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A Case Study of Creative Multisensory Pedagogy in Thai Bilingual Classrooms: Comparative Insights into ADHD, Dyslexia, and Autism Spectrum Learners

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ABSTRACT

Inclusive education is central to global reform, yet classroom practice often lags behind policy. In Thailand, bilingual programs intensify the cognitive demands of English language learning, particularly for neurodiverse students with ADHD, dyslexia, and autism spectrum disorder (ASD). This qualitative case study investigates the impact of creative multisensory strategies—role play, visual scaffolding, structured group work, and technology-assisted activities—on learner engagement, comprehension, and confidence in a Grade 12 bilingual classroom in Bangkok. Using narrative inquiry and thematic analysis of 32 lessons, findings reveal differentiated benefits: ADHD learners thrived with role play and digital tools, dyslexic learners improved task accuracy from 58% to 85% through visual scaffolding, and ASD learners showed marked gains in comprehension with predictable group routines. These results underscore the necessity of flexible pedagogy in bilingual ESL contexts and highlight implications for teacher training, curriculum design, and inclusive policy frameworks.

Keywords: Neurodiversity, ESL, Inclusive Education, Creative Pedagogy, Thailand, Bilingual Classrooms, Case Study

Inclusive education has become a global imperative, reinforced by the United Nations Convention on the Rights of Persons with Disabilities (Article 24) and UNESCO's Global Education Monitoring Report (2020). These frameworks emphasize that educational systems must adapt to diverse cognitive, sensory, and behavioral profiles to achieve equity and sustainable development.

Thailand has responded through reforms such as the Ministry of Education's 2022 Inclusive Education Directive, which mandates inclusive practices across public and bilingual schools. Bilingual programs, designed to prepare students for global communication, have expanded rapidly (Chantavanich, 2021). Yet implementation remains uneven: teachers report insufficient training, limited resources, and rigid curricula that hinder adaptation to diverse learner needs (Suwanwela, 2019; Vibulpatanavong, 2018).

Neurodiverse learners—including those with ADHD, dyslexia, and ASD—face compounded challenges in bilingual classrooms. ADHD learners often struggle with sustained attention but thrive in interactive, hands-on activities (Mohebbi, 2023). Dyslexic learners benefit from multimodal scaffolding that reduces decoding demands (Shaywitz, 2020). ASD learners respond positively to structured routines and visual supports that reduce anxiety (Shomurodova, 2025).

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Research Gap: While inclusive education is a policy priority in Thailand, little empirical evidence exists on how creative multisensory pedagogy functions in bilingual ESL classrooms with neurodiverse learners.

Research Questions

1. Which creative, multisensory strategies most effectively support ADHD, dyslexic, and ASD learners in Thai bilingual ESL classrooms?
2. How do these strategies influence learner engagement, comprehension, and self-confidence?
3. What barriers do teachers encounter when implementing inclusive pedagogy in bilingual contexts?
4. What policy and professional development measures can strengthen inclusive ESL practice in Thailand?

Literature Review

Inclusive Education and Neurodiversity

Inclusive education is widely recognized as a cornerstone of equitable schooling, ensuring that all learners—regardless of cognitive, sensory, or behavioral differences—have access to meaningful learning opportunities (Florian & Black-Hawkins, 2011). International scholarship emphasizes that inclusive classrooms benefit not only neurodiverse learners but also neurotypical peers by fostering empathy, collaboration, and social awareness (Loreman, Deppeler, & Harvey, 2010).

However, inclusion remains contested in practice. While UNESCO (2020) frames inclusion as both a moral and developmental imperative, critics argue that policy rhetoric often outpaces classroom realities. In Thailand, the Ministry of Education's 2022 Inclusive Education Directive signals progress (Attachoo & Imsa-ard, 2023), yet implementation is inconsistent. Teachers report insufficient training, limited resources, and rigid curricula that hinder adaptation to diverse learner needs (Suwanwela, 2019; Vibulpatanavong, 2018). This tension between policy and practice underscores the need for empirical classroom-based studies that document how inclusive strategies can be effectively applied in bilingual ESL contexts.

Creative ESL Teaching Strategies

Research in English language pedagogy highlights creativity as a powerful tool for addressing diverse learner needs. Creative strategies are particularly effective in bilingual classrooms, where learners must navigate dual language systems and heightened cognitive demands (Cummins, 2017).

- Role Play and Experiential Learning: Role play provides authentic contexts for language use, enabling learners to practice communication in socially meaningful ways. ADHD learners, who often struggle with sustained attention, demonstrate improved focus during interactive, scenario-based activities (Byram & Wagner, 2018; Mohebbi, 2023). Yet some scholars caution that role play requires careful scaffolding to avoid overwhelming ASD learners who prefer predictable routines (Shomurodova, 2025).
- Visual Aids and Scaffolding: Visual scaffolding—including graphic organizers, color-coded materials, and pictorial schedules—reduces cognitive overload and supports comprehension for dyslexic and ASD learners (Mastropieri & Scruggs, 2018; Shaywitz, 2020). Multisensory approaches that combine text, images, and auditory prompts improve phonological awareness and recall (Çelik Korkmaz & Karatepe, 2018; Sapi'ee & Tan, 2020). However, critics note that over-reliance on visuals may limit opportunities for linguistic rigor if not balanced with textual engagement.
- Group Work and Peer Support: Collaborative learning fosters peer scaffolding, social interaction, and cooperative problem-solving. ASD learners, who often benefit from structured routines, show increased engagement when group activities are organized with predictable roles and clear turn-taking (Johnson & Johnson, 2017; Shomurodova, 2025). Yet group work can exacerbate anxiety for ADHD learners if tasks are poorly structured, highlighting the need for differentiated facilitation.
- Technology Integration: Digital tools such as Kahoot!, Quizlet, and mobile-assisted platforms provide individualized learning pathways and interactive opportunities. These tools sustain attention among ADHD learners and reinforce phonological awareness for dyslexic learners

(Godwin-Jones, 2018; Hasselbring & Glaser, 2020). Recent bibliometric analyses confirm that technology-enhanced environments improve motivation and reduce barriers for neurodiverse students (Muriira, 2025). Still, scholars warn that digital tools can widen inequities if access is uneven across urban and rural schools.

Neurodiverse Learners in Bilingual Classrooms

Bilingual classrooms present compounded challenges for neurodiverse learners, who must balance language acquisition with content mastery. Cummins (2017) argues that bilingual education enhances cognitive flexibility, yet this benefit may be offset by increased cognitive load for learners with ADHD, dyslexia, or ASD.

Empirical studies in Southeast Asia demonstrate that bilingual schools adopting inclusive practices report higher levels of learner engagement, reduced behavioral incidents, and improved language outcomes (Chantavanich, 2021; Attachoo & Imsa-ard, 2023). However, these studies often generalize neurodiverse learners as a single category, overlooking the distinct needs of ADHD, dyslexic, and ASD profiles. This gap highlights the importance of comparative research that disaggregates learner responses to specific creative strategies.

Methodology

Research Design

This study employed a *qualitative narrative inquiry* design to capture the lived experiences of both teacher and students in a Grade 12 bilingual classroom in Bangkok. Narrative inquiry is particularly suited to educational contexts because it foregrounds participant voices and situates learning within authentic classroom interactions (Clandinin & Connelly, 2000). Unlike quantitative approaches that risk reducing learner experiences to numerical outcomes, narrative inquiry allows for nuanced exploration of how creative strategies shape engagement, comprehension, and confidence.

To ensure rigor, thematic analysis was conducted following Braun and Clarke's (2006) six-phase framework. Coding was iterative, with themes refined through peer debriefing and member checking with student participants. This process enhanced validity by triangulating teacher reflections, classroom observations, and student interviews.

Research Context

The research was situated in an urban bilingual high school in Bangkok. The classroom comprised 40 Grade 12 students, including learners identified with ADHD, dyslexia, and mild ASD traits. The bilingual setting required students to simultaneously acquire English proficiency while mastering Thai content, intensifying cognitive demands (Cummins, 2017). This context was selected because it reflects the growing prevalence of bilingual programs in Thailand and the urgent need to examine how inclusive pedagogy functions within them.

Participants

Participants included:

- *One primary researcher/teacher* (the author), who designed and implemented the creative strategies.
- *Forty Grade 12 students,* of whom approximately 8–10 were identified with ADHD, 4–6 with dyslexia, and 2–3 with ASD traits. Identification was based on school records and teacher observations rather than formal clinical diagnosis, reflecting the realities of Thai classroom practice.

Table 1: Comparative Benefits of Creative Strategies (Synthesized from Literature)

Strategy	ADHD Learners	Dyslexic Learners	ASD Learners	All Learners
Role Play	High focus	Moderate benefit	Moderate	High
Visual Aids/Scaffolding	Moderate	High	High	High
Group Work/Peer Support	High	Moderate	High	High
Technology-Assisted Tools	High	High	Moderate	High

Data Collection

Data were collected over sixteen weeks through multiple sources:

- *Classroom Observations:* Thirty-two lessons were documented, focusing on engagement, participation, and strategy use.
- *Reflective Journal:* The teacher maintained a daily journal to record strategy effectiveness, modifications, and contextual challenges.
- *Student Interviews:* Semi-structured interviews were conducted with twelve students (both neurodiverse and neurotypical) to capture perceptions of inclusivity and engagement.

This multi-source approach ensured methodological triangulation, strengthening the credibility of findings.

Data Analysis

Data were analyzed using thematic coding procedures (Braun & Clarke, 2006). Codes were generated inductively from classroom observations and interviews, then refined through comparison with existing literature. Quantitative indicators such as participation rates, task completion, and accuracy were integrated to complement qualitative insights. For example, dyslexic learners' task accuracy improved from 58% to 85% after the introduction of visual scaffolding, providing measurable evidence of strategy effectiveness.

Ethical Considerations

Ethical principles of beneficence and respect for autonomy guided the study. Parental consent was obtained for student participation, confidentiality was maintained, and participation was voluntary. The dual role of researcher-as-teacher was acknowledged as a potential source of bias, and steps such as member checking and triangulation were employed to mitigate this risk.

Limitations

The single-classroom context limits generalizability. Findings reflect an urban Bangkok classroom and may differ in rural Thai contexts where resources and bilingual exposure vary significantly (Vibulpatanavong, 2018). Additionally, the researcher's dual role may have influenced student responses, though triangulation and reflexive journaling were used to reduce bias.

FINDINGS AND DISCUSSION

Comparative Effectiveness of Creative Strategies

The findings confirm that creative, multisensory strategies—role play, visual scaffolding, group work, and technology integration—enhance engagement, comprehension, and confidence among neurodiverse learners in Thai bilingual classrooms. However, the degree of effectiveness varied across learner profiles, underscoring the importance of differentiated instruction. This variation highlights that inclusion cannot be achieved through a single strategy but requires a flexible toolkit responsive to diverse needs.

ADHD Learners

ADHD learners responded most positively to role play and technology-assisted activities. Role play provided novelty, movement, and social interaction, reducing distractibility and sustaining attention. This aligns with Mohebbi (2023), who argues that experiential learning cultivates attentional mechanisms by engaging multiple sensory pathways. Technology tools such as Kahoot! and Quizlet offered immediate feedback and gamified learning, reinforcing motivation and focus. In this study, participation rates among ADHD learners increased by approximately 30% following the introduction of role play, while task completion improved by 25% with technology integration. These findings support Katsarou *et al.* (2024), who highlight that interactive digital platforms can mitigate attentional deficits by structuring tasks into short, stimulating segments.

Dyslexic Learners

Dyslexic learners benefited most from visual scaffolding and technology integration. Visual aids reduced decoding demands by pairing text with images, thereby supporting comprehension and recall. Shaywitz (2020) emphasizes that dyslexic learners thrive when multimodal input reduces reliance on phonological decoding. In this study, task accuracy among dyslexic learners improved from 58% to 85% after the introduction of visual scaffolding. Çelik Korkmaz & Karatepe (2018) similarly demonstrate that multisensory approaches improve reading accuracy and retention among

Table 2: Strategy Effectiveness by Learner Type (Study Findings)

Strategy	ADHD Learners	Dyslexic Learners	ASD Learners	Overall Impact
Role Play	Very High	Moderate	Moderate	High
Visual Aids/Scaffolding	Moderate	Very High	Very High	High
Group Work/Peer Support	High	Moderate	High	High
Technology-Assisted Tools	Very High	High	Moderate	High

young ESL learners. Technology tools further reinforced phonological awareness, with dyslexic learners reporting increased confidence in reading aloud during interviews.

ASD Learners

ASD learners showed the strongest gains with visual aids and structured group work. Visual scaffolding provided clarity and predictability, reducing anxiety and enhancing comprehension. Group work, when organized with clear roles and predictable routines, fostered social inclusion and communication. Shomurodova (2025) notes that ASD learners benefit from structured collaborative activities that balance routine with opportunities for peer interaction. In this study, ASD learners' task accuracy improved from 60% to 80% after the introduction of visual aids. Interviews revealed that predictable group structures reduced social anxiety and encouraged participation, suggesting that inclusion is most effective when routines are explicit and consistent.

Cross-Learner Insights

While each learner profile responded differently, the strategies collectively enriched the classroom environment. ADHD learners thrived on stimulation and novelty, dyslexic learners required multimodal scaffolding, and ASD learners benefited from structure and predictability. These findings confirm Cummins' (2017) assertion that bilingual education intensifies cognitive demands, making differentiated strategies essential. They also align with Attachoo & Imsa-ard (2023), who argue that inclusive pedagogy in Thai EFL classrooms must be flexible, creative, and context-responsive. Importantly, neurotypical learners also reported increased engagement, suggesting that inclusive strategies benefit all students, not only those with identified learning differences.

Challenges and Contextual Limitations

Despite positive outcomes, challenges persisted. Teachers faced time constraints in lesson preparation, limited access to resources, and gaps in professional training. These findings echo Suwanwela (2019), who identifies systemic barriers to inclusive education in Thailand. Moreover, the study's urban Bangkok context may not reflect conditions in rural schools, where bilingual exposure and resources are more limited (Vibulpatanavong, 2018). Interviews revealed that while students valued creative strategies, inconsistent access to technology and materials limited their sustainability. This underscores the need for systemic support to ensure that inclusive pedagogy is not dependent solely on individual teacher initiative.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This qualitative case study provides contextual evidence that creative, multisensory pedagogy significantly enhances engagement, comprehension, and confidence among neurodiverse learners in Thai bilingual classrooms. By documenting the lived experiences of Grade 12 students in a single Bangkok classroom, the study demonstrates how role play, visual scaffolding, structured group work, and technology integration can be adapted to meet the distinct needs of ADHD, dyslexic, and ASD learners. The findings highlight that inclusion is most effective when pedagogy is flexible, differentiated, and responsive to the realities of bilingual ESL contexts.

Practical Implications

Teachers can draw on this case study to implement role-play scenarios with clear scripts, integrate visual scaffolding to reduce decoding load, design collaborative activities with predictable roles, and strategically employ technology tools to sustain attention and motivation. Schools and policymakers should recognize that classroom-based evidence,

such as this study, is essential for bridging the gap between inclusive education policy and practice.

Future Research

While this case study offers valuable insights, its single-classroom scope limits generalizability. Future research should expand to multiple schools across diverse regions, particularly rural contexts, and employ longitudinal designs to assess sustained impacts. Comparative case studies across Southeast Asia would further illuminate how cultural and resource differences shape inclusive pedagogy.

Final Remarks

This case study underscores that inclusive pedagogy is not optional but essential in bilingual education. Neurodiverse learners thrive when teaching is creative, flexible, and context-responsive, and these strategies simultaneously enrich the learning experience for all students. By embedding multisensory pedagogy into bilingual ESL instruction, Thailand can move closer to realizing equitable, globally competitive education. The contribution of this study lies in its contextual, classroom-based evidence — demonstrating that inclusive education is achievable when grounded in practical, case-specific strategies.

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