

Understanding Classroom Engagement through Teacher Practices for Learners with ADHD: A study of Indian School Students

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ABSTRACT

Learners with Attention Deficit Hyperactivity Disorder (ADHD) often encounter difficulties in sustaining attention, regulating behavior and participating actively in inclusive classroom environments. While inclusive education policies advocate equitable learning opportunities, limited empirical attention has been given to classroom-level teacher interventions that support learner engagement. This study examines teacher-mediated classroom practices and their influence on the engagement of learners with ADHD in inclusive school settings in India. Adopting a qualitative exploratory research design, data were gathered through systematic classroom observations, structured behavior checklists, and learner engagement activities, allowing for the inclusion of multiple perspectives. The findings reveal that adaptive instructional strategies, consistent routines, positive behavioral reinforcement and responsive teacher–student interactions contribute significantly to improved classroom engagement among learners with ADHD. Conversely, rigid instructional approaches and limited individual support were associated with reduced participation. The study underscores the critical role of teacher interventions in shaping inclusive classroom experiences and offers pedagogical insights for educators, teacher educators and policymakers seeking to enhance engagement and academic participation of learners with ADHD.

KEYWORDS: ADHD; Teacher Interventions; Learner Engagement; Inclusive Classrooms; Classroom Management

INTRODUCTION

Inclusive education has emerged as a central pillar of contemporary educational discourse, emphasizing equity, access and meaningful participation for all learners within mainstream classrooms (UNESCO, 2017; Ainscow, 2020). It reflects a shift from segregated models of education toward a rights-based approach that values diversity and seeks to accommodate varied learner needs within common learning environments. This paradigm is grounded in the belief that all learners, regardless of their abilities or challenges, have the right to quality education and equal opportunities for academic and social development (Florian & Black-Hawkins, 2011). As a result, teachers are increasingly expected to adopt flexible pedagogical approaches that respond effectively to diverse cognitive, behavioral and socio-emotional needs.

One group of learners that often requires targeted support within inclusive settings are those with attention deficit hyperactivity disorder (ADHD), a neurodevelopmental condition characterized by persistent patterns of inattention, impulsivity and hyperactivity (American Psychiatric Association, 2013). ADHD affects executive functioning processes such as working memory, self-regulation and task organization, which are essential for effective learning in structured classroom environments (Barkley, 2015; Brown, 2006). These challenges can hinder learners' ability to sustain attention, follow instructions, complete tasks and regulate behavior, thereby influencing both academic achievement and classroom participation (DuPaul & Weyandt, 2006). In inclusive classrooms, the presence of ADHD-related behaviors often requires teachers to balance individual learner needs with overall classroom management. Research suggests that learners with ADHD are more likely to exhibit off-task behavior, restlessness, and difficulty in maintaining engagement, which can disrupt instructional flow and peer learning experiences (Daley & Birchwood, 2010; Zentall, 2005). However, contemporary perspectives emphasize that these challenges should not be viewed solely as deficits within the learner. Instead, they are shaped by the interaction between the learner and the classroom environment, including instructional design, teacher expectations and classroom climate (Evertson & Weinstein, 2006; Greene, 2014).

Teacher-mediated interventions play a critical role in supporting learners with ADHD in inclusive classrooms. Effective strategies include differentiated instruction, structured routines, clear task segmentation, positive reinforcement, and the use of multimodal teaching approaches (DuPaul & Stoner, 2014; Tomlinson, 2017). Additionally, relational strategies such as building positive teacher–student relationships, providing emotional support, and fostering a sense of belonging have been found to significantly enhance learner engagement and participation (Pianta et al., 2012; Hamre & Pianta, 2001). These practices not only support learners with ADHD but also contribute to a more inclusive and responsive classroom environment for all students. Learner engagement is widely recognized as a key determinant of academic success and

effective learning. It is a multidimensional construct encompassing behavioral engagement (participation in tasks), emotional engagement (interest and motivation), and cognitive engagement (investment in learning) (Fredricks et al., 2004; Reschly & Christenson, 2012). For learners with ADHD, engagement is particularly critical, as it directly influences their ability to remain focused, complete tasks, and achieve learning outcomes. Studies have shown that when teachers provide structured guidance, interactive learning opportunities, and timely feedback, learners with ADHD demonstrate improved attention, persistence, and academic performance (Appleton et al., 2008; Skinner & Belmont, 1993).

Conversely, a lack of engagement may lead to disengagement, disruptive behavior, and exclusion from meaningful learning experiences. This highlights the importance of designing classroom environments that actively promote engagement through inclusive teaching practices. Universal Design for Learning (UDL) principles, which advocate for multiple means of representation, expression, and engagement, offer a valuable framework for addressing diverse learner needs, including those of students with ADHD (CAST, 2018; Meyer et al., 2014). Such approaches enable teachers to create flexible learning environments that reduce barriers and enhance participation for all learners. Within the Indian educational context, inclusive education has gained significant momentum through policy initiatives such as the Right to Education Act (2009) and the National Education Policy (NEP) 2020 (Government of India, 2020). These frameworks emphasize equitable access, learner-centered pedagogy and the integration of diverse learners into mainstream education. However, despite these progressive policies, the implementation of inclusive practices at the classroom level remains inconsistent. Teachers often face challenges such as large class sizes, limited training in special education, lack of resources, and insufficient institutional support (Sharma & Deppeler, 2005; Singal, 2019).

Furthermore, research on ADHD within the Indian context remains relatively limited, particularly in terms of classroom-based studies that examine teacher practices and learner engagement. Most existing studies focus on clinical aspects or diagnostic frameworks, with comparatively less attention given to pedagogical strategies and real classroom interactions (Malik & Marwaha, 2014). This creates a significant research gap in understanding how teachers in Indian classrooms adapt their instructional and behavioral strategies to support learners with ADHD and how these practices influence learner engagement. Addressing this gap is crucial for strengthening inclusive education practices in India. There is a need for context-specific research that captures the complexities of classroom environments and highlights effective teacher interventions that promote engagement and participation among learners with ADHD. Such insights can inform teacher training programs, curriculum design and policy implementation, ultimately contributing to improved educational outcomes.

In this context, the present study adopts a qualitative exploratory approach to examine teacher-mediated classroom practices and their influence on learner engagement in inclusive classrooms. By focusing on real classroom interactions and teacher strategies, the study seeks to provide a nuanced understanding of how inclusive practices are enacted and experienced. The findings are expected to contribute to the growing body of literature on inclusive education and offer practical implications for enhancing teaching practices and learner engagement in diverse classroom settings.

METHODOLOGY AND OBJECTIVE OF THE STUDY

The present study adopted a qualitative exploratory research design to examine teacher-mediated classroom interventions and their influence on the engagement of learners with Attention Deficit Hyperactivity Disorder (ADHD) in inclusive classroom settings. A qualitative approach was considered most appropriate as it enables an in-depth exploration of complex, context-bound educational processes and facilitates a nuanced understanding of classroom dynamics (Creswell & Poth, 2018). The exploratory nature of the study allowed for the identification of emerging patterns in teacher practices and learner engagement without imposing predetermined categories.

The study was conducted in inclusive school classrooms where learners with ADHD were integrated into mainstream educational environments. Participants included both teachers and learners formally identified with ADHD. The selection of participants was guided by purposive sampling, which ensured the inclusion of information-rich cases that could provide meaningful insights into classroom interactions and intervention strategies (Patton, 2015). Teachers with direct experience in handling learners with ADHD were selected to capture diverse instructional approaches and classroom management practices. The inclusion of learners allowed for an examination of behavioral and engagement patterns in response to teacher-mediated interventions within authentic classroom contexts.

The participants were identified who met specific inclusion criteria aligned with the objectives of the study. These criteria included:

- Presence of learners diagnosed with ADHD in the classroom
- Teachers with experience in inclusive education practices
- Classrooms demonstrating active instructional engagement

This approach ensured depth and relevance of data rather than generalizability, which is consistent with qualitative research paradigms (Etikan et al., 2016). Data were collected using qualitative instruments to ensure methodological triangulation and enhance the credibility of findings (Denzin, 1978).

Classroom Observation Schedules

Structured classroom observations were conducted to document real-time teacher practices, instructional strategies, and learner engagement behaviors. Observations focused on attention patterns, task involvement, participation levels, and behavioral responses of learners with ADHD.

Behavior Checklists

Behavior checklists were used to systematically record observable indicators such as distractibility, impulsivity, task completion and on-task/off-task behavior. These checklists provided a semi-structured framework for capturing behavioral consistency across sessions.

Semi-Structured Interviews

Semi-structured interviews with teachers were conducted to gain deeper insights into their pedagogical choices, challenges faced and perceived effectiveness of interventions. The flexible nature of interviews allowed participants to elaborate on their experiences, thereby enriching the data.

Data collection was carried out over multiple classroom sessions to ensure prolonged engagement and contextual familiarity, which are essential for enhancing the depth and authenticity of qualitative findings (Lincoln & Guba, 1985). Data were analyzed using thematic analysis as proposed by Braun and Clarke (2006), which provides a systematic yet flexible framework for identifying, analyzing and interpreting patterns within qualitative data. The analysis followed a multi-step process:

1. Familiarisation with Data – Repeated reading of observation notes, checklists and interview transcripts.
2. Initial Coding – Generation of meaningful codes representing teacher interventions and learner behaviors
3. Category Development – Grouping of related codes into broader categories
4. Theme Construction – Identification of overarching themes reflecting patterns of engagement and instructional strategies
5. Interpretation – Linking themes to research objectives

This rigorous analytical process enabled the emergence of rich, contextually grounded insights into the relationship between teacher practices and learner engagement.

SIGNIFICANCE OF THE STUDY

This study holds significance at theoretical, pedagogical and practical levels. Firstly, it contributes to the existing body of literature on Attention-Deficit Hyperactivity Disorder (ADHD) by providing a context-specific, in-depth exploration of classroom experiences within a natural school environment. It showcases qualitative investigations which offer nuanced insights into how these characteristics manifest in real-time classroom interactions. By examining the lived educational experience of a learner with ADHD, the study enriches understanding of the interplay between instructional practices, behavioral regulation and academic engagement. Secondly, the study has important pedagogical implications. It identifies and analyses classroom management strategies that support academic growth and behavioral stability among learners with ADHD. The findings provide evidence-based guidance for teachers seeking to adopt structured routines, differentiated instruction, reinforcement strategies and individualized supports. By demonstrating how instructional adaptations can be tailored to developmental and cognitive needs, the study reinforces the importance of flexible and responsive teaching practices in inclusive classrooms. Thirdly, the study underscores the need for strengthened teacher preparation and ongoing professional development. By highlighting the role of informed classroom management practices, the research supports the argument that effective teacher training is essential for addressing diverse learner needs. The findings inform

curriculum designers, school leaders and policymakers in developing training modules and institutional policies that promote inclusive education. Finally, the study contributes to broader inclusive education discourse by emphasizing that equitable learning environments require context-sensitive, individualized approaches rather than uniform instructional strategies. In doing so, it supports the advancement of inclusive pedagogical frameworks that foster both academic achievement and socio-emotional well-being among learners with ADHD.

FINDINGS OF THE STUDY

The study explored the school experiences of a learner with ADHD and examined the strategies teachers used to support their learning.

- ❑ The findings showed that ADHD learners consistently demonstrated difficulties with attention, organisation, task completion, sequencing and following instructions, as recorded through observations.
- ❑ The behavioural patterns highlighted in the charts used in data analysis further confirmed the presence of distractibility, impulsivity, restlessness and off-task behaviour across classroom activities.
- ❑ At the same time, the study showed that the learners responded positively to structured, scaffolded and visually supported teaching practices. Teachers frequently employed strategies such as clear instructions, visual aids, breaking tasks into smaller steps, structured routines and kinaesthetic learning activities, which enhanced the learner’s engagement. The presence of expressive strengths in art and storytelling further indicated that the learner benefited from creative and multi-sensory opportunities.

Table:1 Theme: Engagement Strategies of ADHD learners in a classroom setting

Sub-themes	Description
Allowing movements, breaks	This approach accommodates short movement breaks for ADHD learners between activities, recognizing that prolonged sitting can lead to restlessness and increased distractibility
Auditory Aids	This includes the integration of audio aids that support auditory learning and contribute to a deeper conceptual understanding among learners.
Behaviour management apps such as ADDitude magazine	This magazine is a quarterly consumer publication about attention deficit hyperactivity disorder owned and operated by WebMD, LLC in New York, NY. It contains feature and service articles about ADD, ADHD and comorbid conditions including depression, anxiety and learning disabilities like dyslexia.
Breaking tasks into steps	This encompasses structured tasks designed for ADHD learners, enabling them to follow a step-by-step approach toward achieving the intended learning outcomes.
Clear instructions, Structured routines	This includes instructions which needs to be clear while dealing with ADHD learners and following the proper plan.
Colour coding	This process enhances the learner’s cognitive ability to categorize information promptly, thereby improving their overall processing efficiency.
Concept based worksheets	The design of the worksheets is informed by the conceptual knowledge of each child, allowing for differentiated instruction that addresses individual

	learning needs.
Individual Behavior Plan	This includes individualized plans designed by teachers to improve the academic performance of ADHD learners.
Kinesthetic activities	This includes tasks that involve movement of body parts to engage the ADHD learners
Seating Arrangement/Plan	This includes tasks that involve movement of body parts to engage the ADHD learners.
Time Management	This involves effective time management for each specific task and activity to ensure that the desired outcomes are achieved within the given timeframe.
Visual aids	This includes the use of various visual aids by teachers to effectively engage ADHD learners within the classroom setting.

RESULT:

The analysis of teacher-mediated classroom practices revealed that the engagement of learners with attention deficit hyperactivity disorder (ADHD) is supported through a comprehensive and adaptive pedagogical framework integrating movement-based flexibility, multisensory instruction and structured learning approaches. Strategies such as allowing short movement breaks and incorporating kinesthetic activities were found to reduce restlessness and enhance sustained attention, while the use of auditory and visual aids, including color coding, facilitated improved cognitive processing and retention. Task structuring through step-by-step instruction and concept-based worksheets enabled learners to manage cognitive load effectively and achieve incremental learning outcomes. Furthermore, individualized behavior plans and the use of behavior management resources contributed to targeted behavioral regulation and informed teaching practices. Classroom organization, including strategic seating arrangements, clear instructions and predictable routines, minimized distractions and fostered a conducive learning environment. In addition, effective time management strategies supported the development of executive functioning skills among learners. Collectively, these findings underscore the importance of a holistic, learner-centered approach that aligns instructional strategies with the cognitive and behavioral needs of ADHD learners, thereby enhancing both academic engagement and overall classroom participation.

Table:2 Theme: Different patterns of behaviours displayed by the ADHD learners

Sub-themes	Description
Difficulty in completing the classwork	Learners experience difficulty in independently completing tasks and often require additional guidance or assistance.
Easily distracted	Learners demonstrate reduced attention span and heightened distractibility in response to environmental factors.
Impulsive in nature	This encompasses instances of impulsive behavior demonstrated by learners in classroom contexts.
Off task behavior	This involves children who do not stay focused for longer duration and are easily distracted while following a routine or any class task.
Repeated instructions	The teacher repeats instructions to ensure task completion.
Trouble organizing things	Learners with ADHD often experience challenges in

	organizing their work and belongings, primarily as a result of reduced concentration and attentional control.
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RESULT:

The thematic analysis of classroom observations revealed distinct and recurrent behavioural patterns among learners with attention deficit hyperactivity disorder (ADHD), highlighting significant challenges in task engagement and self-regulation. Learners frequently demonstrated difficulty in independently completing classwork, often requiring sustained teacher support and scaffolding to achieve task objectives. A prominent pattern of distractibility was observed, with learners exhibiting reduced attention span and heightened sensitivity to environmental stimuli, resulting in frequent shifts in focus. Impulsivity emerged as a consistent behavioural trait, characterized by unplanned actions such as interrupting, responding without reflection and difficulty adhering to classroom norms. Additionally, off-task behaviour was evident, as learners struggled to maintain sustained engagement in structured academic activities and routines. The need for repeated instructions further underscored attentional inconsistencies, with teachers often required to reiterate directions to facilitate comprehension and completion. Challenges in organization were also identified, with learners displaying difficulty in managing academic materials, sequencing tasks and maintaining order, reflecting underlying deficits in executive functioning. Collectively, these findings indicate that ADHD-related behaviours significantly influence classroom participation and learning processes, necessitating targeted pedagogical interventions and structured support systems within inclusive educational settings.

Table:3 Theme: Occurrence of ADHD learners in a classroom setting

Sub-themes	Description
Constant movement in the classroom	Learners with ADHD exhibit frequent movement within the classroom, reflecting difficulty in maintaining a seated posture for prolonged durations.
Disruptions in classroom	Learners with ADHD, owing to difficulties in sustaining attention, may engage in behaviors that disrupt the overall classroom environment.
Hyperactivity	Learners with ADHD demonstrate hyperactive behavior that includes excessive motor activity, restiveness and an observable sense of internal drive or agitation, often described as being ‘driven by a motor’.
Inattention/ Disorientation	Due to difficulties in processing and retaining verbal instructions, ADHD learners require repetition and reinforcement from teachers in doing things.

RESULT:

The analysis indicates a consistent occurrence of ADHD-related behaviors within the classroom setting, reflecting significant implications for instructional processes and classroom management. Learners demonstrated persistent patterns of hyperactivity, particularly in the form of constant movement, which limited their ability to remain seated and engaged for sustained periods. This heightened motor activity, often characterized by restlessness and an internal drive, aligns with core behavioral manifestations of ADHD and contributed to observable disruptions in the classroom environment. Such disruptions not only affected the individual learner’s engagement but also influenced the overall classroom climate and peer learning experiences. In addition, inattention and disorientation were prominently observed, as learners experienced difficulty in processing and retaining verbal instructions, thereby requiring repeated directions and reinforcement from teachers. These findings collectively highlight that the presence of ADHD behaviors is not episodic but rather embedded within everyday classroom interactions, necessitating structured, responsive and inclusive pedagogical strategies to effectively support diverse learning needs.

CONCLUSION

The study examined the school experiences of a learner diagnosed with ADHD and critically analyzed the instructional strategies adopted by teachers to support their academic engagement. Classroom observations revealed persistent challenges in core executive functioning domains, including sustained attention, organization, task initiation and completion, sequencing of tasks and adherence to multi-step instructions. These difficulties were consistently documented across literacy, general classroom and transition activities.

The behavioral trends reflected in the findings further substantiated patterns of distractibility, impulsivity, motor restlessness, and frequent off-task behavior. Such behaviors were not isolated incidents but occurred across varied instructional contexts, suggesting that the learner's challenges were closely linked to attentional regulation and self-management rather than lack of ability or motivation. Importantly, the findings also highlighted the learner's responsiveness to structured pedagogical interventions. When teachers implemented clearly defined routines, provided concise and stepwise instructions, incorporated visual supports and scaffolded complex tasks into manageable segments, noticeable improvements in engagement and task persistence were observed. Kinesthetic learning opportunities and hands-on activities further enhanced participation, indicating the learner's preference for active and experiential modes of learning. Additionally, the learner demonstrated expressive strengths in creative domains such as art and storytelling. These strengths suggest that multi-sensory and creative instructional approaches can serve as effective entry points for academic engagement and confidence-building. Leveraging such strengths may not only improve participation but also foster a more positive self-concept in learners with ADHD.

Overall, the study concludes that while ADHD-related behavioral characteristics can present significant challenges to sustained academic performance, targeted instructional planning and intentional classroom structuring can substantially mitigate these difficulties. The findings underscore the critical role of teacher awareness, consistent routines, scaffolded instruction and inclusive pedagogical design in promoting meaningful participation and academic progress for learners with ADHD

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