



Beyond Behavior Control: A Human-Centered Qualitative Study of Behavior Modification and Motivation in Early Childhood Special Education Needs

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ABSTRACT

Challenging behaviors among students with special educational needs (SEN) remain a persistent concern in early childhood special education, often addressed through reinforcement-based behavior modification strategies. However, such approaches have been criticized for prioritizing behavioral control over students' motivational and relational needs. This study adopts a human-centered perspective to examine how behavior modification practices are enacted in classroom contexts. Guided by an integrative framework combining Behaviorism and Self-Determination Theory (SDT), a qualitative design was employed using semi-structured interviews and classroom observations with seven special education teachers. Thematic analysis revealed that teachers integrate reinforcement strategies, non-verbal communication techniques, and relational practices, adapting them to individual student needs. Findings indicate that behavior modification is more effective when aligned with students' autonomy, competence, and relatedness, promoting self-regulation. This study advances theory by bridging behavioral and motivational perspectives and offers practical implications for inclusive pedagogy, teacher development and policy.

1. Introduction

Addressing challenging behaviors in special education needs (SEN) has become a critical global concern unambiguously within inclusive educational systems that serve learners with diverse cognitive, emotional besides behavioral needs [28], [62], [1]. Behaviors such as aggression, non-compliance and emotional dysregulation disrupt not only instructional processes but also students'

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social development and psychological well-being [12], [21], [26]. Consequently, classroom management must be reconceptualized as a pedagogical and developmental process that supports inclusive, equitable and human-centered learning environments rather than merely enforcing discipline.

Indeed, behavior modification techniques grounded in behaviorist theory have traditionally underpinned interventions aimed at managing such behaviors. Through reinforcement, prompting and environmental structuring, these approaches seek to increase desirable behaviors while reducing maladaptive ones [57], [32]. Contemporary frameworks such as Positive Behavior Support (PBS) and Applied Behavior Analysis (ABA) extend these principles by emphasizing proactive, individualized, and context-sensitive interventions [31], [60]. However, growing evidence suggests that behaviorist strategies alone are insufficient to address the complex psychological and relational dimensions of classroom practice [6], [16].

To address such limitation, this study proposes the Human-Centered AI–Teacher Wellbeing–Retention (HCAI-TWR) model which conceptualizes educational practice as an interaction between technological, psychological and professional dimensions. Within this model, HCAI functions as an enabling layer that enhances instructional practices, supports adaptive behavior management besides reduces cognitive and emotional workload. However, the effectiveness of such innovations is mediated by teacher wellbeing which serves as a critical psychological mechanism linking instructional practices to sustainable educational outcomes. Teachers experiencing higher emotional stability, reduced burnout and sturdier professional satisfaction are more capable of implementing responsive and individualized behavior management strategies.

Furthermore, the model positions professional identity as a boundary condition that shapes the long-term sustainability of these practices specifically in relation to teacher retention. In high-demand environments such as special education where emotional labor and workload pressures are significant, the alignment between teachers' professional values, identity and pedagogical practices becomes a key determinant of their intention to remain in the profession. Therefore, behavior management is not only a classroom-level concern but also a workforce sustainability issue linking micro-level pedagogical practices with macro-level retention outcomes.

This integrated perspective is particularly relevant in early childhood SEN wherever relational pedagogy plays a central role. Strategies such as emotional reassurance, non-verbal communication and individualized reinforcement reflect a shift toward human-centered and contextually adaptive practices [4], [22]. These approaches align with Self-Determination Theory (SDT) which emphasizes autonomy, competence and relatedness as essential for fostering intrinsic motivation besides long-term behavioral change [52]. Within the HCAI-TWR framework such practices are further strengthened by technological support systems that enhance teacher capacity while preserving human agency.

Despite extensive quantitative research on behavior modification, there remains a lack of qualitative insights into how teachers enact these strategies within real classroom contexts especially in Malaysia [58], [3]. This study addresses this gap by exploring teachers' lived experiences of behavior management through a human-centered lens. By integrating behaviorist, motivational and technological perspectives, it reconceptualizes behavior management as a holistic, relational and sustainable process. Eventually, the study contributes to theory by embedding behavior modification within the HCAI-TWR model and offers practical implications for enhancing teacher wellbeing, improving retention besides fostering inclusive educational environments.

2. Literature Review

2.1 Challenging Behaviors in Students with Special Educational Needs

Challenging behaviors among students with SEN remain a persistent issue in ECE. Behaviors such as aggression, self-injury, non-compliance besides withdrawal reflect underlying cognitive, emotional and sensory difficulties rather than mere disciplinary problems [39], [46]. These challenges are intensified by developmental immaturity and limited communication skills leading children to rely on maladaptive responses [16]. The etiology is complex, further, involving both neurodevelopmental conditions such as autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD) besides environmental influences like classroom structure and teacher–student relationships [56], [49]. Unmet emotional needs and communication barriers further exacerbate these behaviors [47]. As a result, such behaviors negatively impact classroom climate, increasing teacher stress and reducing instructional quality, while also limiting students' social and academic development, underscoring the need for holistic, evidence-based interventions [42].

2.2 Behavior Modification Theories and Frameworks

Behavior modification in SEN is grounded in behaviorist theory particularly B. F. Skinner's operant conditioning which emphasizes reinforcement and punishment with positive reinforcement most effective in sustaining desired behaviors [59], [44]. These principles have evolved into structured frameworks such as Applied Behavior Analysis (ABA) and Positive Behavior Support (PBS) since both emphasizing data-driven and individualized interventions [57]. Primarily, ABA focuses on functional relationships between antecedents, behaviors and consequences using techniques such discrete trial training besides reinforcement schedules to build adaptive skills and reduce maladaptive behaviors [25]. It is particularly effective for children with ASD improving communication and behavioral regulation [33]. However, its structured nature has raised concerns about contextual flexibility. In the same vein, PBS expands this approach by integrating ecological and humanistic perspectives emphasizing proactive strategies and supportive environments aligned with inclusive education [29]. More recently, Self-Determination Theory highlights autonomy, competence, and relatedness, marking a shift toward holistic, human-centered behavior support [52].

2.3 Classroom-Based Behavior Modification Strategies

In classroom practice, behavior modification integrates behavioral, relational and contextual strategies. Three key approaches are commonly applied: therapeutic and relational methods, non-verbal communication besides reinforcement-based interventions. Therapeutic strategies emphasize strong teacher–student relationships wherever emotional reassurance and consistent support help regulate anxiety and improve engagement especially among young learners with SEN [5], [55]. This underscores that behavior management extends beyond control to creating supportive learning environments. Additionally, non-verbal communication is crucial especially for students with limited verbal skills. Techniques such as gestures, facial expressions, proximity and visual supports such picture schedules effectively guide behavior and reduce disruptions especially for learners with ASD [51], [10]. Nevertheless, reinforcement-based strategies remain central using praise, tokens and incentives to promote positive behavior [64]. However, reinforcement must be applied strategically with gradual fading to foster intrinsic motivation [35]. Eventually, effectiveness depends on consistent individualized implementation aligned with students' developmental needs [14].

2.4 Research Gap and Need for Qualitative Inquiry

Despite extensive research on behavior modification, significant gaps remain in understanding real classroom implementation. Much of the literature relies on quantitative controlled studies that assess intervention effectiveness but overlook the complexity and variability of authentic classroom contexts [30]. As a result, a key limitation is the minimal focus on teacher perspectives. As primary implementers, teachers' experiences, decision-making and contextual challenges are often underexplored limiting practical insights into behavior management [54]. Additionally, research is largely Western-centric with insufficient attention to non-Western contexts such as Malaysia which cultural, institutional and policy dynamics differ significantly [43]. Existing studies also tend to examine isolated strategies rather than the integrated practice of multiple approaches in dynamic classroom settings. Given this complexity, qualitative methods are better suited to capturing real practices [48]. Therefore, this study adopts a qualitative approach to explore how Malaysian special education teachers implement behavior modification strategies contributing contextually grounded insights for policy, practice and teacher education.

2.5 Theoretical Framework

This study is grounded in an integrative framework combining Behaviorism and Self-Determination Theory (SDT) to explain how behavior modification functions in special education classrooms. This integration offers a comprehensive lens, linking external behavior regulation with internal motivational processes essential for sustained behavioral change among students with SEN [52]. While behaviorism focuses on observable behavior shaped through reinforcement [61], SDT emphasizes psychological needs, intrinsic motivation and learner autonomy. Behaviorism, rooted in operant conditioning posits that behavior is influenced by environmental interactions where reinforcement and punishment determine behavioral recurrence [2].

In practice, strategies such as positive reinforcement prompting besides shaping are widely applied to manage challenging behaviors and develop adaptive skills [34]. These approaches are particularly effective for SEN learners, who benefit from structured environments and immediate feedback [6]. Extensions such as Applied Behavior Analysis (ABA) and Positive Behavior Support (PBS) further refine these principles. ABA focuses on the antecedent–behavior–consequence (ABC) model to design targeted interventions, while PBS emphasizes proactive, ecological strategies that foster supportive learning environments [29].

However, behaviorism has been critiqued for insufficient attention to internal processes such as motivation and agency. Over-reliance on external reinforcement may result in dependency, limiting the development of intrinsic motivation and self-regulation [52]. This limitation is particularly relevant in inclusive education, where the aim extends beyond behavior control to holistic development. As a result, SDT addresses this gap by proposing that motivation is driven by the fulfillment of three psychological needs: autonomy, competence and relatedness [19]. In SEN, these principles guide the design of behavior strategies that not only reinforce behavior but also support students' sense of agency and belonging [13]. For example, structured choices promote autonomy, constructive feedback enhances competence and positive teacher–student relationships foster relatedness [9].

Thus, integrating Behaviorism and SDT enables a more holistic approach to behavior management. Reinforcement might be used as an initial motivator and gradually faded to encourage intrinsic motivation and self-regulation aligning with SDT's concept of internalization [27]. Moreover,

this framework highlights the importance of relational and contextual factors emphasizing that effective strategies must be embedded within supportive and inclusive classroom environments [20].

In early childhood special education, this integration is particularly valuable. Young learners with SEN require both structured guidance and emotional support. By combining behaviorist techniques with SDT principles teachers might create environments that promote not only behavioral compliance but also meaningful engagement and developmental growth [53]. In the end, this framework positions behavior modification as a dynamic, multidimensional practice that balances external reinforcement with internal motivation. It underscores that effective behavior management is not merely about controlling behavior but about fostering autonomy, self-regulation, and positive social relationships, providing a robust foundation for understanding classroom practices and improving long-term outcomes.

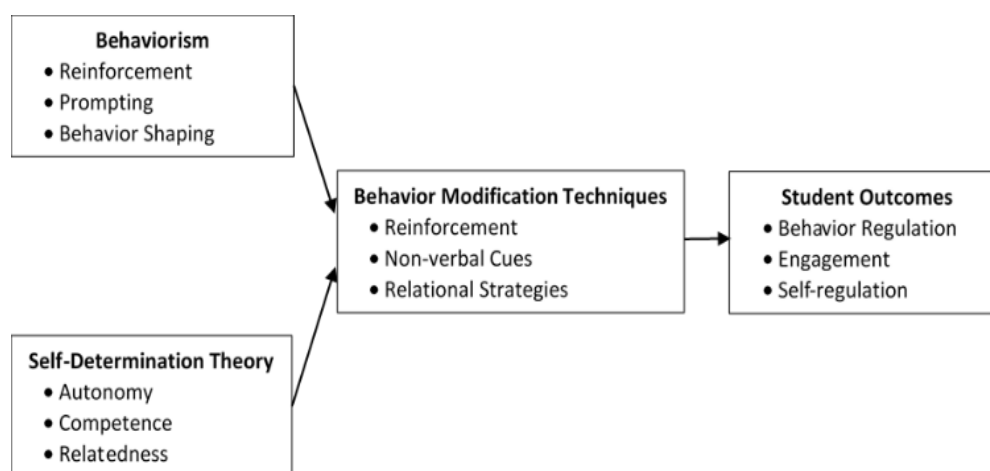


Fig. 1. Theoretical Framework

2.6 Conceptual Framework Development

This study proposes a conceptual framework integrating Behaviorism and Self-Determination Theory (SDT) to explain how behavior modification techniques influence behavioral and learning outcomes among preschool students with special educational needs (SEN). The framework captures the interaction between externally driven interventions and internally driven motivation in managing challenging behaviors. At its core, behavior modification techniques function as independent variables (IVs), encompassing reinforcement-based strategies, non-verbal communication, and therapeutic or relational approaches. Reinforcement methods such as praise, token systems and rewards strengthen desirable behaviors through external stimuli. Non-verbal communication including gestures, proximity control and visual cues guide behavior effectively specifically for students with limited verbal skills. Therapeutic and relational approaches such as emotional reassurance and supportive teacher–student interactions provide an affective foundation that enhances responsiveness.

The framework extends beyond behaviorism by positioning SDT as a mediating mechanism. It posits that the effectiveness of behavior modification depends on how well these strategies support students' psychological needs for autonomy, competence and relatedness [52]. Reinforcement might enhance competence when aligned with achievable goals and constructive feedback, promoting a sense of mastery rather than mere compliance [1]. Autonomy is fostered when students are given structured choices enabling agency within guided environments [8]. Relatedness is strengthened through positive teacher–student relationships, which reduce anxiety and support cooperation [7].

These mediating processes contribute to key dependent variables (DVs): behavioral regulation, classroom engagement, and self-regulated learning. Behavioral regulation involves reducing challenging behaviors and developing adaptive responses while engagement reflects active participation and attention. Self-regulated learning represents students' ability to manage their own behavior and learning over time. Together, these outcomes align with the broader goals of inclusive education. The framework also incorporates moderating factors including teacher practices, classroom environment and individual student characteristics. Teachers' expertise and beliefs influence strategy implementation, while classroom structure and peer dynamics affect effectiveness. Student-specific factors such as developmental level and type of need further shape how interventions are internalized [41].

Importantly, the framework conceptualizes behavior modification as a dynamic and iterative process. Teachers continuously adjust strategies based on student responses besides creating feedback loops that inform practice. This highlights the importance of contextualized and adaptive teaching rather than rigid application of techniques. Ultimately, the framework bridges behaviorist and motivational perspectives emphasizing that effective behavior management requires both structured interventions and support for psychological needs. By integrating Behaviorism and SDT, it provides a holistic model for understanding teacher practices and promoting sustainable behavioral and learning outcomes in special education.

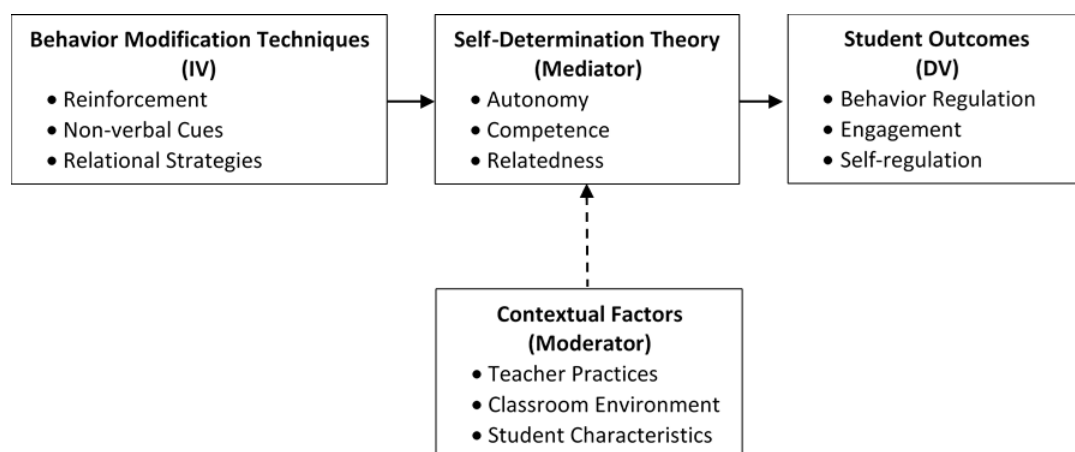


Fig. 2. Conceptual Framework

3. Methodology

3.1 Research Design

This study adopts a qualitative research design to explore the behavior modification techniques employed by special education teachers in managing challenging behaviors among preschool students with SEN. A qualitative approach is particularly appropriate for this study as it enables an in-depth understanding of teachers' lived experiences, pedagogical reasoning besides contextual practices within real classroom settings [17]. A qualitative approach enables rich, descriptive insights that are difficult to obtain with quantitative approaches considering the study focuses on uncovering complex and context-dependent strategies rather than measuring predetermined variables [15]. Specifically, the study is informed by a basic qualitative interpretive approach which seeks to understand how participants make meaning of their experiences and practices [63]. This approach

aligns with the study's objective of examining how teachers conceptualize and implement behavior modification techniques and how they perceive their effectiveness in managing challenging behaviors.

3.2 Research Location and Participants

The study was conducted in private special education preschool classrooms within selected educational institutions in Kuala Lumpur. The focus on early childhood settings is particularly relevant as behavioral challenges are often more pronounced during early developmental stages and require specialized intervention strategies. Participants were selected using purposive sampling, a non-probability sampling technique commonly used in qualitative research to identify individuals who possess relevant knowledge and experience related to the research topic [48]. The inclusion criteria required participants to: (a) be currently teaching in special education classrooms, (b) have experience working with preschool students aged 4–6 years, and (c) have prior exposure to behavior management or behavior modification practices. A total of seven special education teachers participated in the study representing diverse teaching experiences and institutional contexts. This sample size is considered adequate for qualitative inquiry as it allows for in-depth exploration of individual perspectives while facilitating thematic saturation [40], [23].

3.3 Data Collection Methods

Data were collected through semi-structured interviews and classroom observations enabling methodological triangulation and enhancing the richness of the data [17]. Semi-structured interviews were conducted to explore teachers' perspectives, experiences and decision-making processes regarding behavior modification techniques [24]. An interview protocol was developed to guide the discussion covering key areas [38] such as types of challenging behaviors encountered, strategies used, implementation processes and perceived effectiveness. Each interview lasted approximately 45–60 minutes and was conducted in a quiet and comfortable setting to ensure participant openness and confidentiality [50]. Interviews were audio-recorded with participants' consent and subsequently transcribed verbatim for analysis [37]. In addition to interviews, non-participant classroom observations were conducted to capture the real-time application [23] of behavior modification strategies. Observations focused on teacher-student interactions, use of reinforcement, non-verbal communication besides relational approaches in managing behavior. Field notes were taken to document contextual details [63] including classroom environment, student responses and interaction patterns. The use of multiple data sources allowed for a more comprehensive understanding of classroom practices and facilitated cross-validation of findings [18].

3.4 Data Analysis

The data were analyzed using thematic analysis following the six-phase framework proposed by Virginia Braun and Victoria Clarke [11]. This method is widely used in qualitative research for identifying, analyzing, and interpreting patterns within data. In order to obtain an overview of data, interview transcripts and observation notes were reviewed several times throughout the familiarization phase of the analytic process. This was followed by first coding in which open coding methods were employed to designate significant data segments. After that, codes were categorized using axial coding which made it possible to find connections between concepts. Subsequently, themes were developed by organizing related categories into broader patterns that captured key

aspects of behavior modification practices. The themes were reviewed and refined to ensure coherence, consistency and alignment with the research objectives. Finally, themes were defined and named to reflect their conceptual significance supported by illustrative quotes and observational evidence. To enhance analytical rigor, the coding process was iterative and reflexive allowing for continuous refinement of interpretations. Where applicable, qualitative data analysis software was utilized to organize and manage the data systematically.

3.5 Trustworthiness and Ethical Considerations

To ensure the trustworthiness of the study, several strategies were employed as suggested by Yvonna S. Lincoln and Egon G. Guba [36], based on the criteria of credibility, transferability, dependability and confirmability. Credibility was enhanced through data triangulation, combining interviews and observations to validate findings across multiple sources. Member checking was conducted by sharing preliminary interpretations with participants to confirm the accuracy of the findings. Transferability was addressed by providing detailed descriptions of the research context, participants, and procedures, enabling readers to assess the applicability of the findings to similar settings.

Dependability was ensured through a transparent and systematic documentation of the research process, including data collection and analysis procedures. An audit trail was maintained to allow for external review of the research process. Confirmability was achieved by maintaining reflexivity throughout the study, where the researcher acknowledged and minimized potential biases in data interpretation. At the same time, ethical considerations were strictly adhered to throughout the research process [17]. Participants were informed about the purpose of the study, and informed consent was obtained prior to data collection. Confidentiality and anonymity were ensured by assigning pseudonyms and removing identifying information from the data. Participants were also informed of their right to withdraw from the study at any time without penalty.

4. Findings

Four (4) major themes emerged and derived from thematic analysis of semi-structured interviews and classroom observations: (1) Therapeutic and Relational Strategies, (2) Non-Verbal Communication Techniques, (3) Immediate Reinforcement Practices, and (4) Contextual and Individualized Application of Strategies. These themes reflect the multifaceted and adaptive nature of behavior modification practices in special education classrooms.

4.1 Theme 1: Therapeutic and Relational Strategies

This theme highlights the importance of emotional connection and trust-building in managing challenging behaviors. Teachers emphasized that establishing a supportive and secure relationship with students is foundational to effective behavior management.

4.1.1 Subtheme 1.1: Supportive Touch and Physical Guidance

Participants reported using gentle physical guidance and supportive touch to calm students and redirect behavior, particularly among those with sensory needs.

“Sometimes when the child becomes overwhelmed, I just place my hand on their shoulder or guide them gently. It helps them feel safe and they calm down faster.” (Teacher 3)

Classroom observations confirmed that such interactions often de-escalated emotional distress and reduced disruptive behaviors.

4.1.2 Subtheme 1.2: Emotional Reassurance and Trust Building

Teachers consistently highlighted the importance of emotional reassurance in fostering positive behavior.

“They need to feel that we understand them. When I speak calmly and reassure them, they are more willing to listen and follow instructions.” (Teacher 1)

This relational approach was particularly effective for students exhibiting anxiety-driven behaviors, as it created a sense of psychological safety.

4.1.3 Subtheme 1.3: Consistent Teacher Presence

Participants emphasized that consistency in teacher behavior and expectations contributed to improved student responses.

“If I am consistent in how I respond, the students know what to expect. It reduces confusion and helps them behave better.” (Teacher 5)

This reflects a theme of teacher consistency as a factor influencing positive student behaviour and classroom management effectiveness.

4.2 Theme 2: Non-Verbal Communication Techniques

Non-verbal strategies emerged as essential tools for managing behavior, especially among students with limited verbal communication abilities.

4.2.1 Subtheme 2.1: Gestures and Facial Expressions

Teachers frequently used gestures and facial cues to guide behavior without interrupting classroom flow.

“Sometimes I don’t need to say anything. Just a look or a hand signal is enough for them to understand what to do.” (Teacher 2)

These subtle cues were observed to be effective in maintaining classroom order while minimizing verbal confrontation.

4.2.2 Subtheme 2.2: Proximity Control

Strategic positioning within the classroom was used to manage behavior proactively.

“When I stand near a student who is about to act out, they usually stop. My presence alone can prevent the behavior.” (Teacher 4)

Observations indicated that proximity control reduced the frequency of disruptive incidents.

4.2.3 Subtheme 2.3: Visual and Symbolic Supports

Visual aids such as schedules, pictures, and symbols were widely used to support understanding and behavior regulation.

“I use visual cards to show them what comes next. It helps them stay on track and reduces frustration.” (Teacher 6)

These tools were particularly beneficial for students with autism spectrum disorder and communication challenges.

4.3 Theme 3: Immediate Reinforcement Practices

Reinforcement-based strategies were identified as central to behavior modification, with teachers emphasizing the importance of immediacy and consistency.

4.3.1 Subtheme 3.1: Verbal Praise

Verbal reinforcement was commonly used to encourage positive behavior and build student confidence.

“When they do something right, I immediately praise them. It motivates them to repeat the behavior.” (Teacher 7)

Teachers noted that specific and sincere praise was more effective than generic feedback.

4.3.2 Subtheme 3.2: Token Systems and Rewards

Token systems and rewards were widely implemented to reinforce desired behaviors.

“I give them stars or stickers, and after collecting a few, they get a small reward. They really look forward to it.” (Teacher 3)

Such systems were observed to increase student engagement and task completion.

4.3.3 Subtheme 3.3: Activity-Based Incentives

Teachers also used preferred activities as incentives to encourage participation.

“If they complete their tasks, they can choose a game or activity they like. It works very well.” (Teacher 1)

This approach linked behavior with meaningful outcomes, enhancing motivation.

4.4 Theme 4: Contextual and Individualized Application of Strategies

This theme underscores the importance of adapting behavior modification techniques to individual student needs and classroom contexts.

4.4.1 Subtheme 4.1: Individualized Strategy Selection

Teachers emphasized that no single strategy works for all students, necessitating individualized approaches.

“Every child is different. What works for one may not work for another, so I have to adjust my approach.” (Teacher 2)

This highlights the role of teacher expertise and flexibility in behavior management.

4.4.2 Subtheme 4.2: Influence of Classroom Environment

Participants noted that classroom structure and environment significantly affect behavior.

“A well-organized classroom helps a lot. When routines are clear, students are less likely to misbehave.” (Teacher 5)

Observations confirmed that structured environments contributed to smoother classroom management.

4.4.3 Subtheme 4.3: Role of Teacher Experience and Beliefs

Teachers’ prior experience and beliefs about behavior management influenced their choice of strategies.

“With more experience, I have learned to be patient and choose strategies that suit each child.” (Teacher 6)

This suggests that professional development plays a critical role in enhancing behavior management practices.

4.5 Synthesis of Findings

Findings across all themes point to behavior modification as a complex and dynamic process in SEN. Teachers do not employ a single strategy but rather blend relational, communicative, and reinforcement-based approaches in response to complex behavioral challenges. Importantly, the success of these strategies depends on consistency, individualization, and the quality of teacher-student relationships. This study indicates this integration by implicitly combining behaviorist and motivational principles wherein external reinforcement complements relational and supportive

practices to promote student engagement and self-regulation. This is consistent with the study's conceptual and theoretical framework, which emphasizes that behavior management is much more than just control, but rather encompasses holistic, human-centered pedagogical approaches.

Table 1
 Coding Structure - From Codes to Themes

| Raw Codes (Open Coding) | Subthemes (Axial Coding) | Themes (Selective Coding) |
|--------------------------------------|--|--|
| Gentle touch to calm student | Supportive touch and physical guidance | Therapeutic and Relational Strategies |
| Physical reassurance during distress | Supportive touch and physical guidance | Therapeutic and Relational Strategies |
| Guiding hand movements | Supportive touch and physical guidance | Therapeutic and Relational Strategies |
| Calm verbal reassurance | Emotional reassurance and trust building | Therapeutic and Relational Strategies |
| Comforting tone of voice | Emotional reassurance and trust building | Therapeutic and Relational Strategies |
| Building emotional trust | Emotional reassurance and trust building | Therapeutic and Relational Strategies |
| Consistent teacher response | Consistent teacher presence | Therapeutic and Relational Strategies |
| Predictable teacher behavior | Consistent teacher presence | Therapeutic and Relational Strategies |
| Routine-based interactions | Consistent teacher presence | Therapeutic and Relational Strategies |
| Hand signals for instruction | Gestures and facial expressions | Non-Verbal Communication Techniques |
| Eye contact to redirect behavior | Gestures and facial expressions | Non-Verbal Communication Techniques |
| Facial expressions as cues | Gestures and facial expressions | Non-Verbal Communication Techniques |
| Standing near disruptive student | Proximity control | Non-Verbal Communication Techniques |
| Moving closer to prevent behavior | Proximity control | Non-Verbal Communication Techniques |
| Strategic positioning in classroom | Proximity control | Non-Verbal Communication Techniques |
| Use of picture cards | Visual and symbolic supports | Non-Verbal Communication Techniques |
| Visual schedules for routines | Visual and symbolic supports | Non-Verbal Communication Techniques |
| Symbol-based communication aids | Visual and symbolic supports | Non-Verbal Communication Techniques |
| Immediate verbal praise | Verbal praise | Immediate Reinforcement Practices |
| Specific positive feedback | Verbal praise | Immediate Reinforcement Practices |
| Encouraging words for behavior | Verbal praise | Immediate Reinforcement Practices |
| Giving stickers or stars | Token systems and rewards | Immediate Reinforcement Practices |
| Collecting tokens for rewards | Token systems and rewards | Immediate Reinforcement Practices |
| Reward-based motivation system | Token systems and rewards | Immediate Reinforcement Practices |
| Allowing preferred activities | Activity-based incentives | Immediate Reinforcement Practices |
| Playtime as reward | Activity-based incentives | Immediate Reinforcement Practices |
| Task completion incentives | Activity-based incentives | Immediate Reinforcement Practices |
| Adapting strategy per student | Individualized strategy selection | Contextual and Individualized Application |

| | | |
|---|--|--|
| Trial-and-error approach | Individualized strategy selection | Contextual and Individualized Application |
| Understanding student needs | Individualized strategy selection | Contextual and Individualized Application |
| Structured classroom routines | Influence of classroom environment | Contextual and Individualized Application |
| Organized learning space | Influence of classroom environment | Contextual and Individualized Application |
| Classroom rules clarity | Influence of classroom environment | Contextual and Individualized Application |
| Teacher experience in behavior management | Role of teacher experience and beliefs | Contextual and Individualized Application |
| Professional judgment in strategy use | Role of teacher experience and beliefs | Contextual and Individualized Application |
| Beliefs about student behavior | Role of teacher experience and beliefs | Contextual and Individualized Application |

Note: The coding process was iterative and aligned with Braun and Clarke’s (2021) thematic analysis framework, ensuring conceptual coherence, internal consistency and alignment with the research objectives.

5. Discussion

This study examined the behavior modification strategies utilized by special education teachers to manage challenging behaviors in preschool settings for children with special educational needs (SEN). Teachers take a multidimensional and adaptive stance, combining therapeutic, communicative and reinforcement-based strategies in their interactions. Of note, these practices demonstrate an implicit convergence of behaviorist principles and SDT highlighting the interplay between external behavioral regulation and internal motivational processes.

5.1 Integration of Behaviorist Principles in Classroom Practice

Findings confirm that reinforcement-based techniques such as verbal praise, token systems and rewards are also still found to be at the heart of behaviour change consistent with operant conditioning where behavior is shaped through consistent reinforcement [51]. Students with SEN require immediate and consistent feedback which improves behavioural acquisition [14]. Gestures, proximity and visual supports and such non-verbal strategies operate as antecedent interventions that are consistent with ABA frameworks [33]. But teachers adjust these methods to the emotional and developmental needs of the student which is a trend toward more responsive human-centered practices that might be seen as moving away from a purely mechanistic behaviorism [21].

5.2 The Role of SDT in Enhancing Behavioral Outcomes

Other than external reinforcement, there is a need satisfaction as defined in SDT. Teachers’ relational strategies including emotional reassurance and consistent support enhance relatedness and improve behavioral regulation and engagement [5]. Competence is supported through structured guidance and positive feedback, so reinforcement increases self-efficacy and assists the internalization when perceived as informational [52]. Autonomy is demonstrated through visual supports and activity-based choices, which promote engagement despite structured settings [8]. Behaviour management is ultimately not about control, but about intrinsic motivation and self-regulation.

5.3 Convergence of Behaviorism and SDT: Toward a Hybrid Pedagogical Model

One of the main findings of this study is illustrating the convergence between behaviorism and motivational approaches to classroom implementation. If behaviorism structures behavior modification, then SDT describes how these strategies are internalized by students. As such, teachers take a hybrid stance utilizing external reinforcement initially, followed by relational practices that develop intrinsic motivation, in line with motivational internalization [52]. Token rewards may, for example, become extrinsically motivating at a minimum, but in a supportive feedback/relationship environment, and subsequently increase competence and relatedness, leading to continued involvement/engagement. It represents a move from compliance into self-regulation. The holistic approach facilitates a more human-focused practice moderating the need for control with empathy [57] and the development of a more nuanced conceptualisation of behavior management beyond control versus autonomy.

5.4 Contextual and Individualized Nature of Behavior Modification

The other important finding is that behavior modification techniques need to be contextually and individually applied. Teachers highlighted the importance of modifying strategies in accordance with students' needs, classroom environments besides situational factors and this echoed ecological perspectives of how people and the environments in which they live and develop can influence the contexts of a person [1], [9], [3]. Teacher knowledge and judgment were key, with veteran teachers making adjustments as necessary and adaptive. This is consistent with existing research on teacher agency and reflective practice in inclusive education [7]. Structured classroom environments with clear routines and expectations were also associated with lower disruption levels highlighting the influence of proactive environmental design in improving behavior management [20].

To put it briefly, it can be concluded from this study that effective behaviour modification in special education requires the convergence of structured behavioral procedures and supportive motivational practices. The study's connecting behaviorism and SDT emphasizes the significance of addressing both external and internal aspects of behavior. This coordinated method allows a solid baseline for improvement, enhancing classroom activities, and sustainable, meaningful outcomes for students with SEN.

5.5 Contribution to Theory

This study advances theory through integration of behaviorism and self-determination theory in special education. It also expands the frame of behaviorism to view it as relational and context-sensitive, rather than mechanistic. It builds upon SDT by demonstrating how autonomy, competence, and relatedness are operationalized in the domain of behavior management, allowing for the activation of reinforcement that supports intrinsic motivation. A hybrid framework is proposed, resolving tensions between external control and internal motivation. It also emphasizes the contextual and relational influences, consistent with Ecological Systems Theory. Finally, qualitative findings strengthen theory-building through practice-based evidence, enhancing ecological validity in inclusive education contexts.

6. Implications

The findings of this study offer significant implications for educational policy, teacher professional development and classroom practice in SEN particularly within early childhood contexts. By demonstrating the effectiveness of integrating behaviorist strategies with principles of SDT, this study highlights the need for a balanced, human-centered approach to behavior management that goes beyond traditional control-oriented practices.

6.1 Implications for Classroom Practice

Effective classroom behavior management relies on a multidimensional, flexible perspective that combines reinforcement, relational, and communicative strategies. Therapeutic supports like emotional reassurance and consistent teacher presence are fundamental, fostering relatedness and reducing anxiety while enhancing engagement. Non-verbal techniques such as gestures, proximity, and visual supports enhance predictability and reduce disruptions, especially for students with communication difficulties. Reinforcement should be strategically applied, with gradual fading and meaningful feedback to promote intrinsic motivation and self-regulation, aligning with SDT.

6.2 Implications for Teacher Education and Professional Development

The study emphasizes that teacher training should be reconceptualized in line with integrated behaviour management strategies. Existing programs typically emphasize techniques such as reinforcement and fail to explore relational and motivational contexts. In theory, training should integrate behaviorist and SDT elements in order to provide teachers with the balance they need in providing structure along with an element of autonomy support. Major topics are such as PBS, ABA, relational pedagogy, and techniques for autonomy, competence and relatedness. Flexibility and decisional judgment are reinforced by ongoing professional development (coaching, workshops, reflective practice). Teacher well-being is also an essential aspect, and learning to be better able to manage behaviors increases stress; supportive systems help in increasing efficacy and retention.

6.3 Implications for Educational Policy

These findings at the policy level call for holistic, inclusive behavior management frameworks in special education. Behavior management must be considered a systemic issue by policymakers, requiring coordinated support. First, policies should encourage school-wide positive behavior support (SWPBS), emphasizing preventive and inclusive approaches. Second, adequate resources such as teaching aids, assistive technologies, and appropriate class sizes must be ensured. Third, professional learning communities (PLCs) and the opportunities for collaboration and shared knowledge must be reinforced. Finally, in Malaysia, context-specific frameworks are needed to align global models such as ABA and PBS with local cultural and institutional realities.

6.4 Toward a Human-Centered Behavior Management Policy

An important implication of this study is to orient toward an approach of human-centered policies in special education so that students are acknowledged as active participants in their learning while prioritizing their psychological well-being alongside behavioral outcomes. Policies should be centered around student autonomy and voice, supportive teacher–student relationships, balance structure

with flexibility as well as behavioral and motivational frameworks. Embedding these principles into policy and practice can enhance inclusivity, responsiveness and effectiveness so that a diverse and holistic set of needs can be met for students, especially those with SEN.

To sum up, this study highlights that effective behavior management requires alignment between classroom practices, teacher competencies, and systemic support structures. The integration of behaviorism and SDT provides a robust foundation for designing policies and practices that are both evidence-based and human-centered. These implications are critical for advancing inclusive education and improving outcomes for students with special educational needs.

7. Limitations

However, the current study has important limitations. First, our purposive sample of seven teachers makes findings context-specific and limits generalizability. Second, although data used is based on self-reported interview data, it could be subject to bias despite limited classroom observations for triangulation. Third, the study is limited to teacher perspectives only, leaving out students, parents, or administrators, hence the lack of comprehensiveness. Lastly, the qualitative design does not allow for causality or statistical substantiation of the conceptual framework. We wish to propose further research using mixed-methods or quantitative approaches in order to test, validate, and generalize these results across broader educational contexts.

8. Recommendations

Several directions are suggested related to behavior management in special education based on the findings. First, teachers need to incorporate behaviorist and motivational theories, supporting autonomy, competence and relatedness to foster long-term engagement. Second, professional development needs to be based on technical skills (ABA, PBS) and relational skills with support from additional forms of learning such as coaching and reflective practice. Third, schools must implement whole-school programs such as SWPBS to ensure consistency with sufficient resources and manageable classroom conditions. Finally, policymakers should develop context-sensitive guidelines, adapting global frameworks to local cultural, institutional besides classroom contexts for greater relevance and effectiveness.

9. Future Research Directions

This study indicates several paths for future research. First, mixed-methods and longitudinal studies are needed to examine the long-term impact of integrating behaviorist and SDT approaches on student outcomes and motivation. Second, it would be interesting to explore mediating and moderating factors such as teacher self-efficacy, classroom climate and leadership using SEM to test the proposed model. Third, cross-context and cross-country comparative studies may disclose cultural and systemic effects. Fourth, investigating the capabilities of digital and AI tools for behavior management is promising. Finally, further investigations should include teacher and student voices through qualitative and participatory methods to provide practice-grounded evidence.

10. Conclusion

This study offers a more sophisticated perspective on behavior modification through the way that teachers use reinforcement-based, relational and communicative strategies in managing challenging

behaviors of preschool students with SEN. This study fills a need regarding effective behavior management beyond extrinsic control, by integrating Behaviorism and SDT through the cultivation of intrinsic motivation, emotional security and self-regulation. Teacher expertise, classroom environment, and student needs interact to affect outcome trajectories dynamically that solicits for context-sensitive, individualized approaches to learning. It's this sort of perspective and the ways it advances human-centered thinking and places behavior management at the center of both a pedagogical and relational process. This information adds to knowledge and practice by proposing integrated, holistic methods for inclusive learning. Finally, it is important to develop supportive, motivating, and structured learning environments that support sustainable behavioral and developmental outcomes for children with SEN.

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