

DEVELOPMENTAL DYNAMICS OF CHILDREN WITH DOWN SYNDROME IN SPECIAL SCHOOLS

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ABSTRACT:

Down syndrome is a genetic disorder characterized by an extra chromosome on the 21st pair, which results in significant cognitive and physical barriers. This research aims to analyze the dynamics of the development of children with Down Syndrome in the Benih Insani Surabaya Inclusion School, particularly in social and academic aspects. Using a descriptive qualitative method through one month of participatory observation, this study focuses on three specific subjects representing different adaptation phases: a long-term student (senior), a mid-term student (one month), and a new student (two weeks). Data were analyzed using narrative analysis to identify behavioral patterns and developmental transformations. The results showed that the duration of education in an inclusive setting was positively correlated with emotional control and acceptance of academic instruction. Findings indicate that children with Down Syndrome require special assistance and a firm disciplinary approach to achieve improved emotional regulation, as evidenced by a reduction in aggressive impulses and an increase in academic instruction compliance, such as the ability to sit quietly and complete assigned tasks.

Keywords : *down syndrome, special school, emotional control, academic compliance, special assistance.*

INTRODUCTION

Education for children with special needs, particularly those with Down Syndrome (DS), is a key pillar in fostering their independence despite their genetic limitations. Down syndrome is not simply a static intellectual disability, but rather a complex reality that impacts cognitive capacity for abstract thinking, problem-solving, and independent emotional regulation (Intan & Selian, 2025: 184). In Indonesia, Special Needs Schools (SLB) play a vital role as intervention spaces



designed to optimize the potential of children with Down Syndrome through an adapted curriculum (Metavia & Widyana, 2022: 55). Fundamentally, children with Down Syndrome possess unique characteristics that distinguish them from other children with Down Syndrome, whose distinctive physical and cognitive disabilities often hinder their social interactions with the outside world (Septian, 2020: 7). The dynamics of their development depend heavily on the consistency of support and the duration of education they receive. Field observations indicate that this adaptation process is not linear; Each phase of a child's presence in school brings dynamic behavioral challenges, ranging from strong emotional resistance to aggressive behavior that requires special disciplinary management from educators. In addition to institutional aspects, social support from the immediate environment and parental parenting patterns are also determining factors in shaping long-term independence for people with Down Syndrome (Situmeang et al., 2023: 12) .

Although numerous studies on Down Syndrome have been conducted, there remains a gap in the literature regarding direct observational studies comparing children's behavioral transformations based on specific school stages. This research is necessary due to the lack of observational studies comparing the adaptation phases between senior students, students with a one-month school period, and new students (two weeks) within the same ecosystem of the Benih Insani Surabaya Inclusive School. Through this comparison, behavioral development patterns can be mapped more chronologically and factually. Based on this urgency, this study formulates the following problem: How are the dynamics of emotional control, social interaction, and compliance with academic instructions in children with Down Syndrome across these three school stages? The contribution of this research is expected to provide a strategic reference for teachers and parents in developing appropriate mentoring patterns according to the child's adaptation phase, so that the process of emotional stabilization and



academic instruction can run more effectively .

METHOD

This study uses a descriptive qualitative approach located at the Benih Insani Surabaya Inclusive School. This location was chosen because it has a diverse classification of Down Syndrome (DS) students, allowing researchers to compare adaptation phases simultaneously. The research subjects were three male students with an age range of 10-12 years. Subject selection was based on inclusion criteria (purposive sampling): (1) medically diagnosed with Down Syndrome, (2) in the same grade level, but (3) having different school durations (old/senior students, one-month students, and two-week students). This difference in duration was the main reason for selecting subjects to observe the development of emotional regulation from the transition phase to the stable phase.

The data collection procedure was conducted through intensive participant observation three times a week for one month, with a duration of three hours for each visit session (7:30 AM - 10:30 AM WIB). The focus of the observed behaviors included indicators of emotional control (frequency of tantrums/aggression), social interactions (eye contact, responses to peers), and compliance with academic instructions (ability to follow teacher commands). Researchers used an observation sheet (checklist) reinforced with field notes to record unique events that occurred during classroom interactions.

The data analysis technique used is narrative analysis which consists of several stages: (1) Data reduction, which is summarizing and grouping daily behavioral events based on certain categories; (2) Categorization, organizing data into three main themes, namely emotional/aggression control, social dynamics, and academic compliance; and (3) Theme extraction, which is comparing behavioral patterns between adaptation phases (old vs. new) to produce developmental conclusions. To ensure data validity (trustworthiness), the



researcher conducted member checks through periodic confirmation with the class teacher regarding the validity of the observation notes made by the researcher with the reality of students' daily behavior outside of observation hours. In addition, the researcher maintained an audit trail by storing all recordings and field notes as evidence of data authenticity.

RESULTS AND DISCUSSION

A month of in-depth observation at the Benih Insani Inclusive School in Surabaya revealed that the development of children with Down syndrome is not a linear process, but rather a dynamic emotional and cognitive process. Observations of three categories of students revealed that the duration of exposure to a special education environment was strongly correlated with improved self-regulation skills and academic compliance.

A summary of the development dynamics of the three subjects during the observation period is presented in the following table:

Subject Categories	Dominant Behavior	Behavioral Triggers	Teacher Response	Changes During 1 month
Senior Students	Calm, able to focus, obedient to academic assignments.	Environmental distractions or fatigue.	Minimal verbal reminders and appreciation.	Stable; consistent in emotional regulation and independent tasks.
Middle School Students	Aggressive (hitting/slapping), refusing assignments.	New academic instructions, a sense of	Firm disciplinary approach &	Significant; aggression reduced,



Subject Categories	Dominant Behavior	Behavioral Triggers	Teacher Response	Changes During 1 month
(1 Month)		discomfort.	minor physical reprimands.	starting to want to hold writing tools.
New Students (2 weeks)	Regressive (hiding under the table), anxious.	New environment, presence of strangers.	Calm, repetitive instructions & gentle persuasion.	Early adaptation; starting to dare to come out from under the table in a limited way.

First, in senior students, a much more stable form of emotional regulation was found compared to other students. Subjects were able to sit quietly for long periods and demonstrated mature compliance with academic instructions, such as completing writing assignments or putting together puzzles without needing repeated reminders. This is in line with the findings of Intan and Selian (2025: 188) that continuing education at the Benih Insani Surabaya Inclusive School improves the cognitive structure of children with DS in internalizing rules. However, a unique finding shows that "explosions" of impulsive behavior can still occur sporadically, such as suddenly breaking down a table or pulling a friend's hair when feeling distracted. This indicates that even though emotional regulation improves, special guidance is still needed to anticipate the failure of impulse control that is an innate characteristic of DS (Susilowati & Nurhadi, 2024: 485). This finding strengthens the theory of Mardhia and Pransista (2025: 8) that children



with DS require continuous guidance because their emotional control tends to be fragile even though their academic abilities have developed .

Second, an analysis of middle school students (one month of school) revealed a significant transition in emotional regulation. In the early weeks, the subjects exhibited severe physical aggression, such as hitting and slapping teachers. A key finding in this study was the effectiveness of the "firm disciplinary approach." Interventions such as educational shouting and minor physical reprimands (reminder pinches) proved to be catalysts for behavioral improvement in the subjects. Entering the fourth week, there was a significant increase in compliance with academic instructions; subjects who initially refused to hold writing utensils began to follow the teacher's directions to scribble or color on their chairs. This demonstrates that without specific disciplinary support, the cognitive development of children with ADHD will be hampered by their own emotional barriers (Metavia & Widyana, 2022: 58).

Third, observations of new students (two weeks) revealed fluctuating compliance dynamics. Despite having a public school background that provided a better cognitive foundation, the subjects exhibited regressive behavior, such as sitting under their desks to avoid teacher instructions. Narrative analysis found that this was not simply laziness, but rather a form of anxiety about the new environment (Sultan, 2024: 85). Repetitive and calm instruction began to show results by the end of the observation, with the subjects beginning to emerge from under their desks and interacting in a limited manner. This finding confirms that each child with DS has a different "entry point" in achieving learning independence (Septian, 2020: 10).

Further discussions revealed that managing children with Down Syndrome requires a synergy of firmness and compassion. Aggressive behavior in both new and existing students is often triggered by fine motor skills or social anxiety (Wadu & Media, 2021: 40). The use of sensory stimulation and creative media such as



puzzles can be an alternative way to reduce this emotional tension (Marta, 2017: 35). However, these field findings confirm that for children with high levels of aggression, teachers' measured deterrent methods are a crucial first step before moving on to more complex academic stimulation. This dynamic demonstrates that the educational success of children with Down Syndrome in special needs schools is measured not only by academic achievement but also by the stability of their self-control in daily social interactions (Retnaningrum & Umam, 2023: 880) .

This study provides "new" findings compared to previous research that generally only focused on the effectiveness of a single therapy method statically. The novelty of this study lies in the comparative chronological mapping of three different adaptation phases (newcomers, transitioners, and seniors) within the same observation setting at the Benih Insani Inclusive School in Surabaya. This allows for a more detailed identification of the behavioral transition from high aggression to emotional stability, proving that the duration of exposure to the school environment significantly alters Down Syndrome children's coping mechanisms for academic instruction.

Recommendation

Based on the research findings, a number of strategic recommendations were formulated that can be implemented collaboratively by teachers and parents to support children's development in inclusive schools.

For inclusive school teachers, behavioral management strategies need to be implemented in a structured and consistent manner. First, implementing emotional de-escalation strategies is a crucial step when a child exhibits aggressive behavior or tantrums. Teachers can use a firm approach, a firm but measured and unemotional stance, to break the cycle of aggression. If a severe tantrum occurs, a safe and monitored time-out technique can be implemented to provide a space for self-regulation, not as a form of punishment, but rather as an opportunity for the



child to calm down before returning to learning activities.

Second, positive reinforcement needs to be given directly and specifically. Simple rewards such as verbal praise, reward stickers, or star signs can be effective motivational stimuli, especially when a child successfully completes a small task or sits quietly for a few minutes. Consistent reinforcement will help build positive associations between adaptive behavior and favorable environmental responses.

Third, establishing a clear and stable daily routine is crucial for reducing anxiety, especially for new students unfamiliar with the school environment. A visual daily schedule posted in the classroom can help children understand the sequence of activities, increasing their sense of security and reducing uncertainty. A consistent structure helps children develop predictability, which ultimately supports emotional stability and concentration.

Fourth, the use of sensory media such as puzzles, plasticine, or kinetic sand can stimulate fine motor skills and promote emotional regulation. These media can be used as a distraction when children begin to show signs of cognitive frustration or mental fatigue. Directed sensory activities help children channel their energy and gradually restore their readiness to learn.

Meanwhile, for parents, consistency in parenting is key. Rules and boundaries implemented at home should align with those taught at school to prevent children from experiencing role confusion or disorientation. Inconsistencies between the home and school environments can hinder the internalization of adaptive behavior. Therefore, intense communication between teachers and parents is essential to ensure a shared approach.

Additionally, parents are advised to set aside scheduled support time at home to repeatedly practice simple instructions. This practice aims to strengthen the child's procedural memory and develop more stable response habits to commands or rules. Regular, patient, and structured support will help children transfer the skills learned in school into everyday life.



With synergy between pedagogical strategies at school and consistent parenting patterns at home, interventions given to children in inclusive schools will be more effective and sustainable.

CONCLUSION

The developmental dynamics of children with down syndrome at the Benih Insani Inclusive School in Surabaya is an adaptation process that requires time and high consistency. Longer educational duration directly contributes to the development of more stable emotional regulation and higher levels of compliance with academic instructions. The findings of this study conclude that specialized assistance and a firm disciplinary approach are crucial instruments in transforming impulsive-aggressive behavior into adaptive behavior that enables the learning process. Educational success for children with down syndrome lies not only in cognitive achievement, but primarily in their ability to control emotions and comply with directions in the social environment of the school (Retnaningrum & Umam, 2023: 880).

The most important finding of this research is that improvement in physical aggression during the transition phase can only be achieved through a combination of repetitive instruction and measured physical-verbal discipline interventions before entering the academic compliance phase. For future research, it is recommended to test the effectiveness of integrating interactive digital media or assistive technology in accelerating the emotional adaptation period of children with down syndrome during the first weeks of school.

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