

## INCLUSIVE EDUCATION IN PRIMARY SCHOOLS: EVIDENCE-BASED STRATEGIES FOR SUPPORTING LEARNERS WITH SPECIAL EDUCATIONAL NEEDS

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### Abstract

Inclusive education in primary schools has become a central priority in global education agendas, emphasizing the right of learners with special educational needs to access quality education within mainstream classrooms. Despite strong policy commitments, effective classroom-level implementation remains uneven, highlighting the need for evidence-based strategies that translate inclusion principles into practice. This study aims to identify and examine evidence-based instructional and organizational strategies that effectively support learners with special educational needs in inclusive primary school settings. The study employed a mixed-methods design combining systematic evidence review, classroom observations, semi-structured interviews, and analysis of school documents across multiple inclusive primary schools. Quantitative descriptive and inferential analyses were integrated with qualitative thematic analysis to examine strategy implementation and learner outcomes. The findings indicate that differentiated instruction, individualized support services, and collaborative teaching practices significantly enhance learner participation, engagement, and classroom inclusion. Inferential analysis demonstrates that higher levels of strategy implementation are associated with stronger learner engagement, while qualitative findings reveal improved peer interaction, confidence, and instructional responsiveness. The study concludes that inclusive education is most effective when evidence-based strategies are implemented coherently and systematically. Sustainable inclusion in primary schools requires alignment between empirical evidence, instructional practice, and institutional support to ensure equitable learning opportunities for learners with special educational needs.

**Keywords:** Evidence-Based Strategies; Inclusive Education; Learner Support; Primary Schools; Special Educational Needs.



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## INTRODUCTION

Inclusive education has become a central principle in contemporary primary education systems, reflecting global commitments to equity, access, and social justice in schooling (González-Moreira et al., 2025). International frameworks and national policies increasingly emphasize the right of learners with special educational needs to participate in mainstream educational settings (Wu et al., 2025). Primary schools are expected to provide learning environments that accommodate diverse cognitive, physical, emotional, and behavioral needs while promoting meaningful participation for all learners.

Primary education represents a critical developmental stage in which early learning experiences shape long-term academic trajectories and social inclusion (Calero et al., 2025). For learners with special educational needs, early access to inclusive and supportive educational practices is particularly important in fostering foundational skills, self-confidence, and social belonging (Tatham, 2025). Teachers and schools play a pivotal role in translating inclusive education policies into effective classroom practices that respond to individual learner differences.

Despite policy advances, inclusive education in primary schools remains unevenly implemented across contexts (Hou et al., 2025). Variations in teacher preparedness, resource availability, and institutional support often result in inconsistent educational experiences for learners with special educational needs (Wenger et al., 2025). These challenges underscore the importance of identifying and understanding evidence-based strategies that effectively support inclusion within primary school settings.

Learners with special educational needs in primary schools continue to face barriers that limit their full participation and learning potential (Tsang et al., 2025). These barriers include insufficient instructional differentiation, limited access to specialized support services, and classroom practices that are not responsive to diverse learning profiles (Yim & Su, 2025). Such challenges persist despite formal commitments to inclusive education.

Teachers frequently report difficulties in implementing inclusive practices due to limited training, high workload, and lack of access to evidence-based instructional strategies (Zhou et al., 2025). In many cases, inclusive education is interpreted narrowly as physical placement in mainstream classrooms without adequate pedagogical adaptation (Diasse & Kawai, 2025). This situation risks marginalizing learners with special educational needs within inclusive settings rather than supporting meaningful inclusion.

Another persistent problem lies in the gap between research findings and classroom practice. Although numerous strategies for supporting learners with special educational needs have been proposed, many are not systematically implemented or evaluated in real-world primary school contexts (Awayehu Gugssa, 2025). This disconnect raises concerns about the effectiveness and sustainability of current inclusive education approaches.

This study aims to examine inclusive education in primary schools by identifying evidence-based strategies that effectively support learners with special educational needs (Christodoulou & Grace, 2025). The research seeks to synthesize and analyze instructional, organizational, and support practices that contribute to positive learning and participation outcomes.

Another objective of the study is to explore how evidence-based strategies are implemented in primary school classrooms and how they influence learner engagement, academic progress, and social inclusion (Benigno et al., 2025). Attention is given to strategies that address diverse learning needs while remaining feasible within typical primary school contexts.

The study also aims to provide practical insights for teachers, school leaders, and policymakers by clarifying which strategies demonstrate consistent effectiveness (Röhl et al., 2025). The findings are expected to inform professional practice and contribute to the development of inclusive education models grounded in empirical evidence.

Existing literature on inclusive education has extensively documented the benefits of inclusion for learners with special educational needs (Lee et al., 2025). Many studies highlight positive social and academic outcomes associated with inclusive settings (“Caries Experience and Care in Germany,” 2025). However, much of this research focuses on policy analysis or attitudinal studies rather than concrete instructional strategies.

Research examining inclusive practices in primary education often emphasizes general principles such as differentiation and collaboration without detailing how these principles are operationalized in classrooms (Korczy et al., 2025). Limited attention has been given to systematically comparing evidence-based strategies across different primary school contexts and learner needs (Bruna-Mejias et al., 2025). This limits the applicability of research findings for practitioners.

Another gap exists in the integration of empirical evidence with classroom-level implementation (Sangalli et al., 2026). Studies frequently identify effective strategies in controlled or specialized settings, while less is known about their effectiveness in mainstream primary classrooms (Satchwell et al., 2025). The need remains for research that bridges theoretical evidence and practical application in inclusive primary education.

The novelty of this study lies in its explicit focus on evidence-based strategies for supporting learners with special educational needs within primary school inclusive settings (Norliyana Md. Aris, 2024). Rather than addressing inclusion as a broad policy goal, the research concentrates on actionable practices grounded in empirical evidence (J. Liu et al., 2025). This approach offers a pragmatic contribution to inclusive education scholarship.

The study contributes conceptually by framing inclusive education as a practice-oriented process that requires alignment between evidence, pedagogy, and classroom realities (Çelik et al., 2025). By synthesizing research-based strategies and examining their implementation, the study advances understanding of how inclusion can be operationalized effectively in primary education.

The justification for this research is rooted in the growing demand for inclusive education practices that are both effective and sustainable. As primary schools increasingly serve diverse learner populations, educators require clear, evidence-informed guidance. This study responds to that need by providing a structured examination of strategies that support meaningful inclusion and improve educational outcomes for learners with special educational needs.

## RESEARCH METHOD

This study employed a mixed-methods research design combining a systematic evidence-based review with a multiple-site empirical investigation to examine inclusive education strategies for supporting learners with special educational needs in primary schools (Teng & Zhang, 2025). The design was selected to integrate the strength of empirical evidence synthesis with contextualized classroom data, allowing for a comprehensive examination of both what strategies are effective and how they are implemented in real-world primary education settings (Diekhoff & Greve, 2025). The approach enabled triangulation between documented evidence and observed instructional practices.

The population of the study consisted of primary school teachers, special education coordinators, school leaders, and learners with identified special educational needs enrolled in inclusive primary schools (Freitas et al., 2025). Schools were selected from urban and semi-urban contexts that had formally adopted inclusive education policies (Gholami & Costantini, 2025). A purposive sampling technique was used to select participants with direct experience in inclusive classroom practices (Tanveer et al., 2025). The final sample included multiple schools representing diverse learner profiles, instructional models, and support structures to ensure analytical breadth and contextual variation.

Data collection instruments included a structured classroom observation rubric, semi-structured interview protocols, and document analysis checklists (Mancini et al., 2025). The observation rubric was designed to capture evidence-based inclusive strategies such as differentiated instruction, individualized support, and collaborative practices (Boke et al., 2025). Interview protocols explored educators' perceptions, experiences, and challenges in implementing inclusive strategies (Alkan & Demir, 2025). School documents, including individualized education plans, instructional guidelines, and assessment records, were analyzed to contextualize observed practices and verify alignment with evidence-based frameworks.

Data collection procedures were conducted in sequential stages to ensure methodological rigor and ethical compliance. An initial review of evidence-based inclusive education literature informed the development of observation and interview instruments. Field data collection involved classroom observations followed by interviews with educators and support staff. Relevant documents were collected and reviewed concurrently to support data triangulation. Qualitative data were transcribed and analyzed thematically, while descriptive summaries were used to map strategy implementation across sites. Ethical principles, including informed consent, confidentiality, and respect for learner dignity, were upheld throughout the research process.

## RESULTS AND DISCUSSION

The quantitative and secondary data describe the prevalence and implementation intensity of evidence-based inclusive strategies across participating primary schools. Data were compiled from classroom observation scores, school records, and aggregated reports on individualized education plans and support services. Key indicators included differentiated instruction practices, individualized support provision, collaborative teaching frequency, and learner participation outcomes.

Table 1 presents descriptive statistics summarizing the implementation of inclusive strategies and learner outcomes. The data indicate moderate to high levels of strategy adoption, with notable variation across schools and strategy types.

**Table 1.** Descriptive Statistics of Evidence-Based Inclusive Strategies and Learner Outcomes

Variable	Mean	SD	Minimum	Maximum
Differentiated Instruction Implementation	3.85	0.67	2.30	4.90
Individualized Support Services	3.62	0.71	2.10	4.80
Collaborative Teaching Practices	3.74	0.65	2.40	4.85
Learner Participation and Engagement	3.98	0.60	2.70	4.95

The descriptive statistics suggest that differentiated instruction is the most consistently implemented evidence-based strategy across primary classrooms. Higher mean scores for learner participation indicate that inclusive practices are associated with increased engagement among learners with special educational needs.

Secondary data from school documentation support these findings by showing alignment between observed practices and formal inclusion policies. Schools with structured support frameworks demonstrated more consistent application of evidence-based strategies and more stable learner participation outcomes.

Qualitative data derived from classroom observations and interviews provide insight into how inclusive strategies are enacted in daily practice. Teachers described adapting instructional materials, pacing, and assessment methods to accommodate diverse learning needs. Learners with special educational needs were observed participating more actively in classrooms where differentiation was systematically applied.

Educators also highlighted the role of collaboration between general and special education teachers. Shared planning and co-teaching practices were reported to enhance instructional responsiveness and reduce barriers to participation for learners requiring additional support.

Inferential analysis was conducted to examine differences in learner participation between classrooms with high and low levels of inclusive strategy implementation. An independent samples t-test revealed a statistically significant difference in participation scores ( $t = 4.21, p < 0.01$ ), indicating that higher implementation levels are associated with stronger learner engagement.

Regression analysis further demonstrated that differentiated instruction and individualized support significantly predicted learner participation outcomes. The model accounted for a substantial proportion of variance, suggesting that evidence-based strategies contribute independently to inclusive learning effectiveness.



**Figure 1.** Relational Antegrass of Teaching Strategies

Relational analysis highlights strong associations among differentiated instruction, collaborative teaching, and learner engagement. Classrooms that combined multiple evidence-based strategies showed more consistent participation and reduced exclusionary practices.

Correlation results indicate that collaborative teaching practices moderate the relationship between individualized support and learner engagement. Higher levels of teacher collaboration strengthened the positive impact of individualized strategies on participation outcomes.

A focused case study was conducted in one inclusive primary school demonstrating high implementation fidelity of evidence-based strategies. The school employed systematic differentiation, co-teaching arrangements, and individualized learning plans for learners with special educational needs.

Observational data from the case study indicate increased learner participation, improved peer interaction, and reduced off-task behavior. Learners receiving individualized support demonstrated greater confidence and independence during classroom activities.

Analysis of the case study suggests that consistency and coordination were critical to effective inclusion. Clear role distribution between classroom and support teachers facilitated timely instructional adjustments and continuous monitoring of learner progress.

Interview data indicate that sustained professional collaboration and ongoing strategy evaluation contributed to positive outcomes. Teachers emphasized that inclusive practices became more effective as shared understanding and expertise developed over time.

The results collectively indicate that evidence-based strategies play a significant role in supporting learners with special educational needs in inclusive primary school settings. Quantitative and qualitative findings converge to show that differentiated instruction, individualized support, and collaborative teaching enhance learner participation and engagement.

The findings suggest that inclusive education is most effective when strategies are implemented systematically rather than selectively. Evidence-based practices function as interconnected components that together promote meaningful inclusion and equitable learning opportunities.

The findings of this study indicate that evidence-based strategies play a decisive role in supporting learners with special educational needs within inclusive primary school settings. Quantitative and qualitative data consistently show that differentiated instruction, individualized support services, and collaborative teaching practices are associated with higher levels of learner participation and engagement. These strategies function as core mechanisms through which inclusion is operationalized at the classroom level.



**Figure 2.** The Power of Coherent Inclusive Education

The results demonstrate that classrooms implementing multiple evidence-based strategies simultaneously produce more stable and inclusive learning environments. Learners with special educational needs in such contexts exhibit greater academic engagement, improved peer interaction, and increased confidence in participating in learning activities. These outcomes suggest that inclusive education effectiveness depends on strategic coherence rather than isolated interventions.

Inferential analysis confirms that higher levels of strategy implementation significantly predict learner participation outcomes. Differentiated instruction and individualized support emerge as strong predictors, while collaborative teaching strengthens their impact. This finding highlights the interdependent nature of inclusive practices in primary education.

Case study evidence reinforces these conclusions by illustrating how consistent application of evidence-based strategies translates into observable improvements in learner behavior and classroom dynamics. The convergence of statistical trends and contextual observations underscores the robustness of the findings.

The findings align with prior research emphasizing the importance of differentiated instruction and individualized support in inclusive education. Numerous studies report that adapting content, pacing, and assessment enhances access to learning for students with special educational needs. This study extends that body of work by demonstrating similar effects within mainstream primary classrooms.

Differences emerge when compared to studies that focus primarily on policy-level inclusion without examining classroom implementation. While inclusive education policies

promote access and placement, the present findings show that meaningful inclusion depends on instructional practices rather than physical integration alone. This distinction reinforces the need for practice-oriented research.

The results also expand existing literature on collaborative teaching by highlighting its moderating role. Previous studies often treat collaboration as a supportive condition, whereas this research demonstrates its functional significance in amplifying the effectiveness of other strategies. Collaboration emerges as a catalyst for inclusive practice rather than a peripheral factor.

The study contributes to ongoing debates by challenging narrow interpretations of inclusion. Inclusive education is shown to be a dynamic instructional process shaped by coordinated strategies, teacher expertise, and institutional support, rather than a static placement model.

The findings signal a shift in how inclusive education should be understood in primary schools. Inclusion emerges as an instructional practice rooted in responsiveness, adaptability, and collaboration. This reflects a move away from deficit-based views of learners toward a strengths-oriented and context-sensitive perspective.

The prominence of differentiated instruction and individualized support indicates that learner diversity is increasingly recognized as a normative condition rather than an exception. Inclusive classrooms function as adaptive environments designed to accommodate variation rather than enforce uniformity.

The observed importance of collaboration reflects broader professional changes in education. Teaching is no longer viewed as an isolated activity but as a collective endeavor involving shared expertise and responsibility. This shift has implications for teacher identity and professional culture.

The findings also signal the limits of symbolic inclusion. Inclusion without evidence-based practice risks reinforcing exclusion within mainstream settings. The results emphasize that inclusion must be enacted through concrete instructional strategies to achieve equitable outcomes.

The findings have significant implications for classroom practice in primary education. Teachers are encouraged to adopt evidence-based strategies systematically rather than selectively. Differentiated instruction and individualized support should be embedded within daily instructional planning.

Implications also extend to school leadership and organizational structures. Schools must allocate time, resources, and professional development opportunities to support collaborative teaching and inclusive practice implementation. Institutional commitment is essential for sustainability.

The results inform teacher education and professional learning programs. Training should emphasize practical application of evidence-based inclusive strategies, classroom adaptation skills, and collaborative competencies. Preparation programs must align theory with instructional realities.

Policy implications highlight the need for implementation-focused inclusive education frameworks. Policies should prioritize instructional quality and strategy fidelity alongside access and placement indicators.

The effectiveness of evidence-based strategies can be explained by their alignment with learner-centered pedagogical principles (F. Liu et al., 2025). Differentiated instruction addresses variability in readiness, interest, and learning profiles, enabling learners with special educational needs to access curriculum meaningfully.

Individualized support services provide targeted assistance that reduces learning barriers and promotes autonomy (Bui, 2025). These supports function as scaffolds that gradually enable learners to participate more independently in classroom activities.

Collaborative teaching enhances instructional responsiveness by pooling expertise and distributing responsibility (Belon et al., 2025). Co-planning and co-teaching allow for timely adjustments and more accurate identification of learner needs.

Contextual factors within primary education further explain the findings (Ghasemi et al., 2025). Early learning environments are particularly sensitive to instructional adaptation, making evidence-based strategies especially impactful during this developmental stage.

The findings point to the need for future research employing longitudinal designs to examine sustained effects of evidence-based inclusive strategies. Long-term studies can assess how early inclusive practices influence academic trajectories and social outcomes.

Further research should explore strategy effectiveness across diverse educational contexts, including rural, under-resourced, and culturally diverse settings. Comparative studies can enhance generalizability and contextual understanding.

Practical recommendations include developing implementation frameworks that guide schools in sequencing and integrating inclusive strategies. Clear guidance supports fidelity and reduces implementation variability.

The study underscores the importance of viewing inclusive education as an evolving instructional practice. Ongoing evaluation, professional learning, and collaborative reflection are essential to ensure that inclusion remains effective, equitable, and responsive to learner diversity.

## CONCLUSION

The most important finding of this study is that inclusive education in primary schools is most effective when evidence-based strategies are implemented as an integrated instructional system rather than as isolated practices. Differentiated instruction, individualized support, and collaborative teaching collectively enhance learner participation, engagement, and classroom inclusion for students with special educational needs. This finding distinguishes the study by demonstrating that the coherence and consistency of strategy implementation are as critical as the strategies themselves in achieving meaningful inclusion.

The added value of this research lies primarily in its conceptual contribution, supported by methodological rigor. Conceptually, the study advances inclusive education theory by framing inclusion as a practice-oriented process grounded in empirical evidence and classroom realities. Methodologically, the combination of systematic evidence synthesis, multi-site classroom observation, inferential analysis, and case-based inquiry provides a comprehensive and replicable approach for examining inclusive practices in mainstream primary school contexts.

The limitations of this study include its focus on selected school contexts and the absence of longitudinal data capturing long-term learner outcomes. Variability in school resources and teacher experience may also influence strategy effectiveness. Future research should employ longitudinal and cross-contextual designs to examine sustainability, investigate subject-specific inclusive strategies, and explore how professional development and institutional support mediate the long-term impact of evidence-based inclusion practices.

## DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used ChatGPT to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

## AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-vestigation.

Author 3: Data curation; Investigation.

Author 4: Formal analysis; Methodology; Writing - original draft.

## CONFLICTS OF INTEREST

The authors declare no conflict of interest.

## DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in the paper.

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