatives and action. A study was undertaken by Sneh Bansal to identify state's key functionaries' perspectives and actions taken to implement the recommendations of the NEP 2020 with reference to inclusive education of children with disabilities. The study employed a mixed-method research design to understand the awareness of the state functionaries on the educational issues and concerns, activities, and practices undertaken to facilitate inclusive education. The results revealed that the participants are aware of the educational issues and concerns of children with disabilities, initiatives taken by states to facilitate inclusive education, and gaps are being identified towards the implementation of inclusive practices. Further, findings indicate that dynamic factors, such as perception of parents, structural arrangements, and teachers' inadequate competencies, were the challenges faced by the stakeholders. Hence, there is a necessity of extensive training of the state key functionaries for the effective implementation of equitable and inclusive education with a focus on children with disabilities.

The current issue of the *IER* covers a wide spectrum of educational issues that are relevant in the country, and indicates the challenges as well as possibilities that are available. There are many more issues and concerns which need to be explored, and the journal encourages a high level of scholarship from the authors and researchers for its future issues.

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The Effect of Life Skills Training in Emotional Regulation on Reducing Aggression Among School-Aged Adolescents

A Systematic Review

Deepti Singh* and Rashmi Soni**

ABSTRACT

Aggression among school-aged adolescents poses significant challenges for academic performance, peer relationships, and psychological well-being. Emotional dysregulation has been identified as a major contributor to aggressive behaviour. This systematic review, conducted in line with PRISMA 2020 guidelines, synthesises evidence from 35 peer-reviewed studies published between 2010 and 2025. Databases including Google Scholar, PubMed, Scopus, Web of Science, ERIC, and PsycINFO were searched with inclusion criteria focusing on interventions targeting emotional regulation or coping-with-emotions life skills among adolescents aged 10–19 years. Related studies retrieved from Web of Science overlapped with other databases and did not contribute additional unique studies after data duplication. Interventions identified emotional intelligence training, mindfulness-based programmes, psychoeducation, and school-based emotional regulation curricula. Results consistently demonstrated reductions in physical, verbal, and relational aggression, with theory-driven and interactive approaches producing the strongest effects. Secondary benefits included improved academic engagement, peer acceptance, and resilience. Findings suggest that integrating structured emotional regulation programmes into school curricula represents an effective and holistic strategy for promoting adolescent well-being. Future research should examine long-term effects and cultural adaptations.

Keywords: *Adolescent Aggression, Emotional Regulation, Life Skills Training, Mindfulness, School-Based Interventions*

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Introduction

Adolescent aggression is a major health concern which affects emotional development, academic achievement, and long-term behavioural outcomes. It is associated with delinquency, adult criminal behaviour, peer rejection, mental health difficulties, and school drop outs (Castillo et al., 2013; Lin et al., 2024). Although aggression has multiple biopsychosocial determinants, emotional dysregulation is consistently identified as one of its strongest psychological predictors (Sukhodolsky et al., 2016; Mambra and Kotian, 2023). Earlier research published in the Indian Educational Review also highlights that Indian adolescents frequently adopt aggressive defence styles, reinforcing the need for emotional regulation as a critical skill (Abraham and George, 2007). Emotional regulation refers to the ability to track, evaluate, and modify emotional reactions in response to situational demands (Gross, 2015; Zhang and Zhang, 2021). Adolescents with poor emotional control display greater impulsivity, emotional outbursts, and both verbal and physical aggression (Ihdaalumam and Meiyuntariningsih, 2024). It has also documented the rising use of aggressive defence styles among Indian adolescents, reinforcing the need for emotional regulation interventions (Abraham and George, 2007). In contrast, adaptive strategies, such as cognitive reappraisal, problem-solving, and mindfulness reduce anger intensity and aggressive tendencies (Ronen and Rosenbaum, 2010; Lin et al., 2024; Whitener et al., 2025). Growing recognition of emotional regulation as a foundational life skill has led to its inclusion in school-based life skills programmes and mental health frameworks (Pedrini et al., 2022). These programmes ranging from CBT-based psychoeducation to mindfulness training and emotional intelligence curricula have shown moderate to strong effects in reducing aggression, improving self-regulation, and buffering stress-related academic and emotional difficulties (Bi et al., 2025; Mambra and Kotian, 2023; Sahi et al., 2023; Shen et al., 2024; Yuliana, 2019). Beyond behaviour management, emotional regulation skills contribute to better academic engagement, improved peer relationships, teacher-student relationships, and overall psychosocial well-being (Zyberaj, 2022; Chamizo-Nieto et al., 2021; Sahi et al., 2023; Whitener et al., 2025; Lin et al., 2024). Emotion regulation has also been shown to influence academic performance indirectly through enhanced self-efficacy and adaptive coping in secondary school students (Supervía

and Robres, 2021). Despite growing evidence, there is limited systematic synthesis explaining not only whether emotional regulation interventions reduce aggression but also how and under what conditions they achieve consistent outcomes across diverse school contexts. A consolidated understanding is crucial for guiding schools, educators, and policymakers seeking to adopt effective, evidence-based approaches. Therefore, this systematic review synthesises research from the past 15 years to evaluate:

- The effectiveness of emotional regulation life skills training in reducing aggression among school-aged adolescents.
- The specific intervention components that produce the strongest effects.
- The broader developmental outcomes associated with these programmes.

By organising the review around the central finding that emotional regulation training consistently reduces aggression across cultural and educational settings, this study highlights that emotional regulation is also linked to broader developmental outcomes, such as academic engagement, peer acceptance, and psychological well-being across diverse adolescent populations (Pekrun, 2017; Morrish et al., 2018; Ivcevic and Eggers, 2021; Hwang et al., 2024; Ho et al., 2025). Together, these findings offer actionable insights for implementing school-based programmes that promote safer, more supportive, and emotionally resilient learning environments.

Research Question

RQ1: Does emotional regulation life skills training reduce aggression among school-aged adolescents?

RQ2: What additional outcomes are associated with these interventions (for example, academic performance and peer relationships)?

Objectives

- Assess the effectiveness of emotional regulation life skills training in reducing aggression among school-aged adolescents.
- Identify the most effective emotional regulation strategies used in interventions.
- Explore the broader outcomes of these programmes, such as improvements in academic performance and peer relationships.

Methods

Review Design

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines to ensure transparency, rigour, and replicability (Page et al., 2021). The purpose was to synthesise existing evidence on the effects of emotional regulation life skills training in reducing aggression among school-aged adolescents.

Eligibility Criteria

Inclusion and exclusion criteria were developed using the PICOS framework:

Inclusion Criteria

- Population (P): School-aged adolescents (10–19 years) from any country or cultural background.
- Intervention (I): Emotional regulation or coping-with-emotions life skills training programmes, including psychoeducation, mindfulness, cognitive-behavioural therapy (CBT), social-emotional learning (SEL), and related approaches.
- Comparison (C): Control groups with no intervention, waitlist controls, or alternative interventions.
- Outcomes (O): Measures of aggression (physical, verbal and relational), anger management, or related behavioural indicators.
- Study Designs (S): Randomised controlled trials (RCTs), quasi-experimental studies, pre-post designs, and mixed-methods studies.

Exclusion Criteria

The following studies were excluded from the review:

- Studies involving pre-school children or adults, as the focus of this review is exclusively on school-aged adolescents.
- Interventions that did not directly target emotional regulation, such as general health promotion, academic tutoring, or physical activity programmes without an explicit emotional regulation component.

- Case studies, opinion pieces, editorials, conference abstracts without full text availability, and non-peer-reviewed sources, since these do not provide sufficient methodological detail or empirical evidence for systematic appraisal.

Information Sources

The search covered studies published from January 2010 to January 2025. Electronic databases searched included PubMed, PsycINFO, ERIC, Scopus, Web of Science, and Google Scholar. All databases were searched using comparable keyword strategies. Grey literature sources such as dissertations, reports, and conference proceedings were excluded in order to focus exclusively on peer-reviewed studies.

Search Strategy

The search strategy was developed based on the PICOS framework and combined keywords using Boolean operators. An example of PubMed search string was:

“emotional regulation” or “coping with emotions” or “emotional intelligence”

and “life skills training” or “social-emotional learning” or “psychoeducation”

and “aggression” or “aggressive behaviour” or “anger management”

and “adolescents” or “teenagers” or “youth” or “students”

Search strings were adapted for each database. Reference lists of all included studies and relevant reviews were manually screened to identify additional eligible studies.

Justification for Using Multiple Databases

Although several databases overlap with Scopus and Web of Science, each database was intentionally included to maximise coverage and reduce the risk of missing relevant studies. PsycINFO provides specialised access to psychological and behavioural intervention research that is often not indexed in Scopus. ERIC includes education-focused school-based programmes that may not appear in broader scientific databases. Google Scholar was included to capture difficult-to-index studies, early online publications, and articles published in regional or national journals that may not be indexed elsewhere. Studies retrieved from Web of Science largely overlapped with other databases and did

not include unique studies. Using multiple databases is consistent with PRISMA guidelines, which ensures unbiased search of studies of emotional regulation and aggression of related interventions.

Study Selection

Search results were imported into Mendeley Reference Manager and duplicates were removed. Titles and abstracts were screened by the author, followed by full text review based on the eligibility criteria. The selection process is summarised in the PRISMA flow diagram (Figure 1).

A total of 128 records were identified through database searching, including 22 from PubMed, 18 from PsycINFO, 15 from

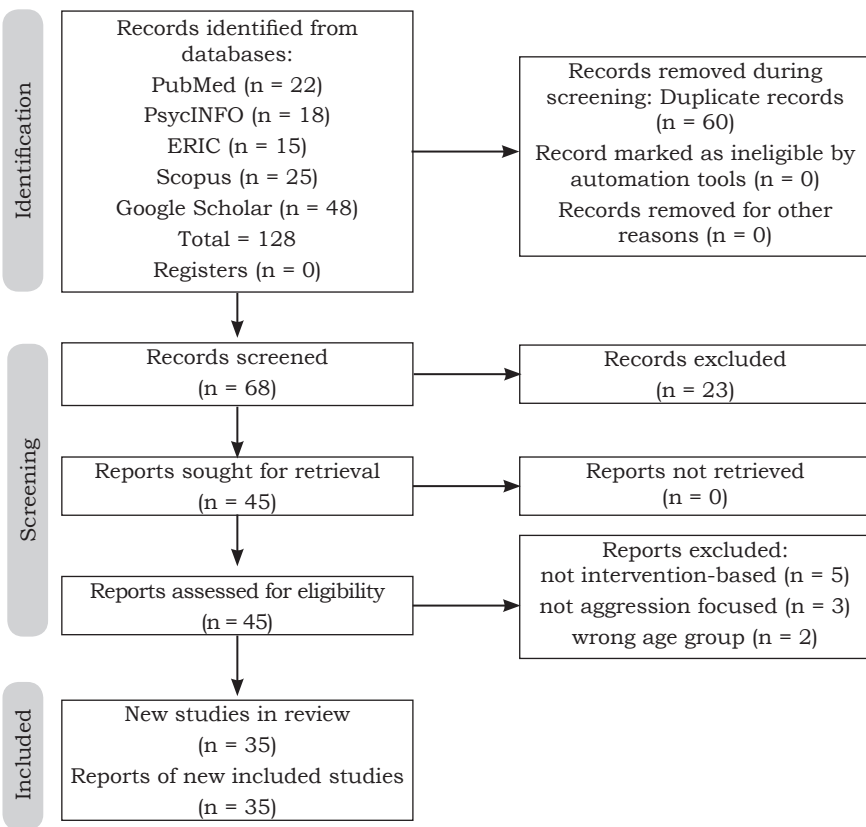


Figure 1: PRISMA 2020 flow diagram of study selection
Source: Page et al. (2021)

ERIC, 25 from Scopus, and 48 from Google Scholar. After removing duplicates, 68 records were screened, of which 23 were excluded. The remaining 45 full-text articles were assessed for eligibility, with 10 excluded due to not being intervention-based (5), not focusing on aggression (3), or targeting the wrong age group (2). Ultimately, 35 studies were included in the final qualitative synthesis.

Data Extraction

A standardised extraction form was used to collect:

- Author(s) and year
- Country and setting
- Study design and sample size
- Intervention type, duration, and delivery method
- Outcome measures

Quality Assessment

All 35 included studies were evaluated using the Joanna Briggs Institute (JBI) Critical Appraisal Tools (2020), selected according to the respective study designs (randomised controlled trials, quasi-experimental studies, and observational designs). The JBI critical appraisal tools assess key methodological domains including clarity of inclusion criteria, validity and reliability of outcome measures, identification and management of confounding factors, appropriateness of statistical analyses, intervention fidelity, and adequacy of follow-up procedures. Based on appraisal outcomes, studies were categorised as high, moderate, or low quality, and only those rated as moderate or higher were included in the final synthesis.

Of the 35 studies, 14 were rated as high quality, demonstrating strong methodological rigour such as clearly defined intervention protocols, use of validated measures for aggression and emotional regulation, adequate sample size, ethical approval, and transparent reporting of procedures. The remaining 21 studies were rated as moderate quality, primarily due to methodological limitations including absence of randomisation, lack of allocation concealment or blinding, incomplete control of confounding variables, or relatively short follow-up periods. Studies rated as low quality, were excluded during earlier stages of screening.

Data Synthesis

Given the heterogeneity in interventions, study designs, and outcome measures, a narrative synthesis approach was used. Findings are grouped by intervention type (e.g., mindfulness-based, CBT-based, psychoeducation, SEL) and aggression outcome (physical, verbal, relational). Quantitative effect sizes are reported where available and qualitative insights are integrated to provide contextual depth.

Results

Study Characteristics

Thirty five research in all, covering a variety of therapies, such as emotional intelligence training, mindfulness-based programmes, psychoeducation, cognitive-behavioural approaches, and school-based social emotional learning (SEL) curricula, satisfied the inclusion criteria for this study. Sample size ranged from fewer than 100 participants to extensive meta-analyses of thousands of teenagers, and studies were carried out in a variety of cultural and geographical contexts, including Europe, Asia, North America, and Australia.

The majority of studies targeted adolescents aged 10–19 years, with both general school populations and at-risk groups being included. Randomised Controlled Trials (RCTs), quasi-experimental designs, pre- and post-interventions, cross-sectional studies, and systematic reviews or meta-analyses were included, reflecting a broad methodological landscape. Across these designs, aggression was most frequently measured in terms of physical, verbal, and relational forms, while additional outcomes included empathy, self-control, academic engagement, and well-being.

Overall, the findings consistently demonstrated that interventions targeting emotional regulation skills were associated with measurable reductions in aggressive behaviour. Programmes with strong theoretical foundations (for example, CBT, SEL, and mindfulness) and interactive delivery methods yielded the most robust and sustainable outcomes.

To address the first research objective, this review synthesises empirical evidence on how emotional regulation life skills interventions influence aggression among school-aged adolescents. Table 1 presents a simplified, year-wise summary that focuses on the core components relevant to the research objective namely, the type of emotional regulation intervention, the specific skills

targeted, and the resulting changes in aggression. By removing bibliographic and demographic details the table provides a clear, streamlined view of how different emotional regulation approaches, such as CBT, SEL, mindfulness, and emotional awareness training consistently contribute to reduction in various forms of aggression over time. This restructured presentation allows readers to easily identify patterns of effectiveness across intervention models and developmental periods.

Findings

Objective 1: Effectiveness of emotional regulation interventions on aggression reduction

Table 1: Summary of Studies on Emotional Regulation Interventions and Aggression Reduction (Year-wise) n = 35

S. No.	Year	Intervention Type	Key Emotional Regulation Component	Aggression Outcome
1.	2010	CBT-based ER training	Cognitive reappraisal, impulse control	Significant reduction in reactive and proactive aggression
2.	2013	SEL + behavioural skills	Emotion identification, impulse regulation	Reduced verbal aggression
3.	2015	ER framework	Emotional awareness, modulation	Lower emotional reactivity resulting in reduced aggression
4.	2018	Emotional awareness training	Emotion recognition, clarity	Reduced relational and physical aggression
5.	2019	Life skills + mindfulness	Mindfulness, anger regulation	Reduced anger expression and aggression
6.	2020	Peer-based SEL	Peer emotional support, empathy	Reduced bullying and peer aggression
7.	2021	CBT anger-management	Cognitive restructuring	Reduced aggressive incidents
8.	2021	ER tasks	Impulsivity control	Lower hostility and emotional impulsivity
9.	2022	Culturally adapted SEL	Contextual ER practices	Reduced aggression, especially in high-risk youth

10.	2023	ER life skills	Self-regulation, coping	Significant reduction in overall aggression
11.	2024	Mindfulness + CBT	Mindfulness, cognitive reframing	Aggression reduction mediated by ER
12.	2025	SEL (6-month follow-up)	Emotion coaching	Sustained reduction in aggression

Interpretation

Table 1 summarises 12 representative studies from 2010 to 2025 showing a clear and consistent pattern: emotional regulation interventions whether based on CBT, SEL, mindfulness, or emotional awareness training led to measurable reductions in various forms of adolescent aggression. Across the studies, improvements were reported in reactive, proactive, verbal, physical, and relational aggression demonstrating that emotional regulation skills generalise across multiple behavioural domains. The year-wise distribution further shows increasing refinement of intervention models over time, moving from traditional cognitive-behavioural approaches to hybrid models that integrate mindfulness, peer-based learning, and culturally responsive practices. Despite variations in delivery format, duration, and theoretical orientation all interventions share a common mechanism: strengthening adolescents’ capacity to recognise, interpret, and regulate emotional experiences. This consistent pattern across diverse intervention types reinforces the main finding of the review that emotional regulation is a foundational life skill with significant potential to reduce school-based aggression when systematically taught.

Summary of Interventions

Across the 35 included studies, emotional regulation life skills interventions varied in structure, delivery, and theoretical foundations, yet they demonstrated a consistent pattern of effectiveness in reducing aggression. CBT-based programmes were particularly effective because they targeted impulsive thought patterns and taught adolescents to reinterpret emotionally triggering situations. For example, Ronen and Rosenbaum (2010), Das and Ghosh (2021), and Zhang and Zhang (2021) showed that CBT-based emotional reframing significantly improved inhibitory control, and decreased both reactive and proactive aggression. Similar benefits were observed in interventions focusing on cognitive emotion regulation strategies, where teaching adolescents to manage

maladaptive thought patterns significantly reduced aggressive tendencies, particularly among secondary school students (Parsian and Igoli, 2021). Evidence from broader school-based studies further supports that deficit in emotion regulation are strongly associated with heightened adolescent aggression, highlighting emotional regulation as a core mechanism underlying aggressive behaviour (Purwadi et al., 2020). In addition, psychoeducational interventions demonstrated comparable benefits, with structured emotional regulation training reducing anger expression, emotional dysregulation, and associated risk behaviours, particularly among at-risk adolescents (Houck et al., 2015; Iuso et al., 2022).

SEL programmes also produced substantial reductions in aggressive behaviour by embedding emotional regulation skills within cooperative learning and peer interaction frameworks. Studies such as Castillo et al. (2013), Yuliana (2019), and Yunalia and Suharto (2020) indicated that SEL improved impulse control, strengthened prosocial behaviour, and reduced peer conflict suggesting that group-based modelling enhances motivation to apply emotional regulation strategies.

Mindfulness-integrated programmes demonstrated reductions in aggression by improving attentional control and lowering physiological arousal. Shen et al. (2024), and Mambra and Kotian (2023) found that mindfulness combined with emotional skills training reduced anger and helped adolescents maintain calm during provocation, especially among students with heightened emotional reactivity.

A notable trend is that interventions with longer duration, sequenced skill-building, and active practice components (e.g., role-plays, emotional rehearsal, peer modelling) were more effective than lecture-based programmes. Castillo-Gualda et al. (2018), Zhang and Zhang (2021), and Zyberaj (2022) demonstrated that structured interventions with repeated practice led to more durable reductions in relational, verbal, and physical aggression across diverse cultural contexts.

Furthermore, programmes that involved teacher support, school-wide reinforcement, or cultural adaptation produced stronger outcomes. Indian and Southeast Asian studies (e.g., Mambra and Kotian, 2023; Yuliana, 2019) reported effectiveness when interventions aligned with local norms and real-life school challenges. These patterns suggest that emotional regulation training operates powerfully when embedded within an ecological

school-support system rather than isolated sessions. Several studies also emphasised the role of contextual and interpersonal factors, including exposure to violence, family dynamics, and peer relationships in shaping aggressive behaviour and emotional regulation outcomes among adolescents, particularly among at-risk groups, such as adolescents from disrupted family environments (Davis et al., 2020; Gong and Popescu, 2024; Liu et al., 2024; Antikaningsih and Sarajar, 2025).

These findings suggest that intervention effectiveness is not solely determined by programme content but is also influenced by the social and environmental contexts in which adolescents are embedded. A summary of intervention types and key findings is provided in Table 2.

Table 2: Summary of the Key Findings

S. No.	Intervention Type	Aggression Reduction	Key Findings
1.	Emotional intelligence training	Yes	Reduces physical or verbal aggression, anger; improves empathy
2.	Psychoeducation or therapy-based	Yes	Improves self-control, lowers aggression scores
3.	Mindfulness-based interventions	Yes	Enhances self-regulation, reduces relational and physical aggression
4.	School-based programmes (reviews)	Yes	Moderate to large effect sizes in reducing aggression

As shown in Table 2, all four categories of interventions demonstrated consistent effectiveness in reducing aggression among school-aged adolescents. While emotional intelligence training and psychoeducation or therapy-based programmes were particularly effective in enhancing empathy and self-control, mindfulness-based interventions primarily strengthened self-regulation and reduced impulsivity, thereby lowering both relational and physical aggression. School-based programmes, often combining multiple strategies, produced moderate to large effect sizes, highlighting the importance of embedding emotional regulation training within structured educational environments. Collectively, these findings suggest that interventions targeting emotional regulation are versatile, adaptable across contexts, and capable of addressing multiple forms of aggression simultaneously.

Effect Size from Meta-Analyses

Among the meta-analyses included in this review (Shen et al., 2024; Jiang et al., 2024; Pedrini et al., 2022), the pooled effect sizes for aggression reduction ranged from moderate (Hedges' $g = 0.45$) to large (Cohen's $d \approx 0.80$), depending on the intervention type and outcome measure. School-based programmes integrating emotional regulation components reported the strongest effects ($g = 0.60 - 0.70$), while mindfulness-based interventions demonstrated moderate but significant reductions in relational aggression ($g = 0.40$). These quantitative results provide empirical support that emotional regulation life skills training produces meaningful behavioural change.

Objective 2: Emotional Regulation Strategies Identified Across Interventions

Mechanisms of Change

Across the reviewed studies, several mechanisms were identified through which emotional regulation life skills training reduced aggression in school-aged adolescents.

- **Enhanced emotional regulation capacity:** A primary mechanism through which these interventions reduce aggression is by strengthening adolescents' emotional regulation capacity. Emotional regulation training helps students identify emotional cues, interpret them accurately, and apply adaptive strategies to manage intense feelings. Research indicates that improved emotional regulation is directly associated with reduced aggressive behaviour because it reduces impulsive reactions and enhances cognitive control. For example, Castillo-Gualda et al. (2018), found that adolescents who participated in emotional awareness and regulation sessions showed significant reductions in reactive aggression, mediated by improved emotional clarity. Similarly, Zhang and Zhang (2021), reported that emotional regulation skills predicted lower hostility and emotional impulsivity among Chinese adolescents. Studies grounded in CBT also demonstrate that teaching adolescents to reappraise negative thoughts reduces anger and aggressive outbursts (Ronen and Rosenbaum, 2010). These findings collectively show that as emotional regulation capacity improves adolescents become

better equipped to handle frustration, delay impulsive responses, and choose prosocial behaviours over aggression.

- Development of self-control and inhibitory control: Life skills programmes particularly those grounded in cognitive-behavioural frameworks strengthened executive functions related to self-control such as delaying gratification, resisting provocation, and making deliberate behavioural choices (Ronen and Rosenbaum, 2010; Ihdalumam and Meiyuntariningsih, 2024). Adolescents learned to pause before reacting, allowing time for constructive problem-solving.
- Increased empathy and perspective-taking: Many interventions incorporated activities designed to foster empathy by encouraging adolescents to view situations from others' perspectives. Castillo-Gualda et al. (2018), found that empathy gains were strongly correlated with reductions in relational aggression, suggesting that understanding the emotional impact of one's actions on others is a protective factor against aggressive conduct.
- Stress reduction and improved emotional resilience: Mindfulness-based and relaxation-focused programmes reduced physiological arousal during conflict situations, lowering baseline stress levels and improving resilience to provocation (Shen et al., 2024; Mambra and Kotian, 2023). This helped adolescents maintain composure in emotionally charged situations.
- Positive reinforcement and environmental support: School-based programmes often included teacher and peer reinforcement, creating an environment that supported the application of emotional regulation strategies in real-life contexts (Pedrini et al., 2022). This environmental consistency facilitated the maintenance of newly learned skills.

Contextual Factors

The effectiveness of emotional regulation life skills training was evident across a range of cultural, socio-economic, and educational contexts. The 35 studies included in this review covered diverse regions, including Asia, Europe, North America, and Africa, indicating that the core principles of emotional regulation are broadly applicable across cultures (Castillo-Gualda et al., 2018; Yuliana, 2019; Shen et al., 2024).

- Cultural adaptation and relevance: Programmes that incorporated culturally relevant examples, language, and scenarios tended to have higher engagement and stronger behavioural outcomes. For example, interventions in collectivist cultures placed a greater emphasis on group harmony and empathy, while those in individualistic cultures often highlighted self-regulation and personal responsibility (Zyberaj, 2022).
- Impact on at-risk populations: Several studies reported especially strong effects among adolescents from high-risk backgrounds, such as those experiencing family instability, exposure to violence, or economic hardship (Mambra and Kotian, 2023; Ihdalumam and Meiyuntariningsih, 2024). For these populations, emotional regulation training served as both a preventive and remedial measure, providing alternative coping strategies to aggression.
- Influence of family and home environment: Interventions were more effective when parents or guardians were indirectly engaged either through parallel parent workshops, take-home activities, or communication with teachers (Pedrini et al., 2022). In contrast, adolescents from severely neglectful or unstable home environments sometimes required longer-duration programmes to achieve lasting change.
- School climate and peer support: School environments that promoted positive peer relationships, teacher support, and consistent reinforcement of learned skills contributed to better maintenance of programme benefits. In schools with high levels of conflict or poor disciplinary systems, the impact of the intervention was often diminished unless accompanied by whole-school policy changes (Pedrini et al., 2022; Shen et al., 2024).

Objective 3: Outcomes of the Programme

Peer Relationships

Improved emotional regulation was consistently associated with healthier peer relationships and greater social acceptance across the reviewed studies. Adolescents who developed stronger self-regulation skills were able to manage interpersonal

conflicts better, express themselves constructively, and respond to provocation without resorting to aggression. Evidence also suggests that adolescents' ability to regulate emotions within peer interactions plays a critical role in social adjustment and emotional well-being (B.Q. et al., 2023). These improvements often translated into reduced incidents of bullying, exclusion, and relational aggression, while fostering more cooperative and supportive peer interactions (Castillo-Gualda et al., 2018; Ronen and Rosenbaum, 2010).

Interventions that incorporated peer components, such as group-based activities, role-playing, and peer mentoring were particularly effective. These formats allowed participants to practise emotional regulation skills in authentic social contexts, receive immediate feedback from peers, and build empathy through shared experiences. As a result, such interventions not only reduced aggressive behaviours but also enhanced adolescents' capacity for trust, empathy, and mutual respect, which are critical for sustained social integration and emotional well-being.

Broader Outcomes

Beyond reduction in aggression, many interventions yielded broader developmental benefits, indicating that emotional regulation skills contribute to a more comprehensive spectrum of adolescent well-being. These secondary outcomes are not merely incidental; rather, they help explain why reductions in aggression were sustained across diverse school contexts.

A consistent pattern across the reviewed studies is the improvement in academic functioning following emotional regulation training. Interventions that strengthened self-control, attentional regulation, and impulse management led to higher classroom participation and improved academic performance (Mambra and Kotian, 2023; Shen et al., 2024). These academic gains appear to operate as reinforcing mechanisms; as students become better regulated and less disruptive, they can focus more effectively on academic tasks, which further discourages aggressive or oppositional behaviours.

Enhancements in peer relationships were another frequently reported outcome. Programmes that incorporated empathy-building, conflict resolution, and perspective-taking consistently led to more positive social interactions (Castillo-Gualda et al., 2018; Ronen and Rosenbaum, 2010). These

improvements in social functioning may help create a protective social ecology when peer conflict decreases and acceptance increases, the need for aggressive responses diminishes, creating a positive behavioural cycle. Beyond aggression reduction, emotional regulation interventions have been associated with improved social communication, reduced aggressive online behaviour, and enhanced prosociality in both offline and digital contexts (Simão et al., 2021; Zaki et al., 2024).

Many studies also documented reductions in emotional distress, including lower anxiety, anger intensity, and stress levels, particularly in mindfulness-based and CBT-grounded interventions (Zhang and Zhang, 2021). These changes are important because emotional distress often precedes impulsive or reactive aggression. By improving adolescents' internal coping resources, interventions reduce the emotional triggers that contribute to aggressive behaviour.

Additionally, several interventions demonstrated increases in resilience and adaptive problem-solving. Programmes that emphasised coping strategies, emotional awareness, and reflective skills enabled students to handle interpersonal and academic challenges more constructively (Yunalia and Suharto, 2020). These improvements in resilience help maintain behavioural regulation even beyond the intervention period.

Finally, a subset of studies reported sustained behavioural improvements in long-term follow-ups, with reductions in aggression persisting up to six months after programme completion (Pedrini et al., 2022). Long-term maintenance was strongest in interventions where emotional regulation skills were reinforced by teachers, peers, or parents, highlighting the importance of ecological support for durable behavioural change.

Taken together, these outcomes suggest that emotional regulation interventions produce a cluster of interrelated academic, social, emotional, and behavioural benefits. This multidimensional impact strengthens the argument that emotional regulation is a foundational life skill with long-term value for adolescent development.

- Integration into school curricula: Given the consistent evidence that emotional regulation life skills reduce aggression, these programmes should be embedded within the regular school curriculum rather than delivered as isolated workshops. Embedding them within life skills

education, moral education, or health education ensures continuity and long-term reinforcement (Pedrini et al., 2022; Yuliana, 2019). Prior Indian research has similarly emphasised the need for integrating life skills education into school systems to support adolescents' socio-emotional development (Awasthi and Kumari, 2012).

- Use of theory-based frameworks: Schools and programme developers should prioritise interventions grounded in evidence-based frameworks such as cognitive-behavioural therapy (CBT), social-emotional learning (SEL), or mindfulness. These theoretical models have demonstrated the strongest and most consistent effects on self-regulation and aggression reduction (Ronen and Rosenbaum, 2010; Shen et al., 2024).
- Contextual and cultural adaptation: Interventions must be adapted to align with cultural norms, local languages, and contextual realities. Studies highlight stronger outcomes when examples, scenarios, and activities resonate with students' lived experiences (Zyberaj, 2022; Mambra and Kotian, 2023). For high-risk groups, targeted supplements, such as mentoring, parent involvement, or extended sessions, are recommended.
- Inclusion of interactive and peer-based components: Interactive methods, such as peer role-plays, cooperative tasks, storytelling, and group-based problem-solving improve engagement and foster real-life application of emotional regulation skills. Such approaches also build empathy and reduce conflict (Castillo-Gualda et al., 2018; Yunalia and Suharto, 2020).
- Whole-school implementation: The impact of emotional regulation programmes is amplified when reinforced by consistent school-wide practices. Positive behaviour reinforcement, supportive teacher-student relationships, conflict resolution policies, and a shared socio-emotional vision ensure that skills taught in classrooms extend into hallways, playgrounds, and peer interactions.
- Continuous evaluation and long-term monitoring: Schools should invest in systematic evaluation to track both short and long-term effects. While several studies demonstrated improvements lasting up to six months on

extended follow-up is necessary to understand durability and identify the conditions that sustain behavioural change (Pedrini et al., 2022; Shen et al., 2024).

Discussion

The findings of this systematic review provide strong and consistent evidence that emotional regulation life skills training is an effective strategy for reducing aggression among school-aged adolescents. Across the 35 studies conducted in varied educational, cultural, and socio-economic settings, emotional regulation interventions were associated with significant reductions in physical, verbal, and relational aggression. This pattern of results, observed across randomised controlled trials, quasi-experimental studies, and longitudinal designs, highlights that aggression in adolescence is not merely a behavioural issue but closely tied to deficits in emotional awareness, impulse control, and adaptive coping. The repeated effectiveness of these interventions across countries and contexts suggests that, the core components of emotional regulation identifying emotions, modulating emotional intensity, delaying impulsive reactions, and selecting constructive responses are universally relevant and developmentally appropriate for adolescents. These findings collectively indicate that when schools intentionally teach emotional regulation as part of their life skills curriculum, students are better equipped to manage frustration, resolve conflicts, and engage in pro-social behaviour; ultimately leading to a measurable decline in aggressive tendencies. These findings are consistent with previous evidence from the Indian context, where adolescents lacking emotional coping strategies were more likely to adopt aggressive defence styles (Abraham and George, 2007). Findings from broader systematic reviews and meta-analyses further support the effectiveness of emotion-focused and community-based interventions in reducing aggressive behaviour among children and adolescents (Jiang et al., 2024; Shen et al., 2024).

Magnitude of Effects

The meta-analytic evidence reviewed in this study further highlights the practical significance of these interventions. Reported pooled effect sizes for aggression reduction ranged from moderate (Hedges' $g = 0.45$) to large (Cohen's $d = 0.80$), depending on intervention type and measurement approach (Shen et al.,

2024; Jiang et al., 2024). School-based programmes integrating emotional regulation components tended to yield the strongest effects ($g = 0.60-0.70$), while mindfulness-based interventions demonstrated moderate but meaningful reductions, particularly in relational aggression ($g = 0.40$). These quantitative findings confirm that emotional regulation life skills training is not only statistically significant but also practically impactful in producing behavioural change.

A recurring pattern in the reviewed literature is that programmes with a strong theoretical foundation particularly those rooted in CBT, SEL, or mindfulness frameworks showed more robust and sustained effects (Ronen and Rosenbaum, 2010; Ihdalumam and Meiyuntariningsih, 2024; Shen et al., 2024). These frameworks offer structured approaches to teaching emotional skills, allowing participants to practise self-awareness, empathy, and self-regulation in a systematic manner. In contrast, programmes with less structured delivery or lacking skill application opportunities tended to yield smaller or short-lived effects (Pedrini et al., 2022; Mambra and Kotian, 2023).

Another important factor contributing to programme effectiveness was the inclusion of interactive and experiential learning components. Studies integrating role-playing, group discussions, peer feedback, and real-life scenario practice reported greater improvements in aggression reduction compared to those relying primarily on lecture-based formats (Zyberaj, 2022; Yunalia and Suharto, 2020). This supports the view that emotional regulation is best developed through active skill rehearsal in safe and supportive environments.

The school setting emerged as a particularly conducive environment for delivering emotional regulation interventions. School-based programmes benefit from structured schedules, access to large groups of adolescents, and opportunities for repeated practice and reinforcement by teachers and peers (Pedrini et al., 2022; Yuliana, 2019). Moreover, when school policies and teacher practices aligned with the intervention's goals, such as encouraging non-violent conflict resolution the programmes' effects were amplified and sustained.

Beyond aggression reduction, multiple studies documented secondary benefits. Improvements in emotional regulation skills often translated into better academic engagement, increased resilience, and enhanced peer relationships (Castillo-Gualda

et al., 2018; Shen et al., 2024; Herd and Kim-Spoon, 2021). Social skills-focused interventions targeting emotional understanding and relational competence have also shown benefits for peer interaction and behavioural adjustment among adolescents (Fatta et al., 2024). For instance, mindfulness-based programmes reduced stress reactivity, enabling students to concentrate more effectively on academic tasks (Zhang and Zhang, 2021), while empathy-focused interventions improved peer acceptance and lowered incidents of relational aggression (Ronen and Rosenbaum, 2010). These findings highlight the multi-dimensional impact of emotional regulation training, supporting its role as part of a holistic educational strategy.

Furthermore, several studies focusing on at-risk populations, including adolescents from unstable family environments or communities with high exposure to violence, found that emotional regulation interventions acted as both preventive and remedial measures (Mambra and Kotian, 2023; Ihdalumam and Meiyyuntariningsih, 2024). In these contexts, learning adaptive emotional coping strategies provided adolescents with alternatives to aggressive responses, ultimately contributing to more positive social and academic outcomes.

Importantly, the quality appraisal conducted using the JBI Critical Appraisal Tools revealed that while several systematic reviews and one randomised controlled trial provided high-quality evidence, many quasi-experimental and observational studies were rated only moderate in quality due to unclear reporting of randomisation, lack of blinding, or insufficient control for confounding variables. This indicates that although the overall evidence strongly favours the effectiveness of emotional regulation interventions, some caution is warranted in interpreting results from lower-rigour designs.

Another limitation observed was the short duration of the follow-up in most interventions, which makes it difficult to ascertain the long-term sustainability of aggression reduction effects. Very few studies incorporated longitudinal follow-up beyond one academic year. Additionally, cultural adaptation was often limited, with many interventions developed in Western contexts being applied in non-western settings without substantial modification, which may affect relevance and effectiveness.

Taken together, the convergence of evidence supports the integration of structured, theory-based, and contextually adapted

emotional regulation programmes into adolescent education. The consistent positive outcomes, coupled with added benefits in social and academic domains, position these interventions as an essential component of whole-school approaches to well-being and behaviour management. Future research should aim to strengthen methodological rigour by employing randomised controlled designs, transparent reporting of intervention fidelity, and culturally tailored adaptations. Longitudinal studies are also needed to assess whether the reductions in aggression and improvements in emotional skills persist into late adolescence and early adulthood.

Limitations

This review has several limitations. First, although 35 studies were included, many were quasi-experimental or observational and rated as moderate in quality using the JBI appraisal tool. The absence of methodological features such as randomisation, allocation concealment, or blinding may introduce bias. Second, most interventions had relatively short follow-up periods, making it difficult to assess the long-term sustainability of aggression reduction. Third, while studies were conducted across diverse cultural and socio-economic contexts, few interventions were systematically adapted for cultural relevance, which may limit generalisability.

Another important limitation concerns publication bias. Only peer-reviewed journal articles were included and grey literature (e.g., dissertations, reports, unpublished trials) was excluded.

Implications

Schools can take several practical steps to effectively integrate emotional regulation training into everyday practice:

- Embed emotional regulation in weekly curriculum: Instead of one-time sessions, schools should include emotional regulation activities within weekly life skills or health education periods. Regular exposure helps students internalise strategies and apply them during stressful or conflict-prone situations.
- Adopt structured, evidence-based programmes: Schools should choose or develop interventions grounded in proven frameworks (CBT, SEL, mindfulness). Structured curricula make it easier for teachers to deliver content consistently and for students to build skills progressively.

- Train teachers to model and reinforce emotional skills: Teacher behaviour strongly influences student behaviour. Professional development sessions can equip teachers with emotional vocabulary, conflict de-escalation techniques, and reflective practices that they can model throughout the school day.
- Use interactive and experiential learning methods: Role-plays, scenario-based activities, reflective journaling, and peer dialogues help students practise emotional regulation in authentic social contexts. Interactive methods were among the strongest predictors of aggression reduction across reviewed studies.
- Implement a whole-school climate approach: School climate plays a central role in sustaining behavioural change. Consistent behaviour expectations, positive reinforcement systems, and emotionally supportive interactions across all staff members increase the likelihood of long-term impact.
- Engage parents as partners: Although school programmes alone are effective, outcomes strengthen when parents reinforce skills at home. Brief parent meetings, home-based activities, or informational handouts can extend emotional regulation practices beyond school walls.

By systematically embedding emotional regulation training into school systems, educators can address not only the emotional roots of aggression but also promote broader developmental competencies that support academic engagement, peer harmony, and long-term psychosocial resilience.

Conclusion

This systematic review demonstrates that emotional regulation life skills training is a robust and evidence-based approach for reducing aggression among school-aged adolescents. Across the 35 studies conducted in diverse cultural and educational contexts, emotional regulation interventions consistently led to meaningful decreases in physical, verbal, and relational aggression. These findings indicate that aggression is not an inherent trait but a behaviour shaped by adolescents' capacity to understand, manage, and express emotions effectively.

Beyond aggression reduction, emotional regulation training produced wide-ranging developmental benefits including improvements in academic engagement, empathy, self-control, peer relationships, and overall emotional well-being. These secondary gains reinforce the argument that emotional regulation is a foundational life skill that supports both behavioural and academic success.

The review further highlights that programmes rooted in CBT, SEL, and mindfulness frameworks yield the strongest and most sustainable outcomes, especially when delivered through interactive, experiential methods and supported by a positive school climate. These findings underscore the importance of adopting structured, theory-driven intervention models rather than ad-hoc or lecture-based approaches.

REFERENCES

- Abraham, M., & George, R. (2007). Turning against object: The aggressive defence style adopted by Adolescents. *Indian Educational Review*. 43(2), 48–55. <https://ejournals.ncert.gov.in/index.php/ier/article/view/1709>
- Antikaningsih, Y., & Sarajar, D. (2025). Adolescents from broken homes: The role of emotional regulation in reducing aggressive tendencies. *Jurnal Bimbingan dan Konseling Terapan*. 9(1). <https://doi.org/10.30598/bkt.v9i1.17112>
- Awasthi, S., & Kumari, C. (2012). The need for life skills among adolescents. *Indian Educational Review*. 50(1), 92–103. <https://ejournals.ncert.gov.in/index.php/ier/article/view/2471>
- Bi, X., Yu, Y., Sun, X., Wu, J., Wang, X., & Zhang, L. (2025). Does stress help or harm? The mediating role of cognitive emotion regulation strategies in the relationship between stress, adolescent academic performance, and depression. *Journal of Adolescence*. <https://doi.org/10.1002/jad.12497>
- B.Q., McKone, K., Hamilton, J., Stone, L., Ladouceur, C., & Silk, J. (2023). The link between adolescent girls' interpersonal emotion regulation with parents and peers and depressive symptoms: A real-time investigation. *Development and Psychopathology*. 1–15. <https://doi.org/10.1017/S0954579423001359>
- Castillo, R., Salguero, J., Fernández-Berrocal, P., & Balluerka, N. (2013). Effects of an emotional intelligence intervention on aggression and empathy among adolescents. *Journal of Adolescence*. 36(5), 883–892. <https://doi.org/10.1016/j.adolescence.2013.07.001>

- Castillo-Gualda, R., Cabello, R., Herrero, M., Rodríguez-Carvajal, R., & Fernández-Berrocal, P. (2018). A three-year emotional intelligence intervention to reduce adolescent aggression: The mediating role of unpleasant affectivity. *Journal of Research on Adolescence*. 28(1), 186–198. <https://doi.org/10.1111/jora.12325>
- Chamizo-Nieto, M., Arrivillaga, C., Rey, L., & Extremera, N. (2021). The role of emotional intelligence, the teacher-student relationship, and flourishing on academic performance in adolescents: A moderated mediation study. *Frontiers in Psychology*. 12. <https://doi.org/10.3389/fpsyg.2021.695067>
- Das, J., & Ghosh, S. (2021). A pilot study to find the effectiveness of social-emotional learning intervention on aggression and empathy among adolescents. *International Journal of Scientific Research*. <https://doi.org/10.36106/ijar/3120631>
- Davis, K., Neilson, E., Kirwan, M., Eldridge, N., George, W., & Stappenbeck, C. (2020). Alcohol-involved sexual aggression: Emotion regulation as a mechanism of behavior change. *Health Psychology. Advance Online Publication*. <https://doi.org/10.1037/hea0001048>
- Fatta, L., Laugeson, E., Bianchi, D., Laghi, F., & Scattoni, M. (2024). Program for the Education and Enrichment of Relational Skills (PEERS®) for Italy: A randomized controlled trial of a social skills intervention for autistic adolescents. *Journal of Autism and Developmental Disorders*. 55(1), 202–220. <https://doi.org/10.1007/s10803-023-06211-3>
- Gong, J., & Popescu, A. (2024). Predicting aggressive behavior from exposure to violence and emotion dysregulation in adolescents. *Journal of Adolescent and Youth Psychological Studies*. <https://doi.org/10.61838/kman.jayps.5.7.18>
- Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*. 26(1), 1–26. <https://doi.org/10.1080/1047840X.2014.940781>
- Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and open synthesis. *Campbell Systematic Reviews*. 18. e1230. <https://doi.org/10.1002/cl2.1230>
- Herd, T., and Kim-Spoon, J. (2021). A systematic review of the associations between peer relationships and emotion regulation in adolescence. *Developmental Review*. 61. 100983. <https://doi.org/10.1016/j.dr.2021.100983>
- Ho, E., Joormann, J., Kober, H., & Gadassi-Polack, R. (2025). Social reorientation of emotion regulation: Changing roles of family and peers during adolescence. *Emotion*. <https://doi.org/10.1037/emo0001500>

- Houck, C., Hadley, W., Barker, D., Brown, L., Hancock, E., & Almy, B. (2015). An emotion regulation intervention to reduce risk behaviors among at-risk early adolescents. *Prevention Science*. 17(1), 71–82. <https://doi.org/10.1007/s11121-015-0597-0>
- Hwang, S., Kieffer, M., & Cappella, E. (2024). The role of supportive relationships in academic performance and personal wellbeing: Results from a U.S. national sample of early adolescents. *Journal of Applied Developmental Psychology*. <https://doi.org/10.1016/j.appdev.2024.101721>
- Ihdalumam, A., & Meiyuntariningsih, T. (2024). Psychoeducation on emotion regulation as an effort to prevent aggressiveness in adolescents at State Junior High School “X”. *Journal of Arts, Humanities and Social Science*. <https://doi.org/10.69739/jahss.v1i3.201>
- Iuso, S., Severo, M., Ventriglio, A., Bellomo, A., Limone, P., & Petito, A. (2022). Psychoeducation reduces alexithymia and modulates anger expression in a school setting. *Children*. 9(9), 1418. <https://doi.org/10.3390/children9091418>
- Ivcevic, Z., & Eggers, C. (2021). Emotion regulation ability: Test performance and observer reports in predicting relationship, achievement and well-being outcomes in adolescents. *International Journal of Environmental Research and Public Health*. 18(6), 3204. <https://doi.org/10.3390/ijerph18063204>
- Jiang, S., Chen, Y., & Wang, L. (2024). Effectiveness of community-based programmes on aggressive behavior among children and adolescents: A systematic review and meta-analysis. *Trauma, Violence, and Abuse*. 25(8). 2845–2861. <https://doi.org/10.1177/15248380241227986>
- Joanna Briggs Institute. 2020. Critical appraisal tools. <https://jbi.global/critical-appraisal-tools>
- Lin, S., Cheng, G., Sun, S., Feng, M., & Bai, X. (2024). Emotional regulation of displaced aggression in provocative situations among junior high school students. *Behavioral Sciences*. 14(6), 500. <https://doi.org/10.3390/bs14060500>
- Liu, Y., Chai, X., Sang, B., & Zhang, S. (2024). Differences in the effect of adolescents’ strategies for expressing academic emotions on academic emotions and peer acceptance in competitive and cooperative situations. *Frontiers in Psychology*. 15. <https://doi.org/10.3389/fpsyg.2024.1407885>
- Mambra, A., & Kotian, S. (2023). A systematic review of intervention to reduce the aggressive behaviour among higher secondary students. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4118815>
- Morrish, L., Rickard, N., Chin, T., & Vella-Brodrick, D. (2018). Emotion regulation in adolescent well-being and positive education. *Journal of Happiness Studies*. 19(5), 1543–1564. <https://doi.org/10.1007/S10902-017-9881-Y>

- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *British Medical Journal*. 372. <https://doi.org/10.1136/bmj.n71>
- Parsian, M., & Igoli, S. (2021). The effectiveness of teaching cognitive emotion regulation strategies and perfectionism on reducing aggression in high school adolescent girls in Tehran. *Journal of Psychology & Psychotherapy*. 11. 404.
- Pedrini, L., Meloni, S., Lanfredi, M., & Rossi, R. (2022). School-based interventions to improve emotional regulation skills in adolescent students: A systematic review. *Journal of Adolescence*. <https://doi.org/10.1002/jad.12090>
- Pekrun, R. (2017). Emotion and achievement during adolescence. *Child Development Perspectives*. 11(4), 215–221. <https://doi.org/10.1111/cdep.12237>
- Purwadi, P., Alhadi, S., Supriyanto, A., Saputra, W., Muyana, S., & Wahyudi, A. (2020). Aggression among adolescents: The role of emotion regulation. *HUMANITAS: Indonesian Psychological Journal*. 17(2), 142–154. <https://doi.org/10.26555/humanitas.v17i2.7719>
- Ronen, T., and Rosenbaum, M. (2010). Developing learned resourcefulness in adolescents to help them reduce their aggressive behavior: Preliminary findings. *Research on Social Work Practice*. 20(4), 410–426. <https://doi.org/10.1177/1049731509331875>
- Sahi, R., Eisenberger, N., & Silvers, J. (2023). Peer facilitation of emotion regulation in adolescence. *Developmental Cognitive Neuroscience*. 62. 101262. <https://doi.org/10.1016/j.dcn.2023.101262>
- Shen, L., Jiang, S., & Tan, S. (2024). The effectiveness of school-based programs on aggressive behaviors among children and adolescents: A systematic review and meta-analysis. *Research on Social Work Practice*. 35(2), 149–169. <https://doi.org/10.1177/10497315241227147>
- Simão, A., Ferreira, P., Pereira, N., Oliveira, S., Paulino, P., Rosa, H., Ribeiro, R., Coheur, L., Carvalho, J., & Trancoso, I. (2021). Prosociality in cyberspace: Developing emotion and behavioral regulation to decrease aggressive communication. *Cognitive Computation*. 13(3), 736–750. <https://doi.org/10.1007/s12559-021-09852-7>
- Sukhodolsky, D. G., Smith, S. D., McCauley, S. A., Ibrahim, K., & Piasecka, J. B. (2016). Behavioral interventions for anger, irritability, and aggression in children and adolescents. *Journal of Child and Adolescent Psychopharmacology*. 26(1), 58–64. <https://doi.org/10.1089/cap.2015.0120>
- Supervia, P., & Robres, A. (2021). Emotional regulation and academic performance in the academic context: The mediating role of self-efficacy in secondary education students. *International Journal of Environmental Research and Public Health*. 18(11), 5715. <https://doi.org/10.3390/ijerph18115715>

- Whitener, M., Khazvand, S., & Zapolski, T. C. (2025). Acceptability and efficacy of an adapted school-based dialectical behavioral therapy skills group for adolescents: A qualitative perspective. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 62, 14279. <https://doi.org/10.1177/004695802513>
- Yuliana, Y. (2019). Emotion regulation in enhancing adolescents' academic performance. *International Journal of Theory and Application in Elementary and Secondary School Education*. 1(1), 44–52. <https://doi.org/10.31098/ijtaese.v1i1.23>
- Yunalia, E., & Suharto, I. (2020). Reduction of aggressive behavior levels in adolescent adolescents with emotional regulation therapy. *Jurnal Kesehatan Jiwa*. 8(3), 361–368. <https://doi.org/10.26714/JKJ.8.3.2020.361-368>
- Zaki, A., Ismail, N., & Arshat, Z. (2024). The relationship between emotion regulation and relational aggression: A systematic literature review. *International Journal of Academic Research in Business and Social Sciences*. 14(10). <https://doi.org/10.6007/ijarbss/v14-i10/23318>
- Zhang, A., & Zhang, Q. (2021). How could mindfulness-based intervention reduce aggression in adolescent? Mindfulness, emotion dysregulation and self-control as mediators. *Current Psychology*. 42(26), 4483–4497. <https://doi.org/10.1007/s12144-021-01778-5>
- Zyberaj, J. (2022). Investigating the relationship between emotion regulation strategies and self-efficacy beliefs among adolescents: Implications for academic achievement. *Psychology in the Schools*. 59(8), 1573–1589. <https://doi.org/10.1002/pits.22701>

Smart Classroom Integration in Schools

Perspectives of In-Service Teachers in Odisha

Kunu Nayak* and Pinkal Chaudhari**

ABSTRACT

The study aimed to explore teachers' perceptions of integrating smart classrooms, with special reference to the availability of resources, student participation, pedagogical practices, professional development training, and the problems and challenges encountered. An explanatory sequential mixed-method design was employed for data collection, and the data were analysed using percentage analysis, t-test, and ANOVA. The results revealed that a high majority of the teachers perceived that a smart classroom makes learning more enjoyable and has a significant impact on student participation. Research findings have shown that implementing a smart classroom has enhanced the teaching performance of secondary school teachers in Odisha. However, several obstacles, including technical issues, digital illiteracy, insufficient technical support, and health concerns, hinder the effective integration of the smart classroom. The NEP 2020 emphasises that technology can significantly improve educational processes and outcomes. Nonetheless, these challenges must be addressed at the appropriate level to fully harness the potential of technology in the classroom.

Keywords: Smart Classroom, Student Participation, Pedagogical Practices, Professional Development Training

Introduction

As the expectations of modern students continue to grow, the integration of technology into educational environments has

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increased significantly. Techno-savvy learners now consider smart classrooms as essential. Various national and international commitments, including the National Education Policy 2020, acknowledge the significance of utilising technological infusion in the teaching-learning process. A smart classroom is outfitted with cutting-edge technology, enhancing its effectiveness and making it more engaging for students. Smart classroom settings offer students more educational opportunities and learning experiences than the traditional classrooms (Macleod et al., 2018). Moreover, when Information and Communication Technology (ICT) based tools are utilised in a creative and meaningful manner within the smart classroom, they enhance learning by promoting student participation, and bridging the gaps between learners and their needs. In general, smart classrooms boost teachers' efficiency and productivity by presenting complex and abstract curriculum topics, fostering engaging learning environments for students, and improving academic performance levels. They also enable formative assessment for learning, resulting in teachers assessing and appraising students during teaching-learning (Noor-ul-amin, 2016). Students find it easier to learn when innovative knowledge construction methods are employed using appropriate tools and technologies. Integrating smart classrooms into educational settings presents a wealth of opportunities, creates a nurturing learning environment, and motivates students to strive for excellence in their studies.

Smart Classroom in Odisha

In 2021, the Odisha Government, as part of the 'Mo School Abhiyan', launched a unique initiative under the 5T framework—Teamwork, Transparency, Technology, Time limit, and Transformation—called the 5T High School Transformation Programme. The programme's objectives include (i) advancing classroom teaching by integrating more technology, moving beyond traditional chalk and board methods, and (ii) fostering an engaging learning atmosphere by aligning with student interests. Schools participating in the programme are outfitted with smart classrooms and other modern facilities. Every school should have at least two smart classrooms furnished with televisions, laptops, screens, projectors, high-speed internet, and audio systems among other facilities. Beyond infrastructural improvements, it also focuses on enhancing teachers' skills and encouraging a sense of ownership among teachers.

Although smart classrooms offer several benefits, previous research has shown that teachers are not particularly eager to adopt ICT-based educational tools. Teachers have struggled to use smart classes effectively because of a range of issues, such as technological challenges, limited time, and inadequate training. Thus, examining teachers' teaching methods, training, and obstacles are essential for enhancing their use of smart classrooms. There is a dearth of research on teachers' perspectives on the adoption of smart classrooms, particularly in secondary schools in Odisha. Investigating this area is reasonable, given that the Odisha government is in the process of introducing smart classes in all government and government-aided schools in the region.

Review of Related Literature

Studies Related to Smart Classroom and School Education

Few studies have examined the effectiveness of smart classrooms in India. A few noteworthy studies are highlighted here. Sharma and Masih (2023) found that digital smart boards in Delhi's government schools enhanced student understanding through novel teaching methods. Bala et al. (2017) compared traditional lecture-based teaching with smart classroom teaching for science students in upper primary school. The results showed a notable difference in the students' learning outcomes between these methods. Anju and Sharma (2016) investigated the effectiveness of Educomp smart classrooms in mathematics learning among elementary students in Haryana. Students taught using Educomp showed higher math scores than those taught using traditional teaching. Tageja and Sood (2014) studied how smart classroom teaching affects high school students' achievement and creativity in commerce. The study showed that interactive whiteboards enhance student performance, integrate ICTs into the learning process, and create new learning opportunities. At the global level, researchers have reviewed studies, such as Hendawi and Nosair (2020), which showed that students using interactive smartboards in social studies instruction in Qatar demonstrated improved abilities in recalling and applying knowledge. In a study by Al-Majali et al. (2016), the effectiveness of using smartboards for teaching social studies in Jordan's public schools was assessed and it was found that this teaching approach was indeed successful. Phoong et al. (2019) also found that smart classrooms in higher

education significantly improved students' academic performance compared to traditional classrooms.

Issues and Challenges in Smart Classroom

Sethy and Mohalik (2019) found that secondary schools in West Bengal had desktops and projectors in smart classrooms. However, these schools lacked laptops and interactive boards, and only half of the teachers were ICT-proficient. There is limited subject-specific software and teachers rarely use smart classrooms for instruction. Baby and Chellamani (2018) examined the implementation of smart classroom technology in secondary schools in Puducherry. They found inconsistent usage across schools, with some using it extensively and others rarely using it. According to the study, key obstacles included insufficient teacher training, hardware maintenance issues, and limited integration into daily teaching practices. Similarly Jena (2013), highlighted the key elements affecting smart classroom teaching: teacher participation, lack of self-paced learning, time demands, and inappropriate instructional methods. At the global level, Palanisamy et al. (2020) investigated the incorporation of techno-pedagogical skills into teaching and learning in smart classrooms, emphasising the benefits, challenges, and hurdles.

Turinumukiza et al. (2021), investigated how smart classroom services affect ICT capacity building in Rwandan secondary schools. The findings showed that these services improved ICT capacity in these institutions. Bdiwi et al. (2019) indicated that the teacher plays a crucial role in boosting students' motivation, engagement, and successful learning. Pourciau (2014) explored smart board implementation in middle schools and found that teachers need professional development to integrate Interactive Whiteboard (IWB) technology effectively, as they face difficulties with Smartboard use. Digital participation is essential for fostering an inclusive learning society. Schools must create enabling environments by ensuring universal, equitable, and open access to digital resources, along with their free sharing (Behera, 2021). Kolb (2019) presented the triple E framework—Engage, Enhance, and Extend—for incorporating smart classroom technologies. This model shows how technology involves students in learning, promotes a deeper understanding, and applies learning to real situations. Saini and Goel (2019) contend that the effective incorporation of

smart classroom technologies can be realised by offering intelligent content, engaging strategies, evaluation techniques, and a suitable physical setting.

The literature review revealed numerous studies on smart classrooms, with research demonstrating positive attitudes from both teachers and students. However, several challenges are associated with the absence of favourable attitudes towards the implementation of smart classrooms. There is insufficient research examining teacher implementation and student interaction with smart classroom technology, particularly in India. The trends and insights from previous research in this field serve as a valuable guide for researchers to advance this study.

Rationale of the Study

Emerging technologies such as artificial intelligence, machine learning, blockchain, smart boards, computing devices, and educational software will transform both classroom content and learning methods. These fields require comprehensive research at the technological and educational levels (Ministry of Education, 2020). The Odisha government has implemented smart classrooms in secondary schools across the state. Consequently, it is crucial to examine the application of smart classrooms in teaching and learning processes in Odisha, focusing particularly on teachers' perceptions, their technological proficiency, student engagement, and the obstacles and challenges faced in integrating smart classrooms. This makes the classroom more meaningful and effective for the learner with the help of different media. Moreover, it enhances the learning experience of students. This study adds valuable insights to the existing literature by shedding light on teachers' perceptions and use of smart classroom technology. This study was designed with specific research questions and objectives.

Research Questions

- What are secondary school teachers' views on the adoption of smart classrooms in their schools?
- What challenges and barriers do high school teachers encounter when integrating smart classroom technology?

Research Objectives

The study has the following objectives:

- To examine teachers' views on smart classrooms; focusing on resources, student engagement, teaching methods, and professional development.
- To study the impact of gender, educational stream, and teaching experience on smart classroom integration.
- To identify the obstacles secondary school teachers face when incorporating smart classrooms.

In this study, a thorough analysis of the identified issues is required. Consequently, the researchers adopted an explanatory sequential mixed-method approach to explore the problem from both quantitative and qualitative perspectives (Ary et al., 2010). Initially, quantitative data were collected via a questionnaire to evaluate teachers' views on the integration of smart classrooms, as they are currently using these facilities in their schools. To further explore the issues and challenges related to smart classrooms, a qualitative approach was adopted using an interview schedule.

Hypotheses of the Study

H1: There is no significant difference between male and female teachers' views on the use of smart classrooms.

H2: There is no significant difference in arts and science teachers' views on using smart classrooms.

H3: There is no significant difference in integration of smart classrooms between varying levels of teaching experience—low (0–2 years), moderate (2–5 years), and high (over 5 years).

Operational Definition of Key Term

Smart Classroom: Smart classroom refers to a technologically sophisticated classroom incorporating multimedia components as part of the Odisha State Government's 5T High School Transformation Programme. These classrooms are equipped with smart boards, computers, audio systems, learning management systems, and other tools. Each room has laptops, projectors, screens or TVs, internet access, and sound systems.

Methods

Population and Sample

Government secondary school teachers in Odisha comprised the study population. Using convenience sampling, the researchers selected 45 and 10 high school teachers for quantitative and qualitative data collection during 2023–2024. Two districts, Puri and Jagatsinghpur, were selected for the sample collection. For the quantitative data, 23 teachers were chosen from Puri district comprising 10 males and 13 females, and 22 teachers from Jagatsinghpur, with an equal distribution of 11 males and 11 females. Subsequently, 10 individuals were selected for further analysis, including 3 males and 2 females from Puri district and 2 males and 3 females from Jagatsinghpur.

Data Collection Tools

The study consisted of a self-developed perception scale for quantitative data. The perception scale is a five-point Likert-type scale ranging from Strongly Agree (SA) to Strongly Disagree (SD), containing 30 items to assess teachers' views on smart classroom integration across five categories: (a) resource availability, (b) student engagement, (c) teaching methods, (d) professional development training, and (e) issues and challenges. The interview schedule, comprising 10 questions, provided detailed explanations of dimension-specific data from the quantitative phase. The researchers followed the ethical guidelines throughout the study.

Data Analysis Techniques

For quantitative data analysis, the researchers used percentages, independent t-tests, and ANOVA (Garrett, 2005), whereas thematic analysis was used for qualitative data analysis (Ary et al., 2010).

Results of the Study

The results are presented in two major sections: quantitative and qualitative.

Quantitative Data Analysis

The data were thoroughly analysed using statistical methods aligned with the research questions and objectives. The results

are presented graphically with interpretations. The outcomes were categorised into descriptive and inferential analyses.

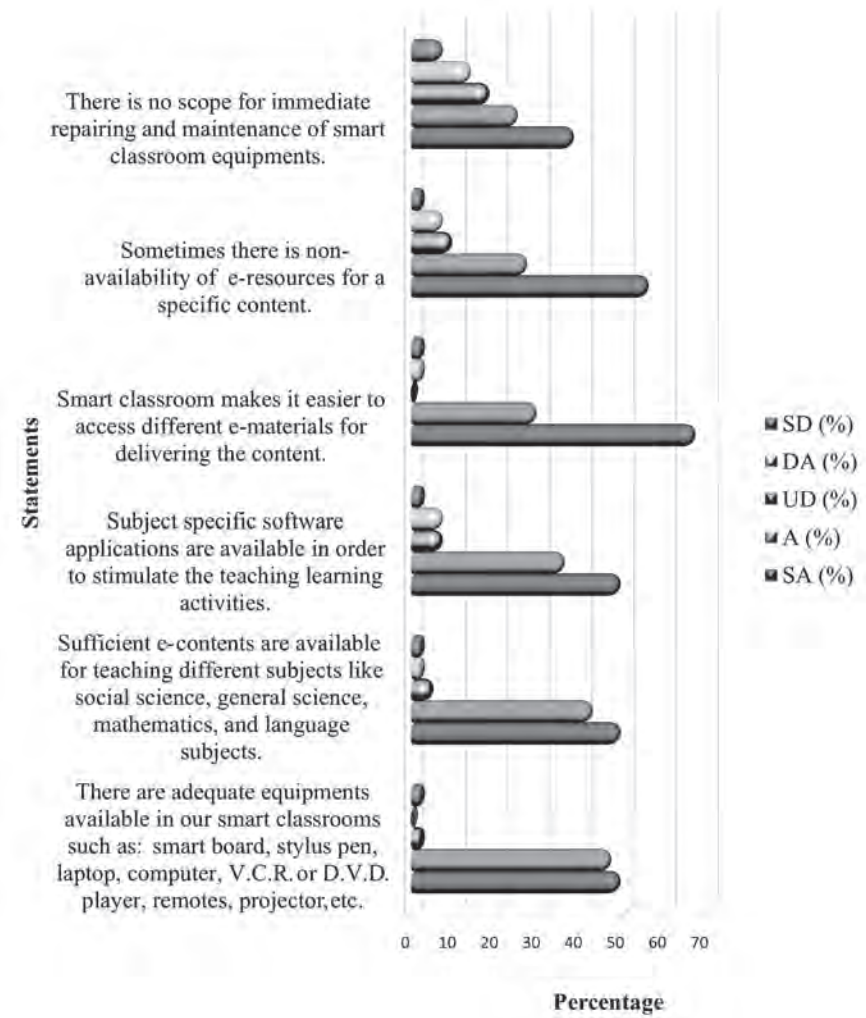


Figure 1: Perception of teachers: Availability of resources in smart classroom

Figure 1 illustrates the availability of resources in the smart classrooms. A total of 95.56 per cent (SA + A) of teachers reported that sufficient equipment is available in smart classrooms, viz., smart boards, laptops, computers, VCR or DVD players, and

projectors. Smart classrooms provide easier access to electronic materials for content delivery and learning. Government schools in Odisha are well-equipped with smart classroom tools and subject-specific software, although the occasional absence of e-resources remains a concern.

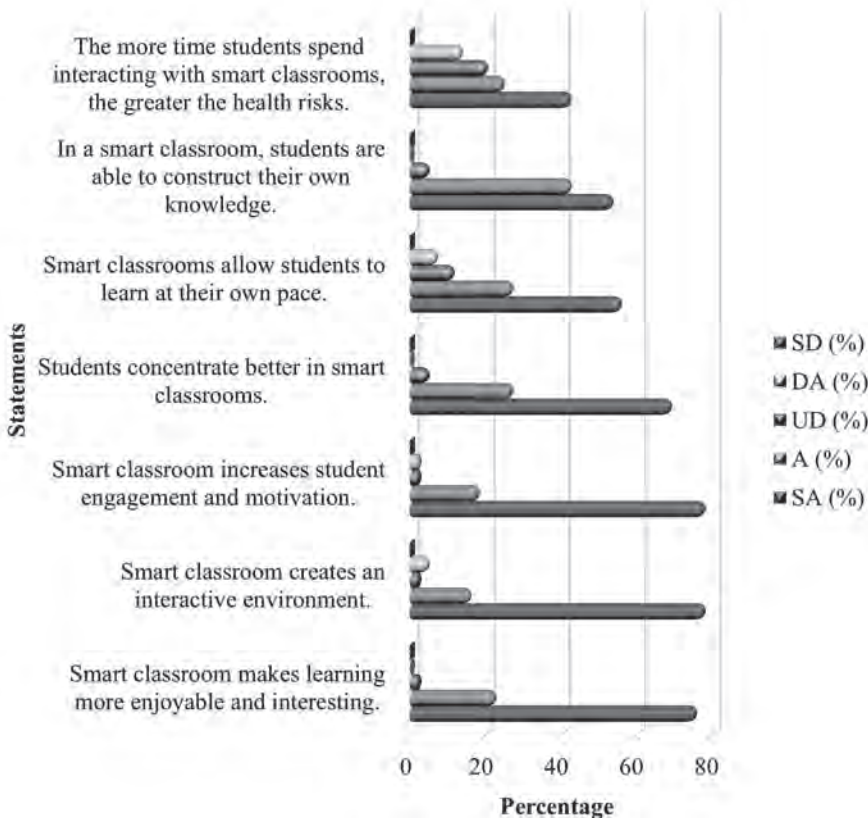


Figure 2: Teachers' perceptions: Smart classroom integration and its impact on participation

Figure 2 shows that 97.78 per cent (SA + A) of teachers perceive smart classrooms to boost students' interest in learning. Additionally, 95.56 per cent (SA + A) of teachers noted increased student participation, motivation, and knowledge-building capacity, along with improved concentration. Therefore, smart classrooms significantly improve student engagement.

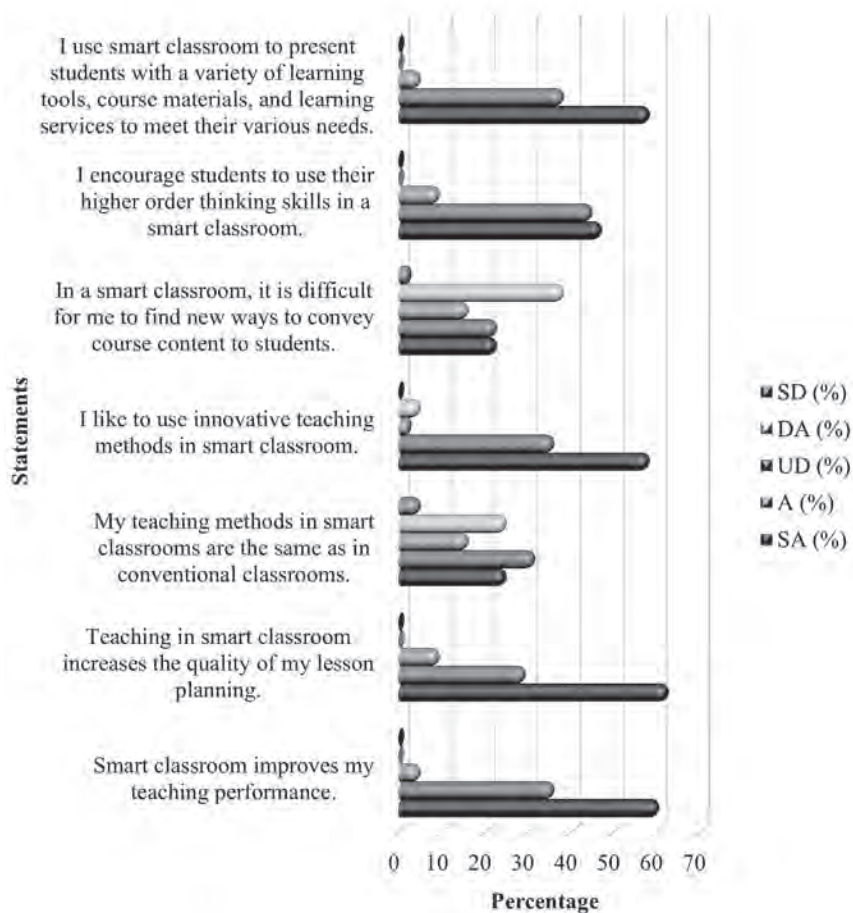


Figure 3: Teachers' perceptions: Pedagogical practices in smart classroom

According to Figure 3, 95.56 per cent (SA + A) of teachers believe smart classrooms enhance teaching effectiveness. They use smart classrooms to provide students with learning tools and materials tailored to their needs. The adoption of smart classrooms improves teaching performance and affects lesson quality. When asked about teaching methods, 55.55 per cent (SA + A) of teachers indicated their methods remained similar to traditional classrooms,

suggesting that despite interest in new approaches, teachers face obstacles in acquiring new teaching methods.

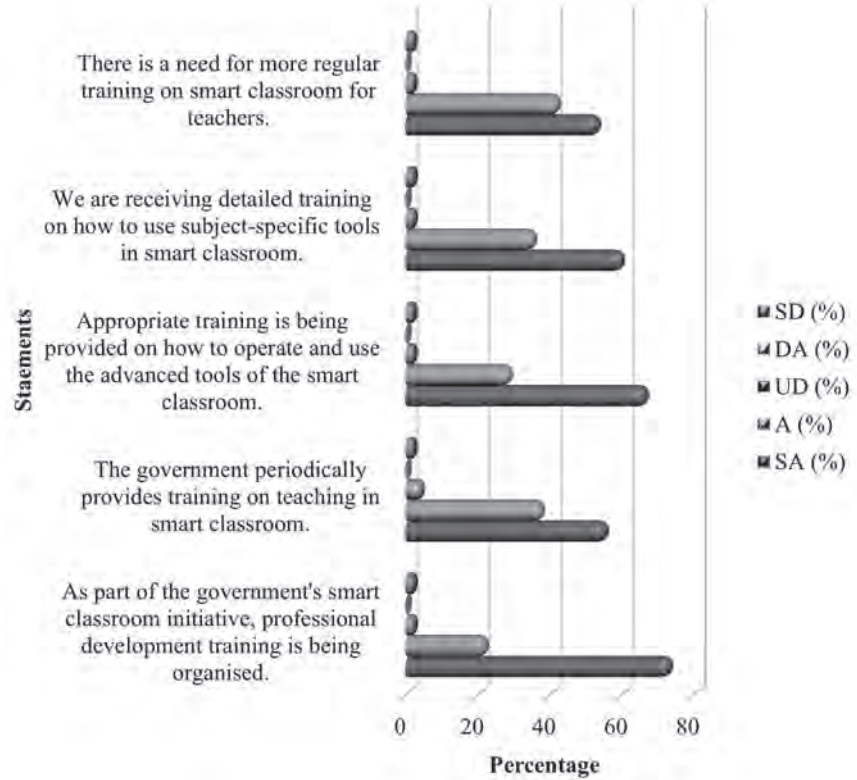


Figure 4: Teachers' perception of professional development training

As indicated in Figure 4, teachers said that professional development sessions were being organised for the smart classroom initiative. These sessions covered the operation of advanced tools and subject-specific applications in smart classrooms. The results also showed that teachers occasionally participated in professional development involving smart classroom tools. However, many teachers highlighted the need for additional training to effectively use smart classrooms, focusing on integrating technologies that align with the subject matter, teaching methods, and student needs.

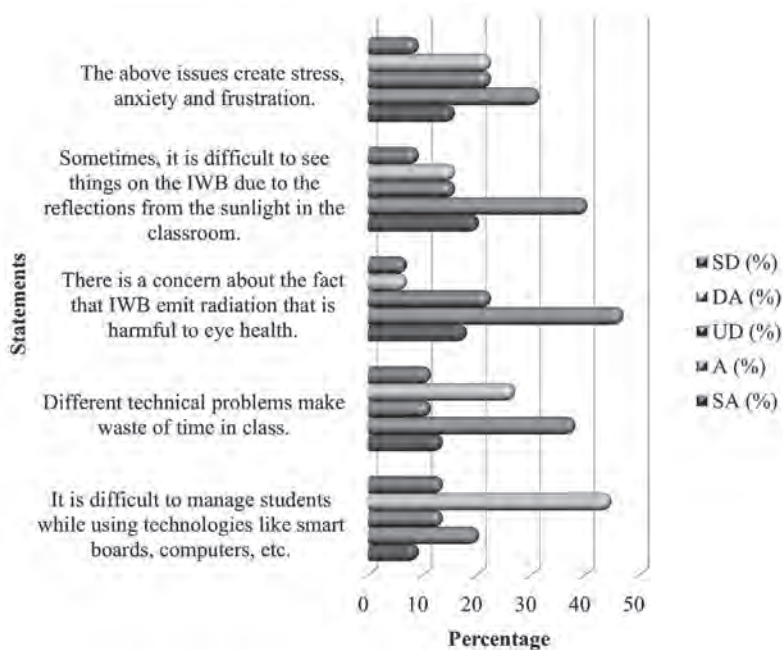


Figure 5: Teachers’ perception: Problems and challenges in integrating smart classroom

Figure 5 presents the difficulties teachers face when incorporating smart classrooms. Participants highlighted the factors that impede the successful adoption of smart classes. Major challenges include technical issues, such as software glitches, slow internet, and hardware malfunctions. Health concerns include eye problems from prolonged screen exposure and long classes, which cause headaches, dry eyes, and vision issues. The reflection of sunlight on display screens poses another challenge due to the classroom infrastructure.

Statistical Analysis

Table 1: Male and Female Teachers’ Views on the Use of Smart Classroom

Gender	N	Mean	SD	SE	p-value
Male	21	121.33	12.93	2.82	0.990
Female	24	121.29	9.24	1.89	

As shown in Table 1, the p-value was 0.990, which exceeded the 0.05 significance threshold. This demonstrates no significant difference between the male and female teachers' perceptions of smart classrooms. Therefore, the null hypothesis (H1) states that there is no significant difference between the male and female teachers' views on the use of smart classrooms, and is upheld.

Table 2: Arts and Science Teachers' Views on Using Smart Classrooms

Stream	N	Mean	SD	SE	p-value
Arts	28	122.96	11.88	2.24	0.198
Science	17	118.59	9.00	2.18	

According to Table 2, the p-value of 0.198 exceeds the 0.05 significance level. This shows no notable difference in how arts and science teachers perceive smart classrooms. The null hypothesis (H2) states that there is no significant difference in arts and science teachers' views on using smart classrooms, and is upheld. The views of arts and science teachers were almost identical.

Teachers' perceptions of the integration of smart classrooms in relation to teaching experiences

To determine the difference between low (0–2 years), moderate (2–5 years), and high (above 5 years) experienced teachers' perception towards smart classrooms one-way ANOVA was used. The details of the analysis and its interpretation are provided in Table 3.

Table 3: Integration of Smart Classrooms Between Varying Levels of Teaching Experience

Teaching Experience	Sources	Df	Sum of Square	Mean Square	F-ratio	p-value
Low (0–2 years)	Between Groups	2	160.434	80.217	0.655	0.525
Medium (2–5 years)						
High (above 5 years)	Within Groups	42	5147.210	122.553		
Total		44	5307.644			

Table 3 shows that the p-value of 0.525 exceeds the 0.05 significance level, indicating no statistical significance. The null hypothesis (H3) states there is no difference in views of teachers with low (0–2 years), moderate (2–5 years), and high (over 5 years) experience regarding smart classroom adoption. The results

show that teachers' perceptions remain consistent across these experience levels.

Qualitative Data Analysis

Employing thematic analysis, the researchers discerned five themes from the quantitative data: (a) resources in smart classrooms, (b) teacher-student involvement, (c) teaching methods, (d) obstacles in smart classroom implementation, and (e) ICT training for smart classroom integration.

Resources in Smart Classroom

The interview data revealed that smart boards, stylus pens, speakers, and educational apps were available in the smart classroom. However, participants noted auditory issues with the smart board's built-in speaker due to the lack of external speakers. Aveti, the learning application, provides digital content for Grades 8–10, including videos, audio, and images. Teachers reported that the Odisha School Education Programme Authority (OSEPA) initially supplied e-resources on a Hard Disk Drive (HDD), which they duplicated as needed. Teachers developed electronic materials for teaching using smart boards. Support teams maintained the smart classrooms and resolved reported issues, while a designated teacher oversaw each classroom.

Teacher-student Involvement

The second theme explores how smart classrooms influence teacher and student involvement in learning processes. Participants noted that smart classroom features energised teachers and learners, and that integrating subject-specific software and audio-visual content can enhance student engagement in classroom activities. Many respondents noted that the classroom setting went beyond the theoretical knowledge. Audio-visual techniques allow for the communication of complex ideas. A social science teacher showed that photographs, animations, and videos in smart classrooms can effectively teach the geography of volcanic eruptions. Similarly, a science teacher explained how video of experiments on a smartboard aid student understanding and facilitate for doing experiments in the laboratory. This method boosts teacher engagement. They used pre-installed software and resources for subjects, with some developing their own digital content.

Teaching Methods

During the interviews, the participants were questioned about their teaching techniques. Most reported that they mainly depended on lectures to complete the curriculum. Teachers primarily use smart classroom tools to clarify content rather than for interactive engagement. Some utilise smart classroom features, including audio, video, animation, and multimedia. They recognise that smart classrooms offer opportunities for interactive teaching and innovation. However, they noted that non-academic duties and extensive syllabi hindered the full adoption of smart classrooms.

Obstacles in Smart Classroom Implementation

The interview data revealed the various obstacles faced by teachers. Participants identified problems including inadequate audio systems, technical issues, digital illiteracy, poor technical support, electrical problems, network connectivity, and health concerns. Smart classrooms can reduce meaningful teacher-student interactions due to excessive reliance on technology. Both teachers and learners are becoming too dependent on digital tools, neglecting face-to-face engagement in the classroom. Additionally, respondents noted that not all secondary school teachers are equally equipped to effectively use smart classroom technologies, resulting in poor integration of teaching methods.

ICT Training for Smart Classroom Integration

Participants were asked about professional development sessions for smart classroom technology. Continuous Professional Development (CPD) is mandatory for educators and equips them with advanced smart classroom tools. The training covers hardware and software management, including the Microsoft Office Suite, Microsoft Paint, YouTube, and educational apps. The training lasted five days, with three days of theory and two days of practical training. The respondents reported improved digital skills after regular training.

Discussion

This study explored teachers' views on smart classroom integration, focusing on resources, student engagement, teaching methods, professional development, and challenges. The investigation revealed that secondary schools in Odisha have smart classrooms with sufficient resources, including interactive boards and digital content for teaching. This contrasts with Sethy and Mohalik (2019),

who showed that West Bengal secondary schools lack laptops and interactive whiteboards needed for smart classrooms. The study found that students in smart classrooms were more engaged, motivated, and better at constructing knowledge, with improved concentration. This aligns with studies showing higher student participation in smart classrooms than in traditional classrooms (Yu et al., 2022). Olori and Dosunmu (2024) also confirmed the impact of smart classrooms on enhancing student motivation and involvement. This study found that implementing smart classrooms enhances teaching effectiveness and influences high-quality lesson planning. This aligns with the findings of Blau (2011), who found that teachers facilitated student engagement through interactive smart boards. However, this contrasts with the findings of Bala et al. (2017), who indicated that traditional lectures are more effective than smart classrooms.

There were no notable differences found in the teachers' perceptions of smart classroom integration across gender, academic stream, and teaching experience. These findings align with those of Gupta (2023), who found that academic streams do not influence perceptions of barriers to smart classroom adoption. Batu (2016), noted that gender, age, and profession do not affect teachers' views, although experience level shapes perceptions. Similarly, Zhao (2006) found no significant variation in smart classroom usage based on teachers' age and gender. Some challenges, including technical difficulties, health issues, lack of technical support, digital illiteracy, and sunlight reflection, hindered smart classroom integration. These findings align with Dimitriadou and Lanitis (2023), who noted that infrastructure issues, the digital divide, inadequate training, and internet connectivity impede smart classroom implementation. Additionally Pourciau (2014), identified resource acquisition, technological issues, and insufficient professional development as barriers to smart board integration.

Implications of the Study

The results of this study have important implications for educational stakeholders, including policymakers, curriculum designers, teachers, and parents in Odisha. The study has implications towards integration of smart classrooms in school education.

- **Enhancing ICT Skills:** Government schools in Odisha have smart classroom technology with subject-specific electronic content to enhance ICT skills. However, there is inadequate integration of these resources into the subject material. Teachers must develop ICT skills and Techno-Pedagogical Content Knowledge (TPACK) to create student-focused environments and optimise technological resources in smart classrooms.
- **Enhancing Student Involvement:** Research has shown that smart classrooms encourage student engagement in discussions. Teachers should use creative strategies, such as gamified tools and personalised platforms, to address learner needs. School policies should focus on enhancing participation through the use of smart classroom technologies.
- **Mechanism for Maintenance of ICT:** This research emphasises the need for essential resources, such as smart boards, computers, audio systems, and internet access in smart classrooms. Governments and educational authorities should enhance smart classroom facilities and implement regular ICT infrastructure monitoring.
- **Continuous Professional Development (CPD):** The study emphasises improving professional development for teachers by integrating smart classroom technologies with curriculum and instruction at the in-service level. The School and Mass Education Department of Odisha should organise training sessions focused on smart classrooms and ICT to prepare teachers for effective technology integration.
- **Addressing Health-related Concerns:** Health issues have emerged from the overuse of smart classrooms and extended student exposure to technology. The Health and Education Departments must initiate awareness campaigns for students and teachers to address technology-related health problems.

Conclusion

In line with the National Education Policy (NEP) 2020 recommendations for ICT integration, smart classrooms can improve educational content delivery and student engagement. The Government of Odisha has equipped government schools

with ICT resources to create smart classrooms in the state. However, obstacles such as technical difficulties, health issues, insufficient support, and digital illiteracy impede smart classroom implementation. These challenges necessitate specialised training to utilise the capabilities of smart classrooms. Therefore, a plan is needed to enhance ICT skills and provide ICT-based CPD training for teachers.

REFERENCES

- Al-Majali, H. K., Al Abdallah, S. E., & Shamayleh, N. (2016). The effectiveness of using smartboard for teaching social studies at public schools in Jordan. *Global Science Research Journal*. 4(1), 227–233.
- Anju, P., & Sharma, H. L. (2016). Effectiveness of EDUCOMP smart classroom teaching on achievement in mathematics at elementary level. *International Journal of Applied Research*. 2(6), 683–687. Effectiveness-of-EDUCOMP-smart-classroom-teaching-on-achievement-in-mathematics-at-elementary-level.pdf
- Ary, D., Jacobs, L. C., Sorensen, C., & Razavieh, A. (2010). Introduction to research in education 8th Edition. *Wadsworth Cengage Learning*. 8(8), 1–320.
- Baby, N., & Chellamani, K. (2018). Implementation of smart classrooms among secondary schools in Puducherry Union territory. *Journal on School Educational Technology*. 14(1), 39–51. <https://doi.org/10.26634/jsch.14.1.15108>
- Bala, P., Kaur, T., & Kaur, M. (2017). Study on effectiveness of lecture and smart class method of teaching on academic achievements among upper primary school students. *International Letters of Social and Humanistic Sciences*. (76), 25–29. <https://nbn-resolving.org/urn:nbn:de:101:1-2019080113382814541645>.
- Batu, Y. (2016). *High School Teacher's Opinions and Problems Faced about Using Smart Board in Classroom: Famagusta District Sample* (Master's thesis, Eastern Mediterranean University EMU-Doğu Akdeniz Üniversitesi (DAÜ)). <http://hdl.handle.net/11129/4335>
- Bdiwi, R., de Runz, C., Faiz, S., & Ali-Cherif, A. (2019). Smart learning environment: Teacher's role in assessing classroom attention. *Research in Learning Technology*. 27. <https://doi.org/10.25304/rlt.v27.2072>
- Behera, B. (2021). Digital Inclusion in Education: Mapping and Management. *Indian Journal of Educational Technology*. 3(2), 277–289. <https://journals.ncert.gov.in/IJET/article/view/562/299>

- Blau, I. (2011). Teachers for “smart classrooms”: The extent of implementation of an interactive whiteboard-based professional development programme on elementary teachers’ instructional practices. *Interdisciplinary Journal of E-Learning and Learning Objects*. 7(1), 275–289. learntechlib.org/d/44744/
- Dimitriadou, E., & Lanitis, A. (2023). A critical evaluation, challenges, and future perspectives of using artificial intelligence and emerging technologies in smart classrooms. *Smart Learning Environments*. 10(1), 12. <https://doi.org/10.1186/s40561-023-00231-3>
- Garrett, H. E. (1926). *Statistics in Psychology and Education*. Paragon International Publishers, New Delhi.
- Gupta, A. (2023). *Implementation of Smart Class Technology at Secondary Teacher Education Level: A Study of Readiness, Adaptability, Perceptions And Training Needs Of Stakeholders* (Doctoral dissertation, Devi Ahilya Vishwavidyalaya). https://edu.dauniv.ac.in/info_files/pre-PhD-summary-Ankur-Gupta-18.05.%2023.pdf
- Hendawi, M. & Nosair, M. (2020). The efficiency of using the interactive smartboard in social studies to increase students’ achievement and tendency toward the subject matter in the state of Qatar. *International Journal of Learning, Teaching and Educational Research*. 19(3), 1–19. <https://doi.org/10.26803/ijlter.19.3.1>
- Jena, A. K. (2013). Does Smart Classroom an Effective Technology for Teaching: A Research Analysis. *Journal of Educational Technology*. 10(1), 55–64.
- Kolb, L. (2019). Smart Classroom-Tech Integration. *Educational Leadership*. 76(5). 20–26.
- MacLeod, J., Yang, H. H., Zhu, S., & Li, Y. (2018). Understanding students’ preferences toward the smart classroom learning environment: Development and validation of an instrument. *Computers & Education*. 122, 80–91. <https://doi.org/10.1016/j.compedu.2018.03.015>
- Ministry of Education. (2020). *National Education Policy 2020*. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
- Noor-ul-amin, S. (2016). *ICT Integration in Education: A Smart Concept of Teaching and Learning*. Educreation Publishing, New Delhi.
- Olori, A., & Dosunmu, M. M. (2024). Influence of Smart Classroom Environment on Students’ Interest and Active Engagement: 10.24250/jpe/1/2024/AO/MMD. *Journal Plus Education*. 35(1), 171–179. <https://www.uav.ro/jour/index.php/jpe/article/view/1973>
- Palanisamy, P., Paavizhi, K., & Saravanakumar, A. R. (2020). Techno pedagogical skills for teaching-learning process in smart class. *Talent Development & Excellence*. 12(1), 4984–4994.

- Phoong, S. Y., Phoong, S. W., Moghavvemi, S., & Sulaiman, A. (2019). Effect of smart classroom on student achievement at higher education. *Journal of Educational Technology Systems*. 48(2), 291–304. <https://doi.org/10.1177/0047239519870721>
- Pourciau, E. A. L. (2014). *Teaching and Learning with Smart Board Technology in Middle School Classrooms* (Doctoral dissertation, Walden University).
- Saini, M. K., & Goel, N. (2019). How smart are smart classrooms? A review of smart classroom technologies. *ACM Computing Surveys (CSUR)*. 52(6), 1–28. <https://doi.org/10.1145/3365757>
- Sethy, R., & Mohalik, R. (2019). Smart classroom for teaching learning at secondary level in West Bengal: An exploratory study. *American Journal of Social Sciences and Humanities*. 4(1), 129–137. <https://doi.org/10.20448/801.41.129.137>
- Sharma, P. K., & Masih, E. (2023). The Adoption of Digital Smart Board in Delhi Government Schools: A Student's Perspective. *Indian Journal of Educational Technology*. 5(I), 177–187. <https://journals.ncert.gov.in/IJET/article/view/432>
- Tageja, R. & R. Sood. (2014). *Effect of Teaching in Smart Classroom on the Achievement Retention and Creativity of High Secondary School Students of Commerce* (Doctoral Thesis). Kurukshetra University, Kurukshetra. <http://hdl.handle.net/10603/54124>
- Turinumukiza, M., Mbanzabugabo, J. B., & Uwamahoro, B. (2021). Influence of Smart Classrooms Services on ICT Capacity Building in Secondary Schools in Rwanda: A Case of Gatsibo District. *Journal of Information, Technology and Data Science*. 5(1), 15–21. <https://doi.org/10.53819/81018102t3016>
- Yu, H., Shi, G., Li, J., & Yang, J. (2022). Analyzing the differences of interaction and engagement in a smart classroom and a traditional classroom. *Sustainability*. 14(13), 8184. <https://doi.org/10.3390/su14138184>
- Zhao, J. (2006). Research university faculty perceptions of smart classroom technologies. 1–105. University of Arkansas.

Factors Affecting the Attitude of School Students Towards English Learning

A Structural Equation Modelling Approach

Ujjal Tripura* and Sashapra Chakrawarty**

ABSTRACT

Students' attitudes toward learning English are influenced by a variety of factors including the learning environment, teachers' teaching methods, available teaching-learning materials, parental influence, community involvement, and peer groups. This study investigated how these factors interact and determine attitudes of high school students of Assam towards English learning. The sample size of the study was 355. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used as an analytical approach with SmartPLS 4.0. The results confirmed that the model is reliable and valid. Teachers' teaching methods, teaching-learning materials, and peer influence were found to greatly affect the students' attitudes toward learning English positively; whereas the learning environment, parental, and community influence did not have a significant direct effect. Learning environment and teaching-learning materials were positive predictors of teaching methods. The teaching methods, in turn, mediated the effect of teaching-learning materials and the learning environment on students' attitudes. The findings underscore that effective pedagogy and sufficient learning resources are central to enhancing students' engagement and attitudes toward English. Strengthening classroom practices and facilitating access to quality material may go a long way toward addressing learning constraints in schools. In future studies, long-term effects and other contextual variables might be considered that affect attitudes toward English learning.

Keywords: Students' Attitude, Learning Environment, Teaching Methods, Teaching-Learning Materials, Structural Equation Modelling

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Introduction

The National Education Policy (NEP) 2020 (Ministry of Education, 2020) and the National Curriculum Framework for School Education 2023 (National Council of Educational Research and Training, 2023) state that multilingualism is very important; however, English is essential for students to be able to prepare for higher education and participation in national and global opportunities. Despite English's significance as reflected in the policies, it has been a very difficult language for many students, such as those in government schools in Assam, to read, write, understand, and communicate. While national assessments indicate low learning outcomes—attributed to insufficient exposure and lack of teaching-learning materials, large class sizes, and restricted opportunities for authentic use of English (Masih, 2022)—it is increasingly important to understand learners' perceptions of English and how these perceptions interact with achievement in English (Meganathan, 2019).

The attitude is one of the important psychological factors considered in language learning. Even as Gardner's Socio-Educational Model (1985) states, positive attitude would boost motivation and keep one on the track to achieving success, whilst negative attitude produces anxiety, avoidance and poor performance (Gregersen et al., 2020). Expectancy value theory also shows that while learners' confidence in their ability suffices for their engagement, the value they attach to the English language also matters (Nagle, 2021). Attribution theory deals with how success or failure will inform future behaviour through beliefs about effort, ability, or difficulty (Weiner, 2012). It has been proven that students with positive attitudes always show better vocabulary growth, comprehension, participation, and overall achievement (Chen et al., 2013).

In the Indian context, attitudes are shaped by teacher interaction, peer influence, parental support, classroom environment, and community perceptions (Getie, 2020). For students in Assam, English learning often occurs in resource-constrained schools, with limited exposure beyond textbooks (Ahmed, 2016). As a result, teaching methods, materials, and peer dynamics may play a more decisive role than home- or community-based factors. Therefore, emphasis in the teacher education programme should be on enabling the trainees to acquire the ability for self-learning and independent thinking.

Teachers should have professional knowledge and professional status (Behera, 2015). Although policy frameworks stress English proficiency, few studies in Assam have examined how multiple ecological factors interact to influence attitudes. This study addresses this gap by analysing relationships among learning environment, teaching methods, teaching-learning materials, parental influence, peer influence, and community influence and by examining how these factors collectively shape secondary students' attitudes toward learning English. Supporting the examination of attitudes with theoretical frameworks and linking them to achievement is essential for improving English learning outcomes in school contexts.

Rationale of the Study

In Assam, research consistently shows that students in government and Assamese-medium schools remain weak in English despite studying it continuously from primary to secondary levels. Previous studies of secondary school report that students struggle to speak basic sentences or write simple applications in English even after 10 years of schooling, largely because teaching remains dominated by grammar-translation, rule-driven instruction, and exam-oriented practice rather than communicative use of the language (Ahmed, 2016). Studies on English education at secondary level further highlight limited exposure to English in the wider environment, especially for regional-medium students, and note that low proficiency is closely linked to inadequate classroom interaction and minimal opportunities for listening and speaking practice (Bishwas, 2019).

Status studies from different districts of Assam show that many English teachers in government and provincialised schools lack specialised training in ELT and rely heavily on traditional methods, large classes, and textbook-bound teaching, which restricts meaningful engagement with English (Awal and Karim, 2021; Saikia, 2020). Recent work focusing on rural schools in Assam reports additional structural barriers, such as poor infrastructure, limited learning materials, and scarce exposure to English media, all of which contribute to low confidence and negative attitudes among learners towards English (Dutta, 2023; Deka, 2025). At the same time, policy-oriented and editorial discussions emphasise that English is still perceived as a language of status and mobility in Assam, and point to initiatives such as the English Language

Teaching Institute (ELTI) and district-level training centres as attempts to strengthen teacher capacity, and improve English outcomes in government schools (Ahmed, 2016).

This state-level evidence supports the rationale for the study on government schools in Assam that face systemic pedagogical, infrastructural, and training challenges in English. This likely shapes students' attitudes towards learning the language and justifies a focused Structural Equation Modelling (SEM) investigation on school-based factors such as teaching methods, learning environment, peer influence, and materials.

Review of Related Literature

Previous Indian studies, strongly highlighted the role of teachers' pedagogy in shaping students' attitudes towards English. Research repeatedly shows that traditional, exam-oriented teaching reduces participation and confidence, whereas activity-based and communicative approaches increase motivation (Chandrasekharan, 2024; VidhyaLakshmi and Sureshkumar, 2022). Classroom experiments conducted in government and private schools also report that when teachers use group work, role-play, discussion, and communicative tasks students show a more positive attitude towards English learning (Ashok, 2015; Jabeen, 2014). These findings make it clear that the teachers' teaching method is the most influential factor in shaping students' willingness to learn English.

Another underlying argument in Indian study is the impact of teaching-learning materials. Research claims that students are benefitted from the audio-visual materials to customise and understand the learning context (Kurisunkal, 2018). ICT-enhanced materials implemented through smart-class programmes, language labs, and digital presentations have been reported to increase interest in the subject, reduce boredom, and create positive classroom experiences (Bhardwaj, 2025). Evidence from various secondary school classrooms has shown that the variety and quality of materials directly impact attitudes toward English learning and make lessons more meaningful. This evidence, therefore, concludes that teaching-learning materials constitute not an add-on, but rather the core of meaningful language learning.

The school learning environment has also received attention in Indian studies. Research shows that a supportive school environment—where students feel safe to speak, make mistakes,

and participate—helps them develop confidence and enjoyment in English classes (Agarwal, S., and Thakur, 2014; Aravamudhan, 2019). However, several studies conclude that the effect of the environment is indirect, because a favourable environment alone does not change attitudes unless teachers use it to create opportunities for interaction. Thus, the learning environment influences attitude primarily through classroom teaching and practice, rather than acting as an independent factor.

Studies on home and community factors in India show mixed results. Parental encouragement, parental education, and socio-economic status can influence access to private tutoring, books and exposure to English, but these effects are not always strong or consistent (Gupta, 2023). Community narratives about English as a symbol of modernity and mobility influence motivation, especially among urban and aspirational learners (Highet, 2021). However, peer group influence is consistently reported as important, because students feel more confident speaking English when encouraged by classmates during group work, presentations, and informal conversation (Areepattamannil et al., 2018). Peer support, therefore, acts as a social and emotional factor, helping students overcome fear and develop a positive attitude towards English learning.

Objective

To examine factors influencing students' attitude towards English learning.

Hypotheses

H1: There is no significant relationship between learning environment and attitude of students towards English language learning.

H2: There is no significant relationship between teachers' teaching method and students' attitude towards learning English.

H3: There exists no significant relationship between teaching-learning materials and students' attitude towards learning English.

H4: There exists no significant relationship between parental influence and their attitude towards learning English.

H5: There exists no significant relationship between impact of students' peer group and their attitude towards learning English.

H6: There exists no significant relationship between influence of students' community and their attitude towards learning English.

H7: There exists no significant relationship between teaching-learning materials and teachers' teaching method.

H8: There exists no significant relationship between learning environment and teachers' teaching method.

H9: Teachers' teaching method is a mediator in the relationship between teaching-learning materials and students' attitude towards learning English.

H10: Teachers' teaching method is a mediator in the relationship between learning environment and students' attitude towards learning English.

Research Methodology

Research Design

The researcher employed a survey design to assess various factors influencing students' attitudes toward learning English. In this study, quantitative data was collected for the investigation of the correlations among the discovered factors.

Sampling and Sample Size

Government schools were selected from the Sonitpur district of Assam based on their location (urban and rural) and willingness to participate in the study. A simple random sampling technique was adopted at both the school and student levels to ensure contextual relevance and adequate representation across gender and grade levels. The sample size for the present study consisted of 355 respondents and was determined using established guidelines for Structural Equation Modelling (SEM). The obtained sample size of 355 exceeds the recommended threshold, which is adequate to study SEM. Therefore, the final sample size of 355 was considered sufficient and appropriate for conducting SEM analysis. The sample drawn from government schools, included 158 male and 197 female students. Participants were enrolled in Grade 9 ($n = 145$), Grade 11 ($n = 103$), and Grade 12 ($n = 107$). All participating schools used Assamese as the medium of instruction.

Table 1: Sample Size Determination for SEM

Criterion/ Guideline	Description	Sample Size Requirements	Status
Number of indicators	Total observed indicators used in the study	31 indicators	
Hair et al. (2019) rule	Minimum 10 respondents per indicator	$31 \times 10 = 310$	Satisfied
Actual sample size	Respondents included in the study	355	Exceeds requirement
PLS-SEM 10 times rule (Barclay et al., 1995)	Sample size should be 10 times the largest number of structural paths to a construct	Adequate	Satisfied
Final decision	Adequacy of sample size for SEM	355 respondents	Sufficient

Data Collection Tool

Data collection was conducted with prior permission obtained from the heads or principals of the participating schools. Students were assured that their responses were confidential and this would permit them to provide feedback. Respondents were given 30 minutes to complete the questionnaire to allow time to reflect on their responses. This questionnaire was adapted from the previous studies of Getie (2020), Getahun (1997), Medhanie (1986), Mohamed (2004), and Tursi (1970).

Research Findings

Evaluation of the Measurement Model

To assess the measurement model, both convergent and discriminant validity must be examined. Convergent validity is established when indicators of the same construct show consistency. This is reflected through acceptable values of factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE). In general, factor loadings and CR should be above 0.70, while AVE should exceed 0.50 to confirm that the construct explains more variance than measurement error. Reliability is also checked through Cronbach's Alpha, where values of 0.70 or higher indicate acceptable internal consistency.

Discriminant validity ensures that different constructs are truly distinct. This can be verified by comparing the square root of AVE with the correlations between constructs. When the square root of AVE is higher than the inter-construct correlations, discriminant validity is confirmed.

Table 2: Evaluation of the Outer Loading of Indicators

S. No.	Construct	No. of Indicators	Outer Loading (OL)	Decision
1.	ATLE	9	8 indicators greater than 0.07	1 indicator is rejected
2.	CI	2	All indicators greater than 0.07	All indicators are accepted
3.	LE	3	All indicators greater than 0.07	All indicators are accepted
4.	PGI	4	All indicators greater than 0.07	All indicators are accepted
5.	PI	5	All indicators greater than 0.07	All indicators are accepted
6.	TLM	3	All indicators greater than 0.07	All indicators are accepted
7.	TTM	5	All indicators greater than 0.07	All indicators are accepted

Note: ATLE: Attitude towards learning English, CI: Community influence, LE: Learning environment, PGI: Peer group impact, PI: Parental influence, TLM: Teaching-learning materials, TTM: Teachers’ teaching method

Table 2 depicts the results of the outer loading assessment for various constructs. The construct ATLE (attitude towards learning English) consists of 9 indicators, with 8 showing outer loadings greater than 0.7, while one indicator with a loading between 0.5 and 0.7 is considered for removal. For the constructs CI (community influence), LE (learning environment), PGI (peer group impact), PI (parental influence), TLM (teaching-learning materials), and TTM (teachers’ teaching method) all indicators have outer loadings greater than 0.7, indicating that they are strongly representative of their respective constructs and are accepted without any need for removal.

Table 3: The Measurement Model's Validity and Reliability

S. No.	Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
1.	ATLE	0.948	0.955	0.645
2.	CI	0.708	0.711	0.774
3.	LE	0.740	0.777	0.655
4.	PGI	0.774	0.779	0.594
5.	PI	0.835	0.847	0.600
6.	TLM	0.725	0.740	0.641
7.	TTM	0.826	0.833	0.589

Table 3 shows the reliability and validity testing of the constructs in the measurement model. The reliability of all constructs is satisfactory as the Cronbach's alpha values are above the 0.7 threshold, demonstrating high internal consistency. The maximum alpha reported for ATLE is 0.948, whereas CI has the lowest but still acceptable at 0.708. In addition to the validity, the composite reliability of all of the constructs is greater than 0.7 as well, which indicates that these constructs are consistent and ATLE is the highest at 0.955. The AVE value is greater than 0.5 for all constructs indicates that convergent validity is adequate with CI (0.774) being the highest and TTM, having the lowest at 0.589. Overall, the constructs have good reliability and validity in the model.

Table 4: Results of Measurement Model (Fornell-Larcker Analysis)

	ATLE	CI	LE	PGI	PI	TLM	TTM
ATLE	0.803						
CI	0.166	0.88					
LE	0.215	0.108	0.809				
PGI	0.341	0.252	0.179	0.771			
PI	0.224	0.162	0.175	0.207	0.775		
TLM	0.323	0.092	0.188	0.346	0.198	0.801	
TTM	0.461	0.221	0.237	0.366	0.307	0.344	0.768

Table 4 provides evidence for the discriminant validity of the Fornell-Larcker analysis, which indicates that all constructs are adequately different from one another. By contrast,

discriminant validity exists between constructs if the square root of the AVE for one construct is larger than its bivariate correlations with other constructs (Hair, 2019). The square root of the AVE of the constructs are printed along the diagonal and the correlations among the indicators of the constructs are shown along the off-diagonal. The square root value of AVE for ATLE was 0.803 and for TTM it was 0.768. All diagonal values are greater than the corresponding off-diagonal correlations indicating the distinctiveness of the constructs. Most of the relations between the constructs are low to moderate (the highest is 0.461 between ATLE and TTM and the lowest is 0.092 between TLM and CI); despite these relations, each construct keeps its own identity, since on the diagonal values are greater than off-diagonal correlations. This fact supports the discriminant validity of the model, suggesting that the constructs under study have been well specified and are not extensively overlapping (Figure1).

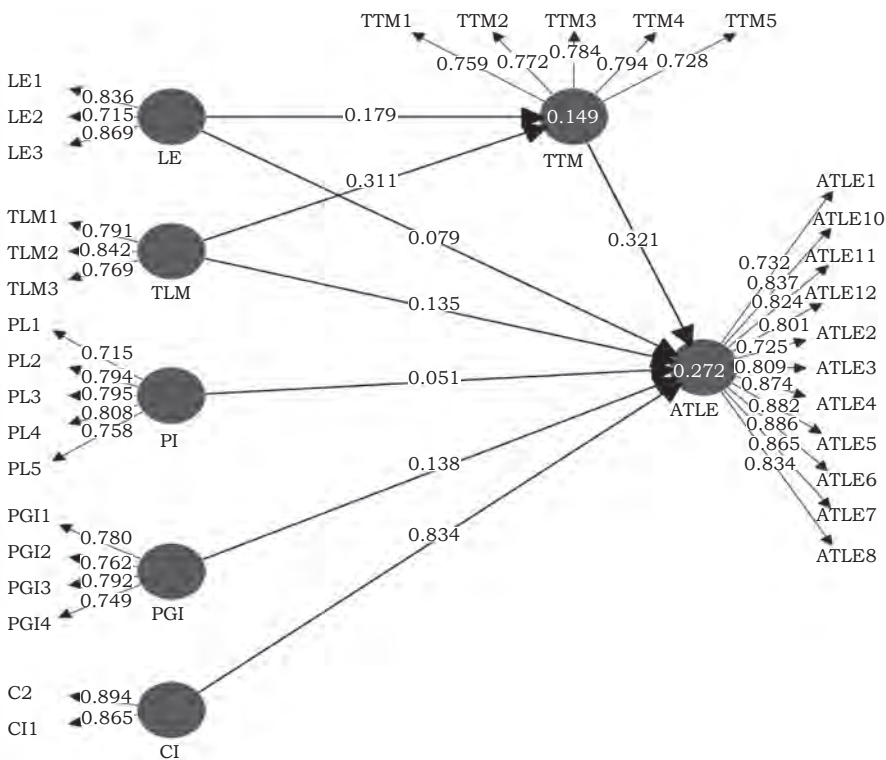


Figure 1: The structural model

Table 5 summarises the hypothesis testing results, highlighting key relationships affecting students' ATLE. Hypothesis H1, which examined the influence of the LE on ATLE, was unsupported, indicating that LE alone does not significantly shape students' attitudes. On the other hand, H2 revealed that TTM strongly impact ATLE, showing that effective teaching strategies significantly improve student attitudes. Hypothesis H3, also supported that TLM positively affect ATLE, emphasising the importance of quality educational resources. Hypotheses H4 and H6, testing the influence of PI and CI on ATLE, were both unsupported, suggesting that these factors may not have a direct effect. However, H5 demonstrated that PGI plays a significant role, underlining the importance of social interactions in shaping student attitudes.

Moreover, H7 confirmed that TLM significantly affect TTM, showing that better resources improve teaching methods. Hypothesis H8 revealed that LE influences TTM, implying that the classroom environment shapes teaching practices. Indirect effects were also observed in hypotheses H9 and H10, where LE and TLM indirectly influenced ATLE through their impact on TTM, emphasising the interdependence of teaching methods, learning resources, and the environment. TTM is used as a mediator to explain the process through which the LE and TLM influence ATLE. The influence of LE and TLM depends on how teachers apply them during instruction. Therefore, TTM serves as the linking mechanism between LE, TLM, and ATLE.

Table 5: Hypothesis Testing

Hypothesis	Path	Path Coefficient	T Statistics	P Values	Result
H1	LE -> ATLE	0.079	1.226	0.220	Unsupported
H2	TTM -> ATLE	0.321	4.337	0.000***	Supported
H3	TLM -> ATLE	0.135	2.19	0.029***	Supported
H4	PI -> ATLE	0.051	1.152	0.249	Unsupported
H5	PGI -> ATLE	0.138	2.019	0.043***	Supported
H6	CI -> ATLE	0.034	0.688	0.492	Unsupported
H7	TLM -> TTM	0.311	5.474	0.000***	Supported
H8	LE -> TTM	0.179	3.316	0.001***	Supported

H9	LE -> TTM -> ATLE	0.057	2.727	0.006***	Supported
H10	TLM -> TTM -> ATLE	0.1	3.036	0.002***	Supported

Note: ATLE: Attitude towards learning English, CI: Community influence, LE: Learning environment, PGI: peer group impact, PI: Parental influence, TLM: Teaching-learning materials, TTM: Teachers’ teaching method. SRMR = 0.055, ***P < 0.05

Discussion

Through the analysis of factors influencing student’s ATLE, the TTM surface as paramount among influences, mediating the effects of other important factors. TTM are also strongly and directly impacting ATLE as supported by the research on the competence and engagement of instructors (Fauth et al., 2019; Liang, 2024). Authoritative and well-structured teaching presence, in particular with blended learning models, increases performance expectancy and shapes attitudes towards learning (Albeta et al., 2024). Consequently, conducive LE and good TLM are positively influencing ATLE. However, it largely runs through effective teaching practices.

Quality TLM correlates positively and significantly with ATLE; therefore, it also stands to prove the necessity of learning resources (Albeta et al., 2024). Proper and attractive materials for learners would enhance interest and intrinsic motivation, which accords with previous findings about the impact of resource characteristics on learning motivation (Ustun et al., 2022; Albeta et al., 2024). Technology-based and interactive software with digital formats were also proven to maximise engagement of students during learning, making it an effective learning outcome (Ustun et al., 2022). Therefore, resourcefulness in terms of multimedia and interactivity is inevitable in making the teaching environment lively, according to Albeta et al., 2024. Thus, there must be permanent investments into fresh, good, and relevant materials for English teaching and learning.

The LE does not affect ATLE but indeed significantly affects TTM. A supportive LE would empower teachers into better teaching practices (Cheon et al., 2019; Lan, 2024). This indirect pathway is very important because a positive environment grants the teachers the tools, flexibility, and support to innovate into an

effective method, that in turn, has effects on the attitude of the students. For example, a technology-rich atmosphere may generate much-needed support for the integration of AI tools or blended learning approaches, thereby further enhancing teaching efficiency (Albeta et al., 2024; Yang, 2024).

PGIs are also significant as interaction among classmates positively affects students' ATLE (Cheon et al., 2019). Collaborative and social learning environments are essential, as past research demonstrates the contribution social presence and peer interaction have on learner engagement and satisfaction (Cheon et al., 2019). Conversely, some interventions aim at fostering a prosocial peer climate, so as to increase prosocial behaviour and cut down on antisocial behaviour among students (Cheon et al., 2019). This highlights the need for normalisation of collaborative learning activities and activities for peer interaction towards better ATLE.

According to the results, PI and CI were not direct determinants of ATLE, suggesting that these external factors may be less potent in directly shaping in-school English learning attitudes compared to internal classroom dynamics. Such contexts may shape external educational outcomes; however, the present findings stress the more immediate effect of the school environment. The external factors may act on the indirect line by shaping this self-concept or facilitating access to resources that may, in turn, affect motivation and engagement in learning (Flandez and Caballo, 2025; Fadhilah and Warni, 2024).

Conclusion

This study has brought to light several factors of attitudes of school students towards learning English and gives considerable information through structural equation model. Results indicate that positive student ATLE are greatly influenced by good teaching methods, appropriate TLM, and favourable PI. Therefore, interventions on improving students' ATLE should focus on Teacher's Teaching Method and upgrading learning resources that mediate the effect of the LE. Schools should consider promoting professional development for teachers and also encourage collaboration among them while investing in varied, attractive TLM that include digital tools. Blended learning gives very good results on improving learning outcomes, whereby the learning is facilitated with a combination of in-person learning and online teaching.

REFERENCES

- Agarwal, S., & Thakur, R. K. (2014). Influence of environments on the English learning of students in India. *International Journal on Arts, Management and Humanities*. 3(1), 5–8.
- Ahmed, A. S. M. M. (2016). The English language teaching (ELT) in the secondary schools in Assam. *International Journal of English Language, Literature and Humanities*. 4(3), 219–223.
- Albeta, S. W., Copriady, J., Yustina, & Rery, R. U. (2024). Should there be an attitude in motivating students to achieve satisfaction in blended learning? *Education and Information Technologies*. 30(4), 5149–5175. <https://doi.org/10.1007/s10639-024-13029-8>
- Aravamudhan, R. (2019). *Bridging the English Language Divide and Building Self-Confidence in Marginalized Communities: An Exploratory Study in Tamil Nadu, India* (Doctoral dissertation, San Jose State University).
- Areepattamannil, S., Freeman, J. G., & Klinger, D. A. (2018). A qualitative study of Indian and Indian immigrant adolescents' perceptions of the factors affecting their engagement and performance in school. *Social Psychology of Education*. 21(2), 383–407. <https://doi.org/10.1007/s11218-017-9420-z>.
- Ashok, A. M. (2015). Effectiveness of role play in enhancing communication skills of English language learners. *Language in India*. 15(4), 4–13.
- Awal, A., & Karim, M. R. (2021). English teaching strategies in secondary schools of Assam State, India: A status study. *Asian EFL Journal*. 23(1.3), 26–38. <https://www.asian-efl-journal.com>
- Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling. *Technology Studies*. 2(2), 285–309.
- Behera, B. (2015). Revitalizing Professionalism in Teachers. *MIER Journal of Educational Studies Trends and Practices*. 5(1), 113–122. <https://doi.org/10.52634/mier/2015/v5/i1/1510>
- Bhardwaj, A. (2025). From Chalkboards to Smartboards: Transforming English Language Teaching in Uttar Pradesh in Light of NEP-2020. *Idealistic Journal of Advanced Research in Progressive Spectrums (IJARPS)*. 4(06), 71–79.
- Bishwas, K. (2019). A study of English education at secondary level: With special reference to Assam. *International Journal of Early Childhood Special Education*. 11(2), 226–229. <https://doi.org/10.48047/intjecse.239578>.
- Chandrasekharan, P. (2024). “Attitude is everything”—A critique of English language teaching and learning in India. *International Journal of English Learning and Teaching Skills*. 7(1). <https://www.ijeltsjournal.org/wp-content/uploads/2024/11/3.-Attitude-is-everything-A-Critique-of-English-Language-Teaching-and-Learning-in-India.pdf>.

- Chen, C. N., Chen, S. C., Chen, S. H. E., & Wey, S. C. (2013). The Effects of Extensive Reading via E-Books on Tertiary Level EFL Students' Reading Attitude, Reading Comprehension and Vocabulary. *Turkish Online Journal of Educational Technology-TOJET*. 12(2), 303–312. <https://eric.ed.gov/?id=EJ1015469>.
- Cheon, S. H., Reeve, J., & Ntoumanis, N. (2019). An intervention to help teachers establish a prosocial peer climate in physical education. *Learning and Instruction*. 64, 101223. <https://doi.org/10.1016/j.learninstruc.2019.101223>
- Deka, R. (2025). English language teaching in Assam's rural schools: Problems and pedagogical possibilities. *American Journal of Language, Literacy and Learning in STEM Education*. 3(10), 120–128. file:///C:/Users/user/Downloads/120-128+English+Language+Teaching+in+Assam's+Rural+Schools%20(1).pdf.
- Dutta, K. (2023). Major problems in teaching and learning of English in Assam: An observation. *International Journal of Multidisciplinary Research Review*. 9(5), 6–10. <http://www.ijmdrr.com/admin/downloads/250520232.pdf>
- Fadhilah, A. N., & Warni, S. (2024). Students' perceptions toward the influence of teachers' attitudes on English learning achievement. *English Learning Innovation*. 5(2), 164–174. <https://doi.org/10.22219/englie.v5i2.33798>
- Fauth, B., Decristan, J., Decker, A.T., Büttner, G., Hardy, I., Klieme, E., & Kunter, M. (2019). The effects of teacher competence on student outcomes in elementary science education: The mediating role of teaching quality. *Teaching and Teacher Education*. 86, 102882. <https://doi.org/10.1016/j.tate.2019.102882>
- Flandez, R. J., & Caballo, J. H. S. (2025). The Mediating Effect of Academic Motivation on the Relationship between Grammar Learning Strategies and Attitudes towards Learning English Language. *Asian Journal of Education and Social Studies*. 51(7), 1331–1350. <https://doi.org/10.9734/ajess/2025/v51i72213>
- Getahun, A. (1997). *The Attitude of Secondary School Students Towards School and Subject Matters* [Unpublished Master's Thesis, Addis Ababa University].
- Getie, A. S. (2020). Factors affecting the attitudes of students towards learning English as a foreign language. *Cogent Education*. 7(1), 1738184. <https://doi.org/10.1080/2331186X.2020.1738184>
- Gregersen, T., MacIntyre, P. D., & Ross, J. (2020). Extending Gardner's socio-educational model to learner well-being: research propositions linking integrative motivation and PERMA theory. In A. Al-Hoorie & P. D. MacIntyre (Eds), *Contemporary Language Motivation Theory: 60 years since Gardner and Lambert (1959)* (pp. 17–39). *Multilingual Matters*. <https://doi.org/10.21832/9781788925204-006>.

- Gupta, A. (2023). Middle-class mothers' participation in tutoring for spoken English: a case of unlocking middle-class identity and privilege in contemporary India. *Discourse: Studies in the Cultural Politics of Education*. 44(5), 739–753. <https://doi.org/10.1080/01596306.2022.2131738>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd Ed.). Sage.
- Highet, K. E. (2021). *Becoming English Speakers: A Critical Sociolinguistic Ethnography of English, Inequality and Social Mobility in Delhi* (Doctoral dissertation, University College London, London).
- Jabeen, S. S. (2014). Implementation of Communicative Approach. *English Language Teaching*. 7(8), 68–74. <https://eric.ed.gov/?id=EJ1075982>.
- Kurisunkal, J. J. (2018). *Effectiveness of Audio-video Materials for Developing Reading Skills of Fourth Grade Students of Demonstration Multipurpose School, Bhopal* (Doctoral dissertation, Regional Institute of Education, Bhopal).
- Lan, Q. (2024). Culturally Responsive Teaching Practices and Student Attitude Towards Learning the English Language in China. *International Journal of Education and Humanities*. 14(3), 108–113. <https://doi.org/10.54097/v70d9656>
- Liang, W. (2024). The Effects of Student-centered Teaching Methods on the Motivation of English Language Learning. *Communications in Humanities Research*. 32(1), 78–83. <https://doi.org/10.54254/2753-7064/32/20240018>
- Masih, A. (2022). Critical Reflections on Assessment Approaches in School Education Minimum Levels of Learning, Continuous and Comprehensive Evaluation and Learning Outcomes. *Journal of Indian Education*. 48(2), 117–142. <https://ejournals.ncert.gov.in/index.php/jie/article/view/3195>.
- Medhanie, H. (1986). *The Attitude of Grade Eleven Students Towards Learning English* (Unpublished Master's Thesis, Addis Ababa University).
- Meganathan, R. (2019). Research in English language education in India. *Indian Educational Review*. 57(2), 7–72. <https://ejournals.ncert.gov.in/index.php/ier/article/view/3186>.
- Ministry of Education. 2020. *National Education Policy (2020)*. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
- Mohamed, K. (2004). *The Attitude of Year One Preparatory Students Towards Learning English as a Foreign Language* (Unpublished Master's Thesis, Addis Ababa University).
- Nagle, C. (2021). Using Expectancy Value Theory to Understand Motivation, Persistence, and Achievement in University-Level Foreign Language Learning. *Foreign Language Annals*. 54(4), 1238–1256. <https://doi.org/10.1111/flan.12569>.

- National Council of Educational Research and Training. (2023). *National Curriculum Framework for School Education 2023*. https://www.education.gov.in/sites/upload_files/mhrd/files/infocus_slider/NCF-School-Education-Pre-Draft.pdf
- Saikia, P. (2020). A study on the problems of teaching English in the secondary level schools (Class IX & X) of Assam. *Research Journal of English Language and Literature (RJELAL)*. 8(3), 265. <http://www.rjelal.com/>.
- Tursi, J. A. (Ed.). (1970). *Foreign Language Attitude Questionnaire: Foreign Language and the New Students' Reports of the Working Committees*. <https://eric.ed.gov/?id=ED039813>
- Ustun, A. B., Simsek, E., Karaoglan-Yilmaz, F. G., & Yilmaz, R. (2022). The effects of AR-enhanced English Language Learning Experience on Students' Attitudes, Self-Efficacy and Motivation. *TechTrends*. 66(5), 798–809. <https://doi.org/10.1007/s11528-022-00757-2>
- Vidhya Lakshmi, C. N., & Sureshkumar, D. R. (2022). Enhancing Communication Skills Through Activity Based Learning. *Journal of Science, Computing and Engineering Research*. 3(4), 12–17. <https://doi.org/10.46379/jscer.2022.030403>.
- Weiner, B. (2012). An attribution theory of motivation. *Handbook of Theories of Social Psychology*. 1, 135–155.
- Yang, G., Kuang, Q., Jiang, R., & Jiang, R. (2024). The effects of blended teaching approach on university students' English learning outcomes: A three-level meta-analytic review. *Education and Information Technologies*. 30(5), 5677–5699. <https://doi.org/10.1007/s10639-024-13041-y>

Beyond the Monolingual Mindset

Embracing Organic Pluralism in Pre-Service English Teacher Education in India

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ABSTRACT

India's linguistic landscape reflects organic pluralism, yet this diversity is inadequately addressed in pre-service teacher education programmes. Although national policy documents advocate multilingual pedagogies, teacher education programmes continue to privilege monolingual approaches, particularly in English language teaching. For many learners from socio-economically disadvantaged backgrounds, English functions more as a foreign than a second language due to limited exposure beyond school, thereby adding barriers to equitable learning. Drawing on lesson plans, reflective journals, and classroom observations from a teacher education institute in Delhi, this qualitative study examines how pre-service teachers navigate English language teaching in multilingual classrooms during their school experience programme. The findings of this study show that deficit views of learners' linguistic repertoires reinforce dominant monolingual ideologies and are reflected in continued English-only teaching practices that marginalise home languages. These practices promote rote learning and limit learner engagement. However, post-lesson reflections reveal a growing recognition of the pedagogical value of multilingual and translanguaging strategies. Accordingly, we advocate embedding multilingualism and translanguaging into pre-service teacher education programmes so that future teachers are better equipped to respond to India's socio-linguistic realities and sustain the organic pluralism of Indian classrooms.

Keywords: *Organic Pluralism, Multilingualism, Translanguaging, Pre-Service Teacher Education, English Language Teaching*

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Introduction

India's multilingual context is unparalleled in both scale and depth, shaping every aspect of social life, communication, and education. It is the result of centuries of sustained linguistic contact, coexistence, and fluidity across regions, communities, and social domains. Hundreds of languages and dialects are used in everyday life, with individuals routinely drawing on multiple linguistic repertoires for communication, identity work, and social interaction. Importantly, multilingualism in India is not simply the presence of many languages but an everyday practice embedded in familial, cultural, and economic life, where boundaries between so-called 'languages' are porous and constantly negotiated (Agnihotri, 2017). The Census of India (2001), listed over 6,600 mother tongue (MT) declarations, which were rationalised into 3,592 MTs. These were further grouped into 122 major languages, each of which includes several others with distinctive regional identities as well as linguistic features. The MTs in India are linguistically classified into 300–400 languages, and the country ranks fourth in the world in terms of linguistic diversity (Skutnabb-Kangas, 2006), representing a dense linguistic ecology that spans the Indo-Aryan, Dravidian, Tibeto-Burman, Austroasiatic, Tai-Kadai, and Andamanese language families. These languages are not evenly distributed but are functionally allocated across domains such as home, community interactions, local governance, education, administration, and media.

Khubchandani (1978) described this linguistic reality as organic pluralism, highlighting how multilingualism in India is not a recent phenomenon but an ingrained feature of everyday life. Such plurality shapes not only communication but also identity, social relations, and educational experiences. Thus, the domain of education, particularly pre-service teacher education, must not ignore the multilingual repertoire of the learners that they bring to the classroom in order to create equitable and meaningful teaching-learning environments. Over the decades, various national policy documents have recognised this fact. The Education Commission (1964–1966) emphasised the importance of the three-language formula to safeguard both national unity and linguistic diversity (Ministry of Human Resource Development, 1966). Subsequently, the National Policies on Education (1968; 1986; 1992) reiterated this and stressed that the MT or home language should be the medium of instruction in the early years of schooling (Ministry of Human Resource Development, 1968;

1986; 1992). The National Curriculum Framework (2005), argued that multilingualism can be used as a resource for teaching and learning, and strongly advocated integrating children's languages into classroom practice (National Council for Educational Research and Training, 2005). The recent education policy, National Education Policy (NEP) 2020, has reiterated the role of children's languages in ensuring access, inclusion, and quality education. Despite these policy pronouncements, classroom practices in India continue to remain largely monolingual or at best bilingual.

As far as English language teaching is concerned, English enjoys immense symbolic value—the language of mobility, prestige, and opportunity. However, for most students, particularly those from disadvantaged socio-economic backgrounds, English does not function as a second language but rather as a foreign language, as they receive little to no exposure to it outside of school (Mohanty, 2018). This disjuncture paves the way for deep inequities in language learning and widens the gap between the privileged and marginalised learners.

Pre-service teacher education is a crucial site to address this challenge. As a programme, it aims to equip the would-be teachers with the pedagogical knowledge and skills necessary to engage learners from diverse socio-economic contexts. However, the language pedagogy curriculum of pre-service teacher education in India continues to perpetuate monolingual approaches. English language teaching (ELT), in particular, is strongly shaped by traditional methods, such as the grammar-translation method, the direct method, and the audiolingual method. While these methods have historical significance, they tend to reinforce monolingual ideologies and fail to account for the multilingual ecology that shapes learners' communicative practices (Kumaravadivelu, 2006). Consequently, mother tongue-based multilingualism doesn't find space in schools even after the policy's recommendation due to ineffective implementation (Meganathan, 2015), while teacher education doesn't prepare pre-service teachers for the same. This limitation in preparing the pre-service teachers to harness multilingualism as a pedagogical resource thus, serves as a site for epistemic injustice (Fricker, 2007). This gap has both pedagogical and ideological consequences. Pedagogically, learners are denied the opportunity to draw upon their full linguistic repertoires to make meaning, negotiate understanding, and build conceptual knowledge. Ideologically, providing the privilege of English

language teaching through English-only instruction keeps away from children's home languages, implicitly positioning them as obstacles rather than resources. Such orientations not only undermine language equity but also contradict the very spirit of the policy documents that advocate multilingual education.

Against this backdrop, scholars have increasingly argued for the adoption of multilingual and translanguaging pedagogy as a way to bridge the gap between learners' lived linguistic practices and classroom teaching (Agnihotri, 2017; Wei and Lin, 2019). Translanguaging as a theoretical framework involves the strategic use of learners' entire linguistic repertoires—across so-called 'languages'—to facilitate meaning-making, language development, and identity affirmation. It disrupts rigid language boundaries, challenges monolingual ideologies, and aligns closely with the multilingual realities of Indian classrooms. Research globally has shown that translanguaging can enhance both content learning and language acquisition, while also fostering inclusive and affirming classroom environments (Creese and Blackledge, 2010; Garcia and Kleyn, 2016).

While the theoretical and policy discourse in India recognises the value of multilingualism, there is limited empirical research examining how pre-service teachers actually navigate these issues in practice. Most existing studies have either focused on policy analysis or in-service teachers, leaving a gap in understanding how pre-service teachers engage with linguistic diversity during their training, particularly in the context of English language teaching. Exploring this dimension is crucial because pre-service teachers' beliefs and practices during training have a strong influence on their future classroom teaching.

This paper seeks to address this gap. It investigates how pre-service teachers in a teacher education institute in Delhi approach English language teaching in multilingual classrooms during their school experience programme. We examine lesson plans, reflective journals, and classroom observations to analyse the extent to which multilingualism and translanguaging are employed as pedagogical strategies. Additionally, through our engagement with pre-service teachers during post-lesson reflection sessions, we explore how they themselves perceive the challenges and possibilities of using multilingual resources in their teaching. Guided by these concerns, the study pursues the following objectives:

- To examine how pre-service teachers design and enact English lessons in multilingual classroom settings during their school experience programme.
- To analyse the extent to which pre-service teachers mobilise or suppress multilingual and translanguaging practices in English language teaching.
- To explore how pre-service teachers' reflections shape their pedagogical orientations toward multilingualism and translanguaging.
- To explain the disconnection between policy aspirations and classroom practices in English pedagogy within pre-service teacher education.

In what follows, this study first reviews the relevant literature on multilingualism, translanguaging, and teacher education in India to understand the significance of the study undertaken. It then describes the methodology and presents findings from lesson plans, journals, and reflection sessions. Finally, it discusses the implications of the study for pre-service teacher education, and advocates for the integration of multilingual and translanguaging practices to sustain the organic pluralism of Indian classrooms.

Literature Review

India's linguistic diversity is not only vast in scale but also structurally complex, with languages differing in genealogical affiliation, sociolinguistic status, functions, and domains of use (Annamalai, 2010; Mohanty, 2008; Panda and Mohanty, 2015; Skutnabb-Kangas et al., 2009). The Census of India has consistently documented this complexity, recording thousands of mother tongue declarations that are subsequently rationalised into hundreds of languages spread across major language families (Census, 2001; 2011). Beyond numerical diversity, the Indian linguistic ecology is characterised by layered multilingualism, where individuals and communities routinely use different languages across home, marketplace, governance, education, religion, and media (Annamalai, 2010; Mohanty, 2018). These languages carry differential levels of symbolic capital, historical privilege, and institutional support, thereby shaping access, identity, and social mobility (Panda and Mohanty, 2015). Such complexity has direct implications for education: language becomes both a resource and a site of inequality; influencing learners' participation,

comprehension, and sense of belonging. As scholars argue, understanding this multifaceted linguistic context is essential for conceptualising language-in-education policies and for preparing teachers to work effectively in multilingual classrooms (Hornberger, 2005; Skutnabb-Kangas and Phillipson, 1998).

Building on this understanding of India's dense and layered multilingualism, Khubchandani's (1978) notion of organic pluralism offers a particularly useful conceptual lens. Unlike Western models of structural pluralism, which treat languages as discrete, bounded systems that coexist in parallel to each other, and are used in clearly demarcated domains, organic pluralism emphasises the fluid, overlapping, and interactional nature of linguistic practices in India. Structural pluralism assumes stability and compartmentalisation—one language for the home, another for the school, another for the state—reflecting a Eurocentric ideology of linguistic separation. In contrast, organic pluralism captures the Indian sociolinguistic reality in which speakers routinely navigate multiple languages and dialects within a single conversation, shifting repertoires according to interlocutor, setting, and purpose. Rather than functioning as isolated units, languages in India exist in dynamic interdependence, shaped by mobility, migration, caste networks, trade, and shared cultural spaces. This conceptual distinction is critical for education because it highlights that multilingualism in India is not a formal arrangement of many languages, but a lived practice of fluid multilingual meaning-making. Any discussion of language-in-education must therefore, engage with this organic, everyday multilingualism rather than relying on structural or monolingual models that do not reflect Indian linguistic realities. Agnihotri (2017), strongly argues that multilingualism is not a problem but a resource and that classrooms in India inherently draw upon learners' multiple repertoires. Yet, as Skutnabb-Kangas and Phillipson (1998) point out, dominant discourses in schooling often perpetuate a subtractive approach, privileging English and state languages at the expense of children's home languages. This contradiction between lived multilingual realities and monolingual school practices forms the central challenge for teacher education.

Translanguaging, as supported in international scholarship, by García & Kleyn (2016) and increasingly explored in Indian contexts, provides a pedagogical lens for reimagining these challenges. Rather than treating languages as separate, translanguaging

emphasises the fluid deployment of the entire linguistic repertoire for meaning-making and learning. This perspective resonates with Agnihotri's (2007) insights into multilinguality as an everyday resource and Mohanty's (2019) advocacy for a multilingual social justice pedagogy. Pre-service teacher education, however, has been slow to integrate these theoretical advances into practice.

Teacher education scholarship (Cochran-Smith et al., 2015; Zeichner, 1999) consistently stresses the importance of reflective practice and critical engagement with learners' social contexts. In multilingual societies, such reflection must explicitly include language ideologies and pedagogical orientations to multilingualism (Hornberger, 2002). Yet, most pre-service programmes continue to naturalise monolingual instructional models, thereby marginalising the very resources learners bring to the classroom. Scholars, such as Panda and Mohanty (2015), emphasise the need to reconfigure teacher education so that future teachers recognise multilingualism and translanguaging not as a fallback strategy but as a legitimate, planned pedagogical practice.

Taken together, the existing literature establishes that India's linguistic ecology is deeply layered, fluid, and socially embedded; demanding pedagogical approaches that recognise multilingual repertoires as essential resources for learning. Scholars have consistently argued for multilingual, socially just, and translanguaging-oriented pedagogies (Agnihotri, 2021; García and Kleyn, 2016; Mohanty, 2018; Wei, 2022), yet empirical research shows that classroom practice and teacher preparation continue to reflect monolingual norms. What remains insufficiently explored—particularly in the Indian context—is how pre-service teachers negotiate multilingual realities during their practicum, how their beliefs and ideologies shape their pedagogical decisions, and whether reflection processes can shift their orientations toward multilingual and translanguaging practices. While international scholarship documents such shifts, evidence from Indian pre-service teacher education is sparse. This gap highlights the need for research that examines pre-service teachers' classroom practices and reflective engagements in real school settings, thereby offering insights into how multilingual pedagogies can be meaningfully integrated into teacher education programmes in India.

Research Methodology

This study adopted a qualitative-exploratory design to investigate the pedagogical practices of pre-service teachers in multilingual classrooms. Such a design was well-suited for our research, as it enabled in-depth exploration of educational phenomena (Denscombe, 2017) and created space to capture the voices, reflections, and lived experiences of participants. The focus was on understanding how pre-service teachers navigated the challenges of ELT in linguistically diverse classrooms. This study also explored the extent to which they employed multilingual and translanguaging strategies in practice. This study obtained informed consent from all participants and ensured confidentiality in the handling and reporting of data.

Participants and Context

This study was conducted at a teacher training institute in Delhi, focusing on a cohort of 17 pre-service teachers specialising in English pedagogy during the 2023–2025 academic session. The cohort reflected the multilingual and sociocultural diversity inherent to the Indian linguistic ecology. The pre-service teachers came from varied linguistic backgrounds—including Hindi, Odia, Maithili, Bhojpuri, Punjabi, Telugu, Haryanvi, and Nepali—reflecting distinct regional identities, caste-community networks, and lived experiences of layered multilingualism. The group consisted of both male and female participants, each with differing levels of proficiency and comfort across their repertoires, drawing on multiple languages in everyday communication, academic work, and peer interactions. Despite navigating such rich multilingual realities in their personal and social lives, the participants' teacher education programme had not adequately prepared them to capitalise on these repertoires as pedagogical resources. This became particularly evident when they commenced their School Experience Programme (SEP) and were placed across various government-run schools in Delhi, where English is taught primarily as a second or third language. The classrooms in which they taught were themselves linguistically diverse, with students speaking languages such as Hindi, Odia, Maithili, Bhojpuri, Nepali, Haryanvi, Telugu, Punjabi, and Garhwali. The investigation, therefore, focused on how these pre-service teachers

translated their theoretical training into practice and how they adapted, negotiated, or constrained their pedagogical strategies while teaching in such complex multilingual environments.

Data Collection Tools

To develop a comprehensive understanding of pre-service teachers' pedagogical practices, this study employed multiple qualitative tools of data collection:

- **Lesson Plan Analysis:** Twenty lesson plans were analysed to examine instructional approaches, teaching strategies, and the extent to which multilingual and translanguaging resources were either integrated or suppressed.
- **Reflective Journals:** Pre-service teachers were asked to maintain reflective journals documenting their classroom experiences, challenges encountered, and pedagogical adaptations.
- **Classroom Observations:** Observations during English language lessons were carried out to capture real-time classroom interactions, teaching techniques, and student engagement.
- **Focus Group Discussions (FGDs):** FGDs were facilitated with pre-service teachers to provide space for them to share experiences, articulate perceptions of English language teaching (ELT), and reflect on multilingual and translanguaging teaching strategies.
- **Semi-structured Interviews:** Individual interviews were conducted to elicit deeper insights into participants' pedagogical decision-making, the challenges they faced, and their perspectives on the role of translanguaging in ELT.

Data Analysis

The collected data was analysed using thematic analysis (Braun and Clarke, 2006) to identify recurring themes related to ELT practices, multilingualism, and translanguaging. In this process, we engaged in systematic coding, recognised patterns, and categorised themes that emerged from the lesson plans, classroom observations, reflective journals, FGDs, and interviews. To strengthen the credibility of the findings, the study

employed triangulation through the cross-examination of multiple data sources.

Analytic Illustration Using FGD and Interview Excerpts

To illustrate how the thematic analysis was operationalised, a brief sample of the coding and analytic process using excerpts from the Focus Group Discussions (FGDs) and semi-structured interviews is presented. During the initial coding phase, we generated descriptive codes that captured participants' expressed experiences, such as "students not responding to English-only instruction," "difficulty maintaining fluency," and "switching to Hindi for clarification." For example, in one FGD a participant stated:

"When I start the lesson in English, the students just look at me blankly and avoid eye contact, as if the whole discussion is happening very far from them, but when I gradually switch to Hindi and repeat the same questions, they suddenly relax, smile, and begin to answer enthusiastically."

This instance was first coded as 'breakdown in comprehension' and 'functional shift to students' languages', which later contributed to the broader theme of classroom realities compelling multilingual strategies.

Similarly, interview transcripts offered insight into pre-service teachers' ideological struggles. In one interview, a participant reflected:

"I feel guilty when I use Hindi in my English class, because throughout our training we are repeatedly told that a good teacher should teach only in English, yet when I actually follow that rule the lesson simply does not move and most students remain completely silent."

This was coded as 'ideological tension' and 'perceived illegitimacy of multilingual practices'. These terms emerged to capture key debates: ideological tension arising from conflicting belief systems and the perceived illegitimacy of multilingual practices rooted in the traditional ELT views that discourage the use of the first language. Through iterative comparison across FGDs, interviews, lesson plans, and journals these initial codes were refined, clustered, and elevated into analytic themes that informed the findings presented in the subsequent section. The sample presented illustrates the link between raw data, coding, and theme development.

Table 1: Sample of Coding and Themes

Data Excerpt	Initial Code(s)	Developed Theme
"Students don't respond when I speak only in English."	• Breakdown in comprehension • Limited student engagement	Classroom realities compelling multilingual strategies
"I know we are supposed to use English, but I cannot continue without Hindi."	• Ideological tension • Perceived illegitimacy of L1 use	Tension between monolingual ideology and pedagogical necessity
"Students understand better when I give examples from their languages."	• Use of multilingual scaffolding • Student-centred adaptation	Emerging multilingual awareness

These examples demonstrate how raw qualitative data were systematically analysed and transformed into higher-order themes through an iterative, interpretive process, consistent with Braun and Clarke's (2006) framework.

Emergent Themes from the Thematic Analysis

Based on the thematic analysis of lesson plans, classroom observations, reflective journals, FGDs, and interview transcripts, four major themes emerged that explain the experiences of pre-service teachers while enacting lessons in multilingual classrooms.

- **Adherence to Monolingual Ideologies in Lesson Design:** Pre-service teachers predominantly planned and delivered lessons through English-only approaches, positioning English as a discrete, autonomous system and overlooking students' multilingual repertoires.
- **Classroom Realities Compelling Multilingual Strategies:** Despite monolingual planning, classroom dynamics frequently forced pre-service teachers to use students' home languages for clarification, engagement, and comprehension, revealing a pragmatic shift toward multilingual scaffolding.
- **Tension Between Pedagogical Expectations and Practical Necessities:** Pre-service teachers expressed ideological conflict and guilt about using students' home languages,

reflecting the dissonance between institutional expectations of English-only teaching and the practical need for multilingual mediation.

- **Emerging Multilingual Awareness Through Reflective Engagement:** Reflection sessions and classroom experiences encouraged some pre-service teachers to recognise the pedagogical value of translanguaging and to reframe multilingual practices as legitimate resources rather than compromises.

These themes collectively illuminate how pre-service teachers negotiate, suppress, or gradually embrace multilingual practices while teaching in linguistically diverse classrooms.

Findings and Discussion

The findings emerged from a critical engagement with pre-service teachers' experiences, reflections, and classroom practices during their SEP. Anchored in the broader questions of multilingual education and translanguaging, the study presents the results in relation to the research objectives while situating them within the existing body of scholarship discussed earlier. It structured the discussion around the four objectives, providing both descriptive accounts of the data and interpretive analyses that connect the empirical evidence with theoretical perspective, to offer a rich understanding of the phenomena under study.

Through thematic analysis, the study identified four interrelated themes that explain how pre-service teachers navigate English language teaching in multilingual classrooms during their SEP. These themes include: (i) the persistence of monolingual pedagogical orientations shaped by teacher education training; (ii) classroom realities that compel the use of multilingual strategies despite institutional expectations; (iii) ideological tension and guilt associated with students' home languages, and (iv) emerging multilingual awareness fostered through reflection and classroom interaction. Together, these themes illuminate how pre-service teachers negotiate the disjuncture between monolingual pedagogical norms and the lived multilingual realities of school classrooms. The sections that follow elaborate these themes through evidence drawn from lesson plans, classroom observations, FGDs, interviews, and reflective journals.

Designing and Enacting English Lessons in Multilingual Classrooms

The analysis of lesson plans and classroom observations indicates that pre-service teachers often designed and enacted English lessons in ways that reflected a strong adherence to monolingual ideologies and conventional methods of language teaching. The way they designed the lessons tended to position English as a bounded and autonomous system, sharply separated from learners' everyday languages, which were either ignored or corrected when they surfaced. Such an ideology, held by pre-service teachers, aligns with their pedagogical training, where language is presented as a discrete entity rather than as fluid, flux, and interconnected—a view that stands in stark contrast to the organic pluralism of Indian classrooms (Khubchandani, 1978).

A striking example comes from a lesson on Wordsworth's 'Daffodils'. Reshma (pseudonym), a pre-service teacher, began with a brainstorming exercise, asking students if they had ever seen daffodils. However, without waiting for their responses, she immediately explained in Hindi that a daffodil was "a flower like a rose." She then read the poem aloud. After that, she wrote the 'difficult' words on the board with their Hindi equivalents, and the lesson ended with students answering the textbook questions. It was observed that students remained passive, disengaged, and hesitant to interact. According to the study, this example illustrates how, despite attempts at scaffolding, teaching practices largely reproduced rote patterns rather than leveraging students' multilingual repertoires as resources for deeper classroom engagement.

Similarly, we found that grammar teaching was often prescriptive and decontextualised. Errors from lesson plans, such as "I did not went to school" or misinterpretations of conditionals (e.g., "If we had a car, we could go for a ride"), illustrated how grammar rules were taught in isolation rather than through communicative, context-based approaches. Such practices reinforced fossilised errors while failing to activate students' prior linguistic knowledge.

It was also observed that listening and writing were frequently treated as mechanical tasks, with little attention to communicative aspects of teaching-learning. Reading aloud and translating were assumed to be sufficient for comprehension, while student voices remained marginal. As Rita (pseudonym), a pre-service teacher,

noted in a reflective discussion: “Students don’t react when I speak fluently in English. They give me blank looks.” This reflects the gap between pre-service teachers’ training, where fluency and accuracy in English were valorised, and the multilingual realities of the classrooms, where students’ total linguistic repertoires could have been mobilised to facilitate teaching-learning but were ignored.

Taken together, these examples highlight a disjuncture: pre-service teachers designed and enacted lessons that aligned more closely with monolingual and dominant (English-only) language ideologies than with the full linguistic repertoires of their students. Yet, the act of explaining vocabulary in Hindi or briefly switching into learners’ languages showed that pre-service teachers were compelled by classroom realities to move beyond their training, even if they did not recognise these practices as part of legitimate multilingual or translanguaging pedagogies. In sum, pre-service teachers’ lesson designs and enactments reveal both the persistence of monolingual, dominant language ideology and, at the same time, emerging orientations toward multilingual awareness. Their experiences illustrate how pedagogical training perpetuates a narrow vision of language teaching that overlooks the fluid and dynamic nature of language in Indian classrooms. Yet, as they begin to teach and are confronted with these multilingual realities, glimpses of multilingual awareness start to emerge in their classroom practices.

Mobilising or Suppressing Multilingualism and Translanguaging

From the classroom observations and reflective journal discussions, it was found that pre-service teachers rarely entered classrooms with the deliberate intention of mobilising multilingualism or translanguaging as pedagogical resources. Their initial lesson plans reflected an orientation in which English was treated as an autonomous, bounded, and self-sufficient system, separated from other languages with which it was seen to have no connection or correlation. Such a view aligns with monolingual ideology and often leads to the suppression of students’ multilingual repertoires. However, when classroom situations necessitated, the pre-service teachers were compelled to draw on multilingual strategies. For example, when students failed to comprehend English-only instructions, we observed that pre-service teachers resorted to code-switching, switching between English and Hindi. Although such strategies facilitated classroom interaction, we also

noted that they were often accompanied by an apologetic tone, reflecting pre-service teachers' perception of these practices as 'compromises' rather than legitimate pedagogical approaches. As Rehman (pseudonym), a pre-service teacher, admitted: "When I speak only in English, students don't respond. But when I speak in Hindi, many of them begin to participate in the classroom discussion." He also noted: "I know it's not what we're supposed to do, but otherwise the lesson and the classroom don't move." Such statements can be interpreted as a persistent tension between their training—which valorises English-only instruction and monolingual ideology—and the lived classroom reality, where multilingualism and translanguaging inevitably emerge as a tool for meaning-making.

Several other activities that employed multilingual and translanguaging strategies were also observed. For example, in a Grade 5 lesson on regional food terms, Rita (pseudonym), a pre-service teacher, engaged students in naming street foods such as gol gappa, pani puri, and puchka. The elicitation of such diverse terms not only generated excitement but also validated and empowered students' linguistic repertoires. Similarly, in the Dhanesh activity, a child playfully linked his name to the Hindi word dhan (wealth), which opened the door for collaborative meaning-making across languages. Such classroom moments illustrate the potential of drawing on multilingual and translanguaging practices to facilitate English learning by connecting with students' lived linguistic realities and repertoires. Yet, it was found that such practices were considered exceptions rather than norms. More often, classroom discourse suppressed multilingual realities and expressions. Students' spontaneous use of Hindi, Odia, Punjabi, or Maithili was either ignored or explicitly corrected. In one lesson, when a student muttered an Odia equivalent of a word, Sweta (pseudonym), a pre-service teacher, instructed the student to "say it in English", thereby reinforcing the hierarchy that privileges English while marginalising other languages that shape classroom realities. This study interprets such monolingual ideologies as evidence that teacher education programme instils a deficit view of other languages, positioning them as obstacles rather than resources in teaching and learning.

The engagement with the pre-service teachers during the reflection sessions, on the other hand, provided an important

counterbalance to these classroom practices. When teachers shared their classroom experiences and expressed dissatisfaction with their inability to engage students, they gradually began to question the adequacy of strict English-only teaching. Discussions on Hinglish were particularly engaging and reflective. While pre-service teachers initially described its widespread use as evidence of students' 'weakness', through collective reflection, some began to recognise it as a 'dynamic resource' that could scaffold English learning. Similarly, Rahul (pseudonym), a pre-service teacher, described a 'multilingual wall' activity in which students (in the host school) collectively displayed words in different scripts, which in turn sparked recognition among the pre-service teachers that multilingualism and translanguaging could be leveraged to foster participation and cultivate pride in linguistic diversity. Such reflection sessions, according to the study, served as important sites for pre-service teachers to reframe their experiences, shifting from a deficit perspective toward a more resource-oriented perspective of multilingualism. However, these shifts were rare and often regarded as illegitimate. Without systematic support in their training programmes, most pre-service teachers continued to perceive multilingualism and translanguaging as 'compromises' rather than as 'transformative' practices. In short, while pre-service teachers frequently suppressed multilingual practices, classroom realities, along with their own reflections, pushed them to experiment with, and at times appreciate, the pedagogical potential of multilingualism and translanguaging. This illustrates a significant gap between the institutionalised ideologies of English language teaching and the lived multilingualism of classrooms—one that teacher education has yet to adequately address.

Policy-Practice Disconnect and Implications for Pre-Service Education

A striking disjuncture was observed between the aspirations articulated in policy documents and the pedagogical realities within classrooms and pre-service training. On the one hand, India's NEP 2020, strongly advocates the value of multilingualism, urging schools and teacher education institutions to leverage India's rich linguistic diversity as an educational resource. On the other hand, this study finds that the training of pre-service teachers, particularly in English pedagogy, remains fossilised

in a monolingual orientation and treats languages as discrete, hierarchical entities, positioning English at the top of this hierarchy.

This study notices this disconnection clearly manifested in how the pre-service teachers designed their lesson plans. They consistently drafted plans that assumed English-only instruction, without acknowledging that such an approach would hinder student participation and comprehension. Their reluctance to incorporate multilingual strategies was less a matter of personal choice and more a reflection of their pedagogical training, which had positioned English-only instruction as the hallmark of good teaching. In contrast, policy documents have consistently called for pedagogies that embrace India's organic pluralism. Yet, pre-service teacher education has socialised them into upholding a rigid separation between languages. For example, Tania (pseudonym), noted in her reflective journal: "The policy says (she refers to all the policy documents on education and language) that we should value all languages, but in practice, if I don't use English throughout, I feel as if I am not doing the job properly." This study interprets her reflection as evidence of how the policy's rhetoric fails to translate into pedagogical confidence in the classroom.

The implications for teacher education are, therefore, significant. If pre-service teachers are to move beyond the monolingual ideology that dominates their training as well as practice, teacher education institutions must embed multilingual and translanguaging pedagogies into both coursework and practicum. This involves not only exposing trainees to theoretical frameworks that conceptualise language as fluid and interrelated, but also equipping them with concrete strategies to operationalise these ideas in real classrooms. Such shifts would align teacher preparation more closely with policy aspirations, while also resonating with the sociolinguistic realities of Indian classrooms, where linguistic boundaries are constantly blurred in practice.

In short, the findings of this study highlight how the current pre-service training environment reproduces the very policy-practice gap it is meant to bridge. While NEP 2020 and similar policies and frameworks articulate a vision of inclusive multilingual education, pre-service teachers remain ill-prepared to enact it. Addressing this disconnect requires reimagining teacher education curricula to

foreground multilingualism and translanguaging not as ‘add-ons’, but as central to effective English language pedagogy in India’s organically pluralistic context.

Conclusion

To conclude, the findings of this study reveal that despite strong policy support for multilingual education, pre-service teachers predominantly rely on traditional monolingual methods that perpetuate a deficit view of learners’ linguistic repertoires, positioning their home languages as illegitimate. Such practices not only promote rote learning, but also reinforce monolingual ideologies and contribute to epistemic injustice (Fricker, 2007; Rosa and Flores, 2017) by silencing the linguistic resources learners bring to the classroom. As a result, they restrict student engagement, hinder the development of critical language awareness, and uphold hierarchical ideologies of languages. At the same time, the engagement with pre-service teachers suggests an emerging recognition of the value of multilingualism and translanguaging, pointing towards possibilities for reorienting teacher education.

Therefore, we can say that a clear disjuncture exists between the organic pluralism that shapes language acquisition in the Indian context and the ways pre-service teachers are prepared to teach English. While learners’ repertoires, spanning multiple languages and dialects, illustrate language as fluid, overlapping, and socially situated, the training of pre-service teachers continues to present language as a fixed, bounded entity to be acquired in isolation. Within this framing, English is implicitly positioned at the apex of a hierarchy, which reproduces deficit ideologies that devalue local languages and the epistemic resources embedded within them. We see this as an instance of what Fricker (2007) terms epistemic injustice, where particular knowledge systems and voices are systematically discredited or rendered invisible within institutional practices. In the study’s analysis, it was also noted that pre-service teachers drew on students’ home languages only in incidental or peripheral ways—for example, for discipline or quick clarification—rather than as deliberate pedagogical strategies. While such incidental multilingualism and translanguaging practices highlight the inevitability of multilingualism in meaning-making, it is rarely acknowledged in lesson plans or

reflective journals. This suggests that pre-service teachers had internalised what Flores and Rosa (2015) calls the monolingual bias of language education, where English-only pedagogy is normalised and its socio-political consequences remain unexamined. As a result, teacher education programmes are unable to equip would-be teachers to critically reflect on language ideologies or to harness multilingual repertoires as valuable pedagogical resources.

This study argues, therefore, that it is essential to disrupt the fiction of languages as discrete and hierarchical and to reimagine teacher preparation around pedagogies that legitimise multilingualism and translanguaging as a central practice in ELT. Such a reorientation not only challenges monolingual ideology but also affirms students' linguistic repertoires as valid epistemic resources. The broader implications are profound: resisting linguistic violence and language death (Skutnabb-Kangas and Phillipson, 1998), countering epistemic injustice (Fricker, 2007), and advancing socially just pedagogy. For us, this implies that the pre-service curricula must be redesigned so that each learner's linguistic repertoire is respected and leveraged, thereby fostering linguistic tolerance, sustaining pluralism, and aligning teacher education with the lived multilingual realities of the Indian classrooms.

REFERENCES

- Agnihotri, R. K. (2007). Towards a pedagogical paradigm rooted in multilinguality. *International Multilingual Research Journal*. 1(2), 79–88. <https://doi.org/10.1080/19313150701489689>
- . (2017). Identity and multilinguality: The case of India. In R. A. Khan (Ed.), *Language Policy, Culture, and Identity in Asian Contexts*. 185–204. Routledge. <https://doi.org/10.4324/9781315092034-10>
- . (2021). Linguistic diversity and marginality in South Asia. In P. M. Sarangapani & R. Pappu (Eds.), *Handbook of Education Systems in South Asia*. 1401–1436. Springer. https://doi.org/10.1007/978-981-15-0032-9_32
- Annamalai, E. (2010). Politics of language in India. In P. R. Brass (Ed.), *The Routledge Handbook of South Asian Politics*. 213–231. Routledge. <https://doi.org/10.4324/9780203878187>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*. 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>

- Census of India. (2001). *Census of India 2001: Data Highlights*. Government of India. <https://www.india.gov.in/census-2001-data-online>
- . (2011). *Census of India 2011*. Office of the Registrar General & Census Commissioner, India. <https://censusindia.gov.in>
- Cochran-Smith, M., Villegas, A. M., Abrams, L., Chavez-Moreno, L., Mills, T., & Stern, R. (2015). Critiquing teacher preparation research: An overview of the field, part II. *Journal of Teacher Education*. 66(2), 109–121. <https://doi.org/10.1177/00224871145558268>
- Creese, A., & Blackledge, A. (2010). Translanguaging in the bilingual classroom: A pedagogy for learning and teaching? *The Modern Language Journal*. 94(1), 103–115. <https://doi.org/10.1111/j.1540-4781.2009.00986.x>
- Denscombe, M. (2017). *The Good Research Guide: For Small-scale Social Research Projects* (6th Ed.). McGraw-Hill Education. https://books.google.co.in/books/about/EBOOK_The_Good_Research_Guide_For_Small.html?id=SMovEAAAQBAJ&redir_esc=y
- Flores, N., & Rosa, J. (2015). Undoing appropriateness: Raciolinguistic ideologies and language diversity in education. *Harvard Educational Review*. 85(2), 149–171. <https://doi.org/10.17763/0017-8055.85.2.149>
- Fricker, M. (2007). *Epistemic Injustice: Power and the Ethics of Knowing*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198237907.001.0001>
- García, O., & Kley, T. (2016). *Translanguaging with Multilingual Students: Learning from Classroom Moments*. 202–222. Routledge.
- Hornberger, N. H. (2002). Multilingual language policies and the continua of biliteracy: An ecological approach. *Language Policy*. 1(1), 27–51. <https://doi.org/10.1023/A:1014548611951>
- . (2005). Opening and filling up implementation and ideological spaces in heritage language education. *The Modern Language Journal*. 89(4), 605–609. <https://doi.org/10.1111/j.1540-4781.2005.00331>
- Khubchandani, L. M. (1978). Language planning processes for pluralistic societies. *Language Problems and Language Planning*. 2(3), 229–242. <https://doi.org/10.1075/lplp.2.3.02khu>
- Kumaravadivelu, B. (2006). TESOL methods: Changing tracks, challenging trends. *TESOL Quarterly*. 40(1), 59–81. <https://doi.org/10.2307/40264511>
- Meganathan, R. (2015). Medium of instruction in school education in India: Policy, status and demand for English medium education. *Indian Educational Review*. 53(2), 7–31. <http://ejournals.ncert.gov.in/index.php/ier/article/view/2928>
- Ministry of Human Resource Development. (1966). *Report of the Education Commission (1964–66): Education and National Development*. Government of India, Ministry of Education. <https://ia801307.us.archive.org/16/items/ReportofTheEducationCommission1964->

- 66D. S.KothariReport/48.Jp-ReportofTheEducationCommissi
on1964-66d.s.kothari.pdf
- . (1968). *National Policy on Education*, 1968. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/document-reports/NPE-1968.pdf
- . (1986). *National Policy on Education*, 1986. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/upload_document/npe.pdf
- . (1992). *Programme of Action*, 1992. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/document-reports/POA_1992.pdf
- Ministry of Education. (2020). *National Education Policy 2020*. Government of India. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
- Mohanty, A. K. (2008). Perpetuating inequality: Language disadvantage and capability deprivation of tribal mother tongue speakers in India. In W. Harbert, S. McConnell-Ginet, A. Miller & J. Whitman (Eds.), *Language and Poverty* (pp. 102–124). *Multilingual Matters*. <https://doi.org/10.21832/9781847691200-009>
- . (2018). The multilingual reality: Living with languages (Vol. 16). *Multilingual Matters*. <https://doi.org/10.21832/9781788921978>
- . (2019). Language policy in education in India. In A. Kirkpatrick & A. J. Liddicoat (Eds.), *The Routledge International Handbook of Language Education Policy in Asia*. 329–340. Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9781315666235-23/language-policy-education-india-ajit-mohanty>
- National Council of Educational Research and Training. (2005). *National Curriculum Framework 2005*. Government of India. <https://educationforallinindia.com/wp-content/uploads/2020/12/National-Curriculum-Framework-2005-NCERT-English.pdf>
- Panda, M., & Mohanty, A. K. (2015). Multilingual education in South Asia. In W. E. Wright, S. Boun, & O. García (Eds.), *The Handbook of Bilingual and Multilingual Education*. 542–553. Wiley. <https://doi.org/10.1002/9781118533406.ch34>
- Rosa, J., & Flores, N. (2017). Unsettling race and language: Toward a raciolinguistic perspective. *Language in Society*. 46(5), 621–647. <https://doi.org/10.1017/S0047404517000562>
- Skutnabb-Kangas, T. (2006). Language policy and linguistic human rights. In T. Ricento (Ed.), *An Introduction to Language Policy: Theory and Method*. 273–291. Blackwell Publishing.
- Skutnabb-Kangas, T., & Phillipson, R. (1998). Language in human rights. *Gazette. International Communication Gazette*. 60(1), 27–46. <https://doi.org/10.1177/0016549298060001003>

- Skutnabb-Kangas, T., Phillipson, R., Mohanty, A. K., & Panda, M. (Eds.). (2009). Social justice through multilingual education, 7. *Multilingual Matters*. <https://dokumen.pub/social-justice-through-multilingual-education-9781847691910.html>
- Wei, L., & Lin, A. M. Y. (2019). Translanguaging classroom discourse: Pushing limits, breaking boundaries. *Classroom Discourse*, 10(3–4), 209–215. <https://doi.org/10.1080/19463014.2019.1635032>
- Wei, L. (2022). Translanguaging as a method. *Research Methods in Applied Linguistics*, 1(3), 1–26. <https://doi.org/10.1016/j.rmal.2022.100026>
- Zeichner, K. (1999). The new scholarship in teacher education. *Educational Researcher*, 28(9), 4–15. <https://doi.org/10.3102/0013189X028009004>

Perspectives of State Functionaries on Inclusive Education with Focus on Children with Disabilities

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ABSTRACT

The purpose of this study was to identify state key functionaries' perspectives and actions taken to implement the recommendations of the National Education Policy 2020 with reference to inclusive education of children with disabilities. A mixed-method research design was employed to understand the awareness of the state functionaries on the educational issues and concerns, activities and practices taken to facilitate inclusive education for children with disabilities. Ten open and closed-ended items of the questionnaire were designed for this study. It was administered to the participants of both states, Kerala (n= 23) and Uttarakhand (n= 19). In addition, a focus group discussion was conducted on the challenges perceived by the selected participants. The result showed that although participants were aware of the educational issues and concerns of children with disabilities, and initiatives had been followed to facilitate inclusive education in their states, gaps were present towards the implementation of inclusive practices. Findings indicate some of the challenges, such as the perception of parents, structural arrangements, and teacher incompetency. The findings highlighted the necessity of extensive training of the state key functionaries for the effective implementation of equitable and inclusive education with a focus on children with disabilities.

Keywords: *Inclusive Education, Children with Disabilities, Continuous Professional Development Programme, National Education Policy 2020*

Introduction

Inclusion and its strategies originated from several key international declarations, which also impacted the education scene in India.

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Over the last three decades various international policies, like the Convention on the Rights of the Child (United Nations, 1989), the World Declaration on Education for All (UNESCO, 1990), and the Salamanca Statement and Framework of Action (UNESCO, 1994), have encouraged inclusive educational development for all learners, including Children with Disabilities (CwDs). A major push for inclusive education was strengthened by the Convention on the Rights of Persons with Disabilities, which highlights the rights of persons with disabilities to be involved and participate fully in society, including education (UN, 2006). Furthermore, the United Nations' Sustainable Development Goal 4 (SDG 4) aims to guarantee equitable and inclusive quality education for all, stressing the significance of educational access as a vital human right (UN, 2015).

India has taken numerous initiatives to encourage a holistic vision of education that values diversity, nurtures learning environments free from discrimination, and allows all children, with focus on CwDs, to realise their potential. Most remarkably among them are the Integrated Education of Disabled Children Scheme (IEDC) 1974, the Persons with Disabilities Act, 1995, the Sarva Siksha Abhiyan 2001, the Action Plan for Inclusive Education of Children and Youth with Disabilities 2005, and the National Policy of Disabilities 2006. India ratified the Convention on the Rights of Persons with Disabilities in the year 2007, and free and compulsory education to children with disabilities is ensured by Article 24 of the Indian Constitution. The Right of Children to Free and Compulsory Education (RTE) Act 2009, ensures that “children from 6 to 14 years get the free and compulsory education” with specific provision for the weaker section and disadvantaged groups, including CwDs (Ministry of Human Resource Development, 2009). Further, the Rights of Persons with Disabilities Act, 2016 provides specific measures to facilitate inclusive education for CwDs, recognising 21 types of disabilities. These measures have placed inclusive education at the core of India's education transformation measures.

In keeping with this, the National Education Policy (NEP) was released in 2020, marking a significant milestone in India's educational landscape. This comes after 34 years since the National Policy on Education (NPE) 1986, which placed a strong emphasis on inclusion of children with disabilities into regular schools. In the NEP 2020, disabilities (as scheduled and categorised in the

RPwD Act, 2016) are identified under the broader umbrella term referred to as Socio-Economically Disadvantaged Groups (SEDGs). The policy endorses the provisions and measures suggested by the RPwD Act 2016, on inclusive education. To facilitate effective implementation of the recommendations of the NEP 2020, the Samagra Shiksha Scheme—being the core scheme for the school education sector—had been revised and redesigned. The major guiding principles of Samagra Shiksha (SS) 2022 are aligned with SDG 4 for education, and assist the States and UTs to provide appropriate support and services to ensure full participation of CwDs as per their needs and abilities (Ministry of Education, 2020).

The Census of India (2011) data shows the disability prevalence rose from 2.13 per cent in 2001 to 2.21 per cent in 2011, indicating an 8.5 per cent increase over the decade. The rural disability prevalence increased from 2.21 per cent in 2001 to 2.24 per cent in 2011, a 1.4 per cent rise; however, urban areas saw a more significant increase from 1.93 per cent in 2001 to 2.17 per cent in 2011, marking a 12.4 per cent rise. Disparity in prevalence has been noted, while India's 2011 Census reports only 2.68 crore (2.21 per cent of the population) as having disability, global data (WHO, 2011) estimates 60 crore population (15 per cent of the global population) in prevalence of disability. Global estimates suggest the actual number may be seven times higher. This large gap suggests significant under-reporting and that many persons with disabilities remain invisible in India's official statistics. Further, the NEP 2020 gives equal emphasis to inclusive education at all levels of schooling, from the foundational stage to higher education, including home-based education, and focuses on diversity, rights, access, equity and inclusion, high quality of education, and provides recommendations for its effective implementation.

The NEP 2020 had intensively discussed the inclusion of CwDs throughout the different sections (e.g., school education, teacher education, and higher education). The policy has introduced significant recommendations in the approaches to teacher education and highlighted the pre-service programmes and courses at all levels to equip the teachers for teaching in inclusive classrooms. To realise this, the NEP outlines a diverse set of solutions in school education, including educational resources available in all schools, suitable use of assistive technologies, early screening, identification, and intervention necessary support structure to CwDs wherever needed, focus on Indian

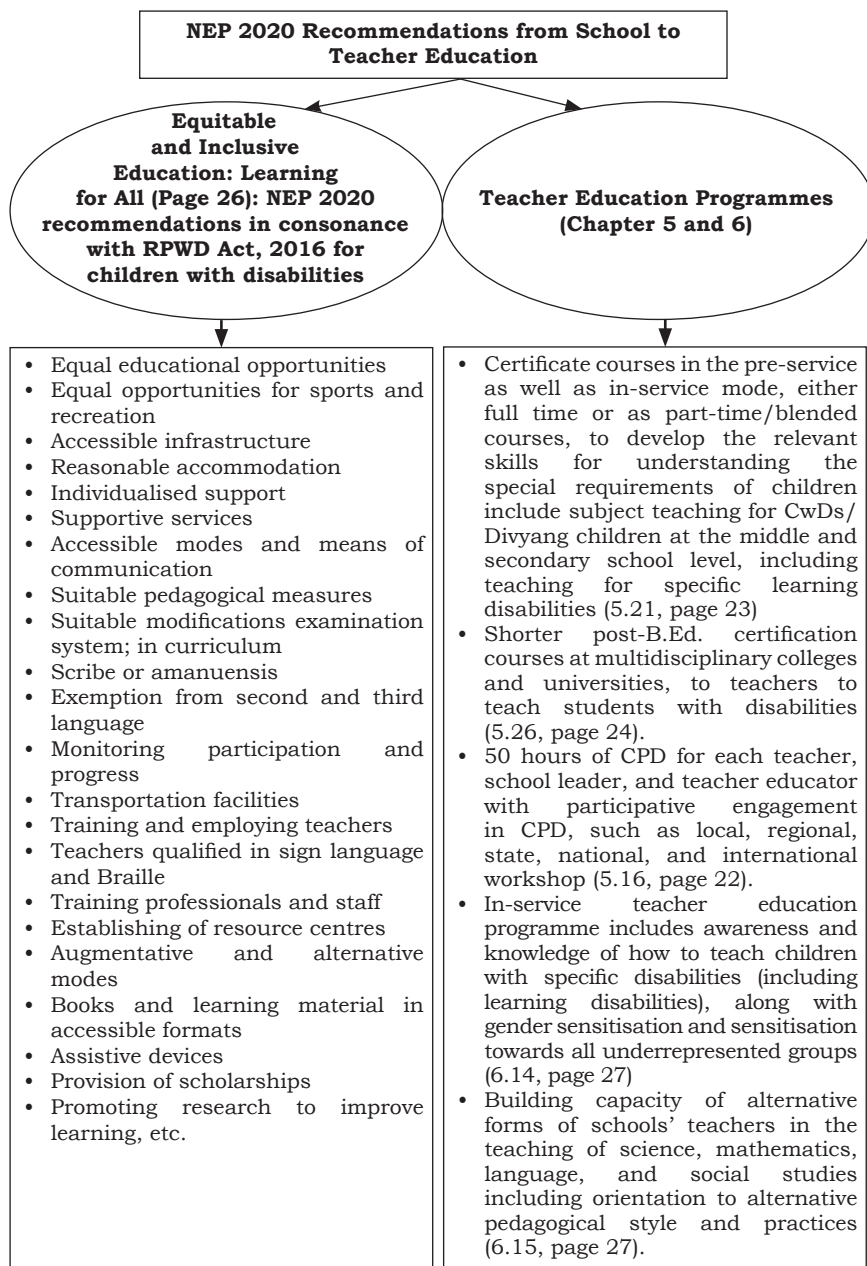


Figure 1: Inclusive education

Source: NEP (2020)

Sign Language (ISL), and capacity building of pre-service and in-service teachers. (Ministry of Education, 2020). The major outlines of the recommendations in school education and teacher-related components are presented in Figure 1.

Review of Related Literature

Several recommendations have been given by the NEP 2020 for bridging educational and social gaps for all, including CwDs through suggestive measures and interventions, including teacher the education programmes (Ministry of Education, 2020). However, its success relies on the actual implementation of the recommendations at ground level (Sharma et al., 2019; Singal, 2019). There are still considerable challenges when it comes to the implementation of the educational policy for inclusion. The role of family and community is crucial in the education of CwDs (Gowramma et. al., 2018). Researchers have found many apprehensions of the parents of CwDs regarding the negative experience of discrimination (Divan et al., 2012). Further, school related factors such as class size, number of children with disabilities in the class, the severity level of disability and support at the system and school level, constraint in resources, administrative level challenges, and non-acceptance may also have an effect on education of CwDs in inclusive environment (Mondal and Mondal 2025; Das, 2013; Kumar et al., 2025). Quality ECCE is not accessible to numerous children, especially those from SEDGs (Ministry of Education, 2020), including CwDs, with a lack of infrastructure including ramps, disabled-friendly toilets, wheelchairs, or necessary equipment (Rao et al., 2021; Malik and Hasan, 2024). Researchers have paid attention to the role of teachers and pre-service teacher education programmes (Demirel and Islamoglu, 2025) in equipping the teachers to teach in inclusive classrooms, including pre-service teacher education courses that focus mainly on theory and a gap remains in their practical aspects (Singal, 2019). A recent meta-analysis of teachers' beliefs about inclusive education (Sengun, 2022) emphasised that little is known about how state key functionaries perceive the educational issues and the current practices employed towards equitable and inclusive education of CwDs. Sharma et al. (2008) raised the need to identify barriers and challenges for the implementation of inclusive education effectively. There is a huge and sufficient number of research investigating the role of teachers

(Taneja-Johansson, 2023; Chu et al., 2020) and their beliefs, challenges, and capacities on including CwDs in regular settings. However, a lot of research is needed on the perceptions of certain educational groups, notably district and state key functionaries (Tracy-Bronson, 2020), responsible for preparing strategies and implementing successful inclusive education. Although they do not deliver instruction directly, their leadership practices contribute to implementing inclusive education in their states. It is necessary to investigate how state key functionaries view the difficulties and practices of inclusive education for CwDs. From the perspective of functionaries of states of Kerala and Uttarakhand, this article seeks to examine the obstacles hindering the schooling of CwDs in an inclusive setup and the initiatives taken to make inclusive education successful.

Research Questions

Question 1: To examine the educational concerns and issues experienced by the state key functionaries responsible for the implementation of inclusive education.

Question 2: To identify the practices adopted on inclusive schooling for CwDs.

Method

Research Design

A mixed method approach was employed to understand the educational issues and concerns, activities, and practices taken to facilitate inclusion. To gather comprehensive data both quantitative and qualitative approaches were used.

Settings

In states, the SCERTs, DIETs, and Samagra Shiksha functionaries are responsible for realising the provisions of inclusive education, guided by the national-level policies and schemes. This involves developing an action plan and strategies for the education of CwDs to be delivered in an inclusive setup. Purposive sampling was employed to identify stakeholders working in the area of inclusive education. The participants were inclusive education coordinators, Samagra Shiksha officers, block and cluster education officers, special education teachers, school principals, SCERTs and DIETs, coordinators and faculties. Kerala represents the southern region

of India, while Uttarakhand represents the northern Himalayan region. This juxtaposition enabled the researcher to examine the perspectives of key functionaries of states with two divergent contexts: one with a relatively strong educational infrastructure and equity indicators (Kerala), and another with greater access and geographical challenges (Uttarakhand).

Participants

The researcher purposefully identified districts in the Kerala and Uttarakhand where the Samagra Shiksha office was located. After obtaining the approval from the State Project Directors (SPDs) of both the selected states, Kerala and Uttarakhand, data were collected in person by the researcher through on-site visit conducted separately in their states. Data were collected from 42 participants — 23 from Kerala state and 19 from Uttarakhand state. Table 1 reflects the demographic details of participants from both states.

Table 1: Demographics of Participants

Demographics	Category	Kerala (n = 23)	Uttarakhand (n = 19)
Gender	Male	52.2% (12)	36.8% (7)
	Female	47.8% (11)	63.2% (12)
Age	Under 40	21.7% (5)	21.1% (4)
	40–50	47.8% (11)	26.3% (5)
	Above 50 years	30.5% (7)	52.6% (10)
Designation	Programme/ Project Officer	39.1% (9)	42.11% (8)
	School Principal	4.3% (1)	10.53% (2)
	Lecturer (SCERT)	30.4% (7)	21.05% (4)
	Special Education Teacher	26.9% (6)	26.32% (5)

Data Collection Tools

A self-developed questionnaire in both Hindi and English was used as the primary tool for data collection followed with a focus group discussion to gather participants’ perceptions on inclusive education for CwDs. The researcher used the National Guidelines and Implementation Framework on Equitable and Inclusive Education (NGIFEIE) as a guide while developing the survey tool with focus on CwDs (National Council of Educational Research and

Training, 2024). The guidelines were developed by the Department of Education of Groups with Special Needs (DEGSN), National Council of Educational Research and Training (NCERT), India. They were formulated based on the recommendations of the NEP 2020 to realise equitable and inclusive education from the foundational stage to the secondary stage of school education including teacher education programmes. The questionnaire was reviewed by the inclusive education experts. All the suggestions made by the reviewers were incorporated, this improved the content validity of the instrument. The questionnaire covered two sections. Section A comprised of demographic information including age, gender, and designation. Section B comprised of questions related to the research objectives on inclusive education for CwDs including both close-ended (yes or no) and open-ended (short answers) questions on awareness of the educational issues and concerns of children from SEDGs; with focus on CwDs and steps taken in implementing education of CwDs in regular school settings. Additionally, a focus group discussion was conducted with the participants related to the challenges and concerns on the implementation of the recommendations of the NEP 2020. The focus group discussions lasted between 30 to 45 minutes. For ethical consideration, all the participants were thoroughly informed and gave formal consent to contribute in the study.

Data Analysis

Descriptive statistics was used for analysing the quantitative data by calculating frequency and percentages to arrive at inferences. Furthermore, data collected through the questionnaire and focus group discussions were coded, tabulated, and analysed thematically. Clark and Braun (2016) agreed on the selection of thematic analysis due to its flexibility as well the appropriateness in achieving the objectives of the study on providing an insight on how a particular phenomenon is experienced, thought, and felt by the participants.

Findings

This section outlines the study's findings, beginning with the presentation of quantitative data obtained from the close-ended questions followed with the qualitative results from the open-ended questions and focus group discussion.

Results of Quantitative Data**Table 2: Alternate Responses of the Participants**

		Percentage of participants responded 'Yes'		Percentage of participants responded 'No'	
S. No.	Statements	Kerala (n = 23)	Uttarakhand (n = 19)	Kerala (n = 23)	Uttarakhand (n = 19)
1.	Aware of the educational issues and concerns of children with disabilities	91.30% (21)	100% (19)	8.70% (2)	0.00% (0)
2.	Aware of the recommendations and provisions given in the NEP (2020) on inclusive education for children with disabilities	82.60% (19)	94.73% (18)	17.40% (4)	5.27% (1)
3.	Facing any difficulties in implementing the recommendations of the NEP 2020 for children with disabilities	78.26% (18)	78.94% (15)	21.74% (5)	21.06% (4)
4.	State has an equitable and inclusive education (EIE) cell	39.13% (9)	84.21% (16)	60.87% (14)	15.79% (3)
5.	Mechanism or steps for early screening and identification of CwDs at all levels	91.30% (21)	94.73% (18)	8.70% (2)	5.27% (5)
6.	Mechanism to expand and strengthen the early-childhood education programme for all including children with disabilities	91.30% (21)	94.73% (18)	8.70% (2)	5.27% (5)
7.	Collaboration with NGOs and organisations for overall development of children belonging to SEDGs with focus on children with disabilities	56.52% (13)	78.94% (15)	43.48% (10)	21.06% (4)
8.	In-service training teachers to teach in inclusive schools at all levels	82.60% (19)	89.47% (17)	17.400% (4)	10.53% (2)

9.	Action studies conducted by the state on education of students belonging to SEDGs including children with disabilities	86.95% (20)	42.10% (8)	13.050% (3)	57.90% (11)
10.	Awareness of the National Guidelines and Implementation Framework on Equitable and Inclusive Education (NGIFEIE) to the inclusion of children with disabilities	78.26% (18)	84.21% (16)	21.740% (5)	15.79% (3)

From Table 2, it can be analysed that both the states responded with a high level of awareness regarding the educational issues of CwDs. The provisions and guidelines to implement NEP 2020 recommendations for inclusive education suggested that the participants identified the issues and concerns related to inclusive education and are aware of the NEP 2020 recommendations on inclusive education. A noteworthy insight which developed from the above responses is that although both the state participants were aware of the educational needs of CwDs, they also experienced difficulties in implementing inclusive education for CwDs. The gaps in awareness and difficulties encountered for schooling CwDs in inclusive settings, reflect the gaps in policies and its practices. Further, mixed responses were reported related to the provisions on inclusive education. For instance, establishment of equitable and inclusive education cell, steps for early identification and screening, early childhood education programme with a focus on CwDs, and collaboration with NGOs and in-service training of teachers to teach in inclusive schools had a higher response from the Uttarakhand participants than the Kerala participants. The results indicate variations in the readiness of the states on inclusive education for CwDs.

The results depicted in Table 2, further raised concerns that there is less focus on action research on education of CwDs by Uttarakhand as compared to Kerala state participants. It can be concluded that the quantitative analysis of the data shows that both the state functionaries perceive that their schools practiced inclusive education for CwDs and they responded positively. Guliya et al. (2023), raised concerns on numerous challenges in inclusive

education in India such as dearth of skilled teachers, practical based curriculum, limited resources, inadequate infrastructure, lack of awareness, negative attitude, ineffective strategies, and lack of supportive policies.

Further, an attempt was made to substantiate the results obtained from the quantitative findings with the qualitative results to get a deeper understanding of inclusive education for CwDs in states of Kerala and Uttarakhand. After reviewing the qualitative data responses, what emerged was presented under two sections pertaining to the research questions of the study.

Results of Qualitative Data

Educational Concerns and Issues Experienced by the State Key Functionaries

Through analysis of the data, three themes emerged: perception of parents, structural arrangements, and gaps in training.

- Perception of Parents: The parent and society factor, related to lack of awareness and attitudinal issues towards CwDs were described as a significant concern for education of CwDs by both the state participants.

Kerala state participants expressed that “socially backward and deprived children are victims of their social conditions like neglect, lack of encouragement from some sections of society, and social expectations.”

Traditional mindset and stereotypes were reflected in the Uttarakhand state participants. They stated “parents do not want to educate their disabled children. Most people believe that they cannot contribute towards society and the nation.” Majority of the participants mentioned that “villagers do not understand the programmes and schemes of the government and the education of these children is neglected by their parents.”

The responses from both the state participants showed unawareness of government programmes and schemes. They experience, “difficulty in getting proper certificates from parents; parents do not give the information properly, do not give the documents, like PAN numbers or birth certificates required for admission and facilities provided by the government to these children and the correct report of the students age is not received.”

Further, it was observed that the socio-economic conditions of the parents of CwDs and their home environment have a significant impact on successful inclusion. A Kerala participant said that “parents neglect the education of their children to improve the financial condition of their home and make these children work.”

Similarly, majority of the participants of both the states, especially an Uttarakhand participant mentioned “education is not their priority, bread earning of their family is important. If both the parents of these socially and economically weak children work, then there is lack of admission and absenteeism in the school.” They also stated that “there are instances where children cannot come to school because they have to take care of younger siblings.”

The recurrent issues which were highlighted by the participants irrespective of the state were socio-economic deprivation leading to parents’ neglect and low attendance.

- **Structural Arrangements:** Another key theme which emerged from both the state participants responses was inadequate structural arrangements related to infrastructure, dearth of teachers, lack of disabled-friendly toilets, excessive workload, overcrowded classes, lag of barrier-free infrastructure, shortage of trained teachers, and special education teachers.

One of the key issues noted in the responses mentioned by the Uttarakhand participants was inaccessible toilets for CwDs. They stated, “such children are often absent from school, which makes it difficult to educate them. There is a lack of toilets for CwDs” Further, majority of both the state participants mentioned that “classroom sizes are not appropriate for activities and most schools are not disabled-friendly.”

Further, they highlighted the issues related to overcrowded classes and teachers overburdened with work, which were reflected in their responses. For instance, “due to excess work and high number of students, there is a problem in providing individual support.”

- **Gaps in Training:** Furthermore, both states recorded a dearth of special education teachers and insufficient funding for support staff. There is a lack of therapeutic services, inadequate teacher-student ratio, lack of proper screening, identification, and insufficient training of Anganwadi

workers. Inclusive education teachers further mentioned educational concerns and issues especially for CwDs. For instance, majority of the Kerala participants expressed that, “despite inclusive education being a significant component of teacher capacity building, there is no special kind of training specifically for pre-service teachers in Kerala related to inclusive education. The B.Ed. and D.El.Ed. students gain general classroom experience but do not receive dedicated special training as part of their studies.”

In comparison to this, Uttarakhand participants raised issues on minimal training opportunities and the absence of model inclusive schools at the DIET level. Teachers undergo 50-hour general training, but inclusive education is confined to a single session. The lack of trained master trainers and practical exposure further limits the transfer of inclusive pedagogy into classrooms. The participants described “while training is provided, a common challenge is that only one session is often allotted for inclusive education, which is deemed inadequate for general school teachers who need to be well trained.”

Further, lack of knowledge of the teachers on curriculum adaptation and use of local language teaching-learning material were described as major educational challenges. This reflects the need of training to the teachers to connect the curriculum with the local context and address the diverse needs of students.

Table 3: Categories of Educational Issues and Concerns for CwDs

Themes	Sub-themes
Perception of Parents	• Lack of home learning atmosphere • Missing regular classes • Neglect by family • Lack of parental awareness on government schemes and benefits • Bread earning priority • Drop outs • Stigmatisation • Lack of documents (PAN, etc.)
Structural Arrangements	• Inadequate special education teachers • Schools not disabled-friendly • Transportation • Supportive staff including therapist
Gaps in Training	• Class size • Lack of proper screening and identification • Insufficient funding • Lack of periodical implementation monitoring

	• Lack of disability-specific training • Focus on theory rather than practical • Lack of knowledge on curriculum adaptation • Less focus on using local language and teaching learning material • Disconnect of curriculum with local context
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Practices Adopted for Inclusive Schooling

From the qualitative data analysis, five major themes which emerged on practices adopted by the selected states in inclusive schooling for CwDs are presented below:

- **Mechanism and Resource Support:** Participants of both the states mentioned the mechanism and resource support provided to CwDs related to establishment of block resource centres, provision of scholarships and allowances to CwDs. The participants of Kerala mentioned, “the state government, under Samagra Shiksha Kerala (SSK), established therapy centres, autism centres, and multi-sensory centres in designated areas in all Block Resource Centres (BRCs). In these centres, various therapies including speech therapy, occupational therapy, physiotherapy, and behavioural interventions are provided.”

Besides this, the participants of Kerala mentioned various cells and facilities provided to CwDs like transgender cell, disability commissions cell, dedicated EIE cell, Additional Skill Acquisition Programme (ASAD), accessible IT infrastructure, tactile signs, mobility or visual aids, signage in all schools, special pavements, provision for UDIDs, health cards, safety trainings, and inclusive sports training.

A provision of scholarship and other allowances to CwDs were also mentioned by the participants of Uttarakhand including health check-ups and safety and security. They stated, “Rashtriya Bal Swasthya Karyakram (RBSK) team comes for health check-up, children with severe disabilities are referred and some NGOs also come for eye check-up, they are also given spectacles. The Judo Karate team also comes to provide Judo training.”

- **Early Screening and Identification:** The participants of Kerala state focused on early screening and intervention through District Early Intervention Centres (DEICs) in collaboration with various bodies including rehabilitation centres, special

schools, and other bodies. Project Anuyatra is an initiative for autistic children in which early detection, empowering programmes for parents, and skill development of children are focused.

Under the Kerala Social Security Mission (KSSM) scheme, Sruthitharangam, cochlear implantation of young children (age group 0–5 years) was initiated. Through the BUDS schools, Kerala (care centres) for CwDs and Shalabham, screening of new born babies in government hospitals are conducted.

With the help of SSK, various programmes for early screening and identification of disabilities were organised. In all BRCs, facilities are ensured and guidelines have been prepared for medical camp and doctors who have expertise in the field to conduct medical camps. Guidelines for teachers for screening have also been prepared.

Uttarakhand participants mentioned that regular check-ups at school and block level camps for early screening and identification of CwDs were conducted.

Block-wise medical camps are specifically arranged for the identification of these children at the district level. The Rashtriya Bal Swasthya Karyakram (RBSK), Uttarakhand team conducts yearly check-ups. Regular health check-up camps are organised in schools to identify health problems among children.

One of the participants mentioned the colocation of Anganwadis with the regular schools, “The state has been working to locate Anganwadis and is forming policies to align with the NEP 2020 norms. Bal Vatika centers have been opened in Anganwadis and schools.”

- Home-based Education: For home-based education (HBE), Kerala’s key functionaries mentioned Changathikkoottam, a programme by SSK, in which regular visits of special education teachers to homes of children with severe disabilities were initiated.

One of the participants stated, “special education teachers visit bedridden child once in a week and separate online materials are developed for home-based children (available at ssakerala.in). Peer-mentors visit the home of HBE children during festivals and holidays, and play with

them. Virtual classrooms are also functioning for bedridden children.” Further, one of the participants stated, “separate format is developed to record the development of students under home-based education. The IEPs are provided and reviewed at regular intervals. Sahitham, a mentoring portal is created for assessing the learning performance of all students including CwDs.”

The HBE initiatives were also emphasised by the participants of Uttarakhand, “a special educator has been appointed by the government in every block. They visit the homes of children and identify them, do their documentation, if there is any lack or document missing, then parents are counselled. They are informed about government schemes.” Ek Prayas, a module for home-based children with special needs’ parents and revision of the module were mentioned.

- Collaboration: Collaboration with various organisations and NGOs were emphasised by the Kerala participants, including the National Institute of Physical Medical and Rehabilitation (NIPMR) and Composite Regional Centre (CRC), for the empowerment of persons with disabilities, health department, rotary club, lions club, autism club, and various health departments to support CwDs.

Uttarakhand participants mentioned that “the state has collaboration with various NGOs and institutions including the National Institute for the Empowerment of Persons with Visual Disabilities, Vision mPower (refer as Vision Empower), Rafale, Raphael Cheshire Home, Bajaj Institute for the Deaf and Dumb, ALIMCO (Artificial Limbs Manufacturing Corporation of India), and Azim Premji foundation to strengthen inclusive schooling.”

Both the state functionaries had emphasised the role of DIETs and SCERTs in the action research on inclusion. One of the participants from the Kerala state mentioned, “action research was started under the leaderships of DIETs and few states started action research about inclusive education under SSK and SCERT.” Interestingly, other participants from Kerala also highlighted that “action research has been started in various areas also achievement of children with special needs’ general schools, out-of-school children, and teacher training need analysis.

- **In-service training:** The role of the State Council of Educational Research and Training (SCERT) was also emphasised by participants in teacher training. Through a special cell it provides special education training on special education programmes with focus on skills and pedagogical tools. This was supported by one of the participants of Kerala, “we have regular training programmes for teachers on different subjects and the module is normally prepared by the SCERT especially during summer vacation.” Further, the status of training at district level were mentioned by the Uttarakhand state functionaries, “training programmes at the district level are conducted to sensitise the associated officers and employees and various professional development

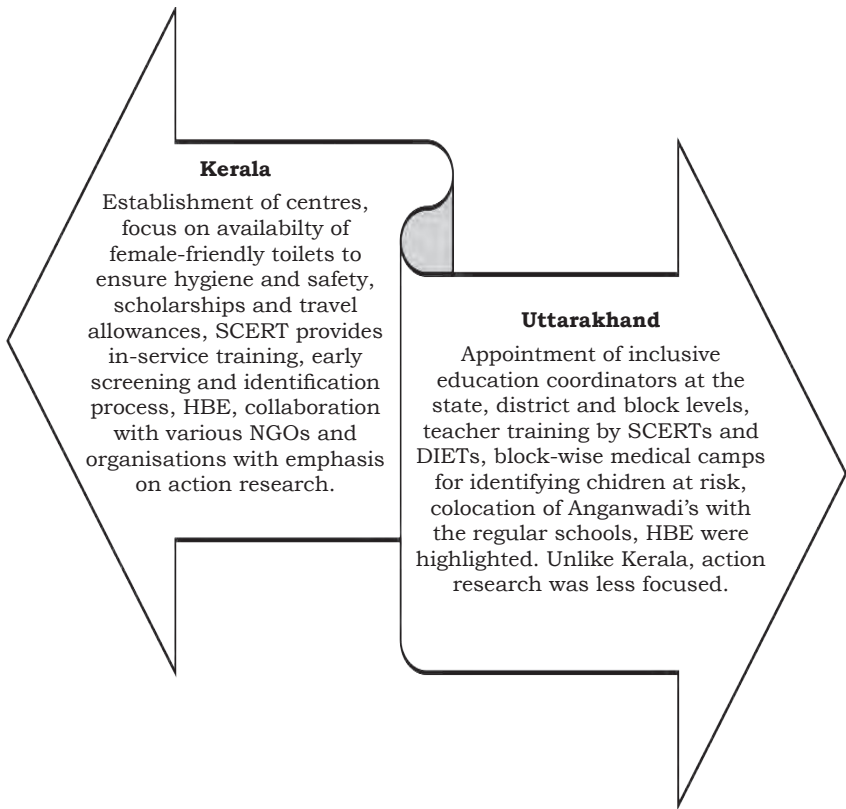


Figure 2: Inclusive practices by states

training programmes are conducted for the teachers. The SCERT conducts and monitors the training programmes as per NEP 2020 provisions.”

Discussion

This study aimed to explore the experiences and perceptions of Uttarakhand and Kerala state functionaries on the educational issues, concerns, and the practices adopted for inclusive schooling of CwDs. The analysis of the quantitative data reflected that both the states reported high awareness of the educational issues, recommendations and provisions given in the NEP (2020), steps for early screening and identification of CwDs at all levels, mechanism to expand and strengthen the early-childhood education programme, in-service training of teachers to teach in inclusive classrooms at all levels, and the NGIFEIE. However, Kerala state participants reported low awareness of EIE cell, and collaboration with NGOs and organisations for the overall development of CwDs as compared to Uttarakhand participants. Further, it is revealed that Uttarakhand state perceived low on action research studies conducted by the state on education of CwDs as compared to Kerala.

The results of the study highlight that educators in many regions increasingly recognise the significance of inclusive education frameworks, which aligns with earlier research (Florian and Black-Hawkins, 2011). This confirms that being aware of the policy is necessary for implementing inclusive education for CwDs. However, awareness alone is not evident of the effective implementation of the policy recommendations regarding CwDs.

Furthermore, in spite of high response recorded on awareness and steps related to inclusive education, both the states reported challenges encountered to realise full inclusion for the CwDs. The results of the qualitative data highlighted that the challenges which the state key functionaries come across are common. Numerous issues related to family, society, school, and system level leading to low attendance and dropouts are mainly crucial for disadvantaged and underrepresented groups. Consequently, the measures taken should be targeted in a concerted way for SEDGs including CwDs (Ministry of Education, 2020).

The findings of the study are consistent with earlier studies, which emphasised negative and stigmatised attitudes towards CwDs, inadequate teacher preparation, and less involvement of

community as the major barriers in inclusion (Burningham, et al., 2024; Mitiku and Mengsitu, 2014; Rosales and Rosales, 2019).

Lack of cross-disability training was one of the main barriers that was identified in the findings. Further, it can be considered that while planning the capacity building programmes for the state functionaries, similar nature of challenges should be considered. However, the depth and manifestations of the challenges may differ. It is in line with the results of the recent study by Tah (2025), which suggested that identifying the challenges is a prerequisite and crucial pathway for addressing and implementing inclusive education for CwDs.

The participants of this study highlighted the practices initiated by their states to implement equitable and inclusive education. Aspects such as establishment of centres, scholarships and travel allowances, by teachers' training SCERT, early screening and identification process, HBE, collaboration with various NGOs, and action research were focused. However, not much difference was revealed between both the states with regards to inclusive education practices adopted for CwDs. The results of the study suggested that although various uniform practices are followed by the states to implement inclusive schooling for CwDs, there are still barriers that need to be addressed and special attention be paid in this regard.

Numerous studies suggested recommendations for inclusion of CwDs (Lambrecht et al., 2020; Raj, 2024; Sharma et al., 2019; Uygur et al., 2020) including involvement of local members in school activities, revamping the curriculum of teacher education with practical exposure, training related to early screening, identification, inclusive pedagogy, need of adaptive learning resources (assistive devices, large print and Braille books), use of technology, proper convergence between different departments, and periodic monitoring of learning outcome of all children including CwDs.

The discussion on educational issues and concerns, and practices related to CwDs in inclusive schools is marked by an apparent need to build the capacities of the state stakeholders by providing professional development training programmes. This indicates that the results of the study are relevant for successful implementation of inclusive education in the light of the NEP 2020. The objective is to have an unparalleled education system by 2040, ensuring accessible and quality education

for all learners, irrespective of their social or economic status (Ministry of Education, 2020). Finally, the findings on the gaps in implementation of the practices highlighted the urgent need for more effective and inclusive capacity building programmes for the state stakeholders to support inclusive education for CwDs. Professional development of the pre-service and in-service teachers is essential for inclusive education (Vandervieren and Struyf, 2021).

Implication

The findings of the study suggest professional development training programmes on EIE for the state stakeholders responsible for preparing the action plan and its implementation for SEDGs with focus on CwDs.

Conclusion

The study examined the state key functionaries' insight on implementing inclusive education for CwDs. The educational issues and concerns reported by the state key functionaries of both the states were very similar to the barriers pointed by the existing literature. Since the Persons with Disabilities Act, 1995 the difficulties and concerns raised by state employees have represented the ground-level realities that have essentially persisted for more than 30 years and certainly without addressing these issues and concerns, inclusion is far from reality. However, the strategies to address these barriers may not be applicable or appropriate in their local context. This requires redesigning the curriculum and pedagogy to ensure that education be more relevant, effective for all students (Ministry of Education, 2020) and relatable to all communities. Integrating the local environment, language and cultural practices resonates with the principles of multicultural education and inclusive pedagogy emphasising the cultural and linguistic diversity in education including SEDGs with focus on CwDs.

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REFERENCES

- Burningham, O., Chen, A., Genovesi, E. (2024). Inclusive education for children with developmental disabilities in Ethiopia: Stakeholder views on benefits, disadvantages and priorities for action. *Journal of Autism and Developmental Disorders*. <https://doi.org/10.1007/s10803-024-06549-2>
- Chu, M.-W., Craig, H. L., Yeworiew, L. B., & Xu, Y. (2020). Teachers' Unpreparedness to Accommodate Student Needs. *Canadian Journal of School Psychology*. 35(3), 210–224. <https://doi.org/10.1177/0829573520916610>
- Clarke V, Braun V (2016) Thematic analysis. *The Journal of Positive Psychology*. 12(3), 297–298.
- Das, A.K., A.B. Kuyini and I.P. Desai (2013). Inclusive Education in India: Are the Teachers Prepared? *International Journal of Special Education*. 28(1), 27–36.
- Demirel, I. N., & Islamoglu, H. (2025). Improving pre-service teachers' self-efficacy to employ activity-based art practices in inclusive education. *International Journal of Inclusive Education*. 1–19. <https://doi.org/10.1080/13603116.2025.2555387>
- Divan, G., V. Vajaratkar, M.U. Desai, L. Strik-Lievers and V. Patel. (2012). Challenges, coping strategies and unmet needs of families with a child with autism spectrum disorder in Goa, India. *Autism Research*. 5(3), 190–200.
- Florian, L., & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *British Educational Research Journal*. 37(5), 813–828.
- Guliya, S., Rawat, K., Jain, M., Vats, S., Kashoo, F. Z., Kapoor, G., & Chahal, A. (2023). Fostering Inclusivity in Education: Unleashing the Potential of Inclusive Education in India. *International Journal of Educational Reform*. 0(0). <https://doi.org/10.1177/10567879231217474>
- Gowramma, I. P; Gangmei, E., & Behera, L. (2018). Research in Education of Children with Disabilities. *Indian Educational Review*. 56(2). 7–93.
- Kumar, A. T., Russel Raj, T., Rajadurai, A., Abishini, A. H., & Anchani, A. H. (2025). Analyzing the Impact of the New Educational Policy 2020: A Comprehensive Review of India's Educational Reforms. *Evaluation and Program Planning*. 108. <https://doi.org/10.1016/j.evalprogplan.2024.102515>
- Lambrecht, J., Lenkeit, J., Hartmann, A., Ehlert, A., Knigge, M., & Spörer, N. (2020). The effect of school leadership on implementing inclusive education: How transformational and instructional leadership practices affect individualised education planning. *International Journal of Inclusive Education*. 26(9), 943–957. <https://doi.org/10.1080/13603116.2020.1752825>

- Malik, I. S., & Hasan, M. (2024). Exploring early childhood care and education in the context of India's National Education Policy-2020. *Educational Quest—An International Journal of Education and Applied Social Sciences*. 15(1), 9–14.
- Ministry of Education. (2020). *The National Education Policy 2020*. Government of India, New Delhi
- Ministry of Human Resource Development. (2009). *The Right of Children to Free and Compulsory Education Act*, Government of India, New Delhi.
- Mitiku, W., Alemu, Y., & Mengsitu, S. (2014). Challenges and opportunities to implement inclusive education. *Asian Journal of Humanity, Art and Literature*. 1(2), 118–135.
- Mondal, A., & Mondal, P. (2025). Early Childhood Care and Education (ECCE) in India in the light of national education policy 2020: a reality check. *Education*. 3–13, 1–15. <https://doi.org/10.1080/03004279.2025.2524484>
- National Council of Educational Research and Training (NCERT). (2024). *National Guidelines and Implementation Framework on Equitable and Inclusive Education* (NGIFEIE). Department of School Education & Literacy, Ministry of Education, Government of India.
- Raj, S. B. (2024). Pathways to inclusive higher education: Learnings from India's National Education Policy 2020. *Nordic Journal of Studies in Educational Policy*. 11(1), 82–92. <https://doi.org/10.1080/20020317.2024.2382376>
- Rao, N., Umayahara, M., Yang, Y., & Ranganathan, N. (2021). Ensuring access, equity and quality in early childhood education in Bangladesh, China, India and Myanmar: Challenges for nations in a populous economic corridor. *International Journal of Educational Development*. 82, 102380. <https://doi.org/10.1016/j.ijedudev.2021.102380>
- Rosales, E., & Rosales, S. (2019). Inclusive education program for persons with disabilities: Insights and lived experiences of stakeholders. *Science International*. 31(4), 631–636.
- Sengun, G. (2022). Opinions and Recommendations of Education Administrators on Inclusive Education Practices. *Harran Educational Journal*. 7(2), 273–289. doi: <http://doi.org/10.22596/hej.1209409>
- Sharma, U., Armstrong, A. C., Merumeru, L., Simi, J., & Yared, H. (2019). Addressing barriers to implementing inclusive education in the Pacific. *International Journal of Inclusive Education*. 23(1), 65–78. <https://doi.org/10.1080/13603116.2018.1514751>
- Sharma, U., Forlin, C., & Loreman, T. (2008). Impact of training on pre-service teachers' attitudes and concerns about inclusive education and sentiments about persons with disabilities. *Disability & Society*. 34(7–8), 1153–1171.

- Singal, N. (2019). Challenges and opportunities in efforts towards inclusive education: Reflections from India. *International Journal of Inclusive Education*. 23(7–8), 827–840. <https://doi.org/10.1080/13603116.2019.1624845>
- Tah, J. K. (2025). Teachers understanding of inclusive education and challenges in implementation in the English education system in Cameroon. *Policy Futures in Education*. 23(6), 1051–1066. <https://doi.org/10.1177/14782103251320812>.
- Taneja-Johansson, S. (2023). Education of children with disabilities and inclusive practice. *International Journal of Disability, Development and Education*. 70(3), 250–267.
- Tracy-Bronson, C. P. (2020). District-level inclusive special education leaders' social justice strategies. *Journal of Special Education Leadership*. 33(2), 59–77.
- UNESCO (1990). World Declaration on Education for All and Framework for Action to Meet Basic Learning Needs. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000127583>
- . (1994). The Salamanca Statement and Framework for Action on Special Needs Education. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000098427>
- United Nations (1989). Convention on the Rights of the Child. <https://www.ohchr.org/sites/default/files/crc.pdf>
- . (2006). United Nations Convention on the Rights of Persons with Disabilities, December 13, 2006. <https://www.ohchr.org/en/hrbodies/crpd/pages/conventionrightspersonswithdisabilities.aspx>
- . (2015). Scientific and Cultural Organization Incheon Declaration and Framework for Action for the Implementation of Sustainable Development Goal 4. UNESCO.
- Uygur, M., Ayçiçek, B., Doğrul, H., & Yanpar Yelken, T. (2020). Investigating stakeholders' views on technology integration: The role of educational leadership for sustainable inclusive education. *Sustainability*. 12(24), 10354.
- Vandervieren, E., & Struyf, E. (2021). Facing social reality together: investigating a pre-service teacher preparation programme on inclusive education. *International Journal of Inclusive Education*. 25(13), 1524–1539. <https://doi.org/10.1080/13603116.2019.1625451>
- World Health Organization (WHO). (2011). World report on disability 2011. WHO. Retrieved from https://www.who.int/disabilities/world_report/2011/report/en/.
- Zagona, A. L., Kurth, J. A., & MacFarland, S. Z. C. (2017). Teachers' views of their preparation for inclusive education and collaboration. *Teacher Education and Special Education*. 40(3), 163–178.

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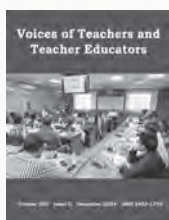
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