

Implementation of Adaptive Methods in Individualized Learning for Early Childhood Students with Intellectual Disabilities: A Case Study

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ABSTRACT

Background of the study: Children with intellectual disabilities require specialized educational approaches that accommodate their unique learning needs. Adaptive individualized learning has become an essential strategy in special education, particularly at the early childhood level, to support cognitive, social, and motor development. SLBN Keleyan in Socah, Bangkalan, has been recognized for its efforts in implementing such approaches despite various limitations.

Aims and scope of paper: This study aims to examine the types of adaptive individualized learning implemented for early childhood students with intellectual disabilities at SLBN Keleyan, Socah. The primary focus is on the application of special education approaches that address individual needs and the roles played by teachers, the school principal, and the school environment in creating meaningful learning experiences.

Methods: This research employed qualitative methods, including direct observation, semi-structured interviews, and document analysis. Data were collected from teachers, the school principal, and supporting documentation within the school environment.

Results: The findings indicate that SLBN Keleyan implements individualized learning strategies through the use of visual aids, educational games, and simple motor activities. The principal plays a pivotal role in fostering collaboration between the school, parents, and therapists to ensure cohesive support for each student. Despite challenges such as limited facilities, the learning process remains effective.

Contribution: This study underscores the importance of adaptive individualized learning in the education of children with special needs. It also reinforces previous findings (Fakhiratunnisa & Desiningrum, 2022; Harsiwi & Wulandary, 2024) that identify SLBN Keleyan as a potential model for inclusive and adaptive special education practices in the Bangkalan region.

INTRODUCTION

Early childhood education serves as a crucial foundation for the physical, cognitive, social, and emotional development of children. At SLBN Keleyan Socah, the learning process is designed to offer a holistic educational experience, particularly for children with special needs. The approach adopted by the school emphasizes not only academic development but also character building and life skills, enabling children to learn according to their individual potentials and capabilities within a supportive and inclusive environment (Utami, 2021). However, the school faces distinct challenges in educating young children with disabilities. Physical, cognitive, and social barriers must be carefully addressed in the development of instructional programs (Fakhiratunnisa, 2022). As such, the teaching strategies implemented are tailored to the specific needs of each learner. Adaptive and engaging learning media are frequently used to foster a pleasant and effective learning atmosphere.

The need for individualized and adaptive teaching strategies is especially critical in the context of children with intellectual disabilities. These strategies are designed to create responsive learning environments that support children's optimal development in multiple domains—cognitive, emotional, social, and motor. As Putri (2022) emphasizes, such an approach requires the active participation of educators, parents, and the broader community to provide ongoing support. This is consistent with the findings of Santoso and Lestari (2021), who argue that individualized and needs-based learning significantly improves students' engagement and adaptive behaviors in everyday activities. Their research highlights the importance of flexible and collaborative instructional methods to maximize the effectiveness of educational interventions.

Teachers at SLBN Keleyan Socah play an essential role in the educational process. They act not only as facilitators but also as motivators and companions who understand the emotional and psychological needs of their students. The school supports teachers through specialized training in special education techniques, while parents are actively involved in maintaining synergy between home and school learning environments. Through this comprehensive approach, SLBN Keleyan aims to deliver equitable and meaningful education for all learners. This commitment is realized through creative teaching strategies, a flexible curriculum, and collaborative partnerships with various stakeholders. As a result, early childhood education at SLBN Keleyan is designed to equip children with the confidence, independence, and resilience needed to face future life challenges.

Early childhood education refers to developmental guidance provided to children from birth to the age of six through educational stimuli aimed at supporting growth and learning. Children with special needs require specialized educational services due to delays or impairments in their mental, physical, intellectual, or socio-emotional development. Unlike mainstream education, the curriculum for children with special needs must be simplified and adapted to meet individual learning objectives effectively. At SLBN Keleyan, the curriculum is designed in such a way as to address these unique learning needs (Harsiwi, 2024).

Children with disabilities often face learning and developmental challenges that require tailored interventions. Unfortunately, societal perceptions of individuals with disabilities remain largely negative. Many still view them as less capable due to their physical and functional limitations. These stigmatizing views often prevent them from enjoying equal rights, responsibilities, and social roles. Therefore, the aim of this article is to raise awareness—especially among educators—of the importance of implementing learning strategies that are appropriate and responsive to the needs of children with disabilities.

The theoretical framework of this study is grounded in behaviorist learning theory, which views learning as a change in observable behavior as a result of interaction with the environment. As Santrock (2008) states, behaviorism emphasizes that behavior should be studied through observable experiences, not mental processes. According to this perspective, behaviors such as a child making a poster, a teacher smiling, or a student disturbing another are all observable acts of learning. The key components of learning in this theory are stimuli—external inputs provided by the teacher—and responses, or the learner's reactions. Learning is considered to have occurred

when there is a measurable change in behavior. Based on this theory, all individuals are assumed to be capable of learning, making it especially relevant for designing adaptive learning strategies for children with special needs.

METHODS

Research Design

This study employed a qualitative research approach with a case study design. The rationale for choosing a case study was to explore and obtain in-depth information on the phenomenon of individualized learning for early childhood students with intellectual disabilities within the environment of SLBN Keleyan Socah. A case study is particularly appropriate for understanding complex educational settings, allowing the researcher to closely examine the context, participants, and processes involved.

Participants

The primary data sources in this study were the school principal and students in the class for children with intellectual disabilities at SLBN Keleyan Socah. These participants were selected based on their direct involvement in and relevance to the individualized learning processes being studied. The research was conducted specifically in the class designed for students with intellectual disabilities (Tuna Grahita), enabling focused and context-rich data collection.

Data Collection

Data were collected using three main techniques: (1) semi-structured interviews with the school principal, aimed at gaining insights into the design and implementation of individualized learning strategies; (2) passive participant observation of the learning activities in the classroom to document actual teaching practices and student engagement; and (3) documentation, including records of learning activities, school facilities, and supporting infrastructures. These methods were selected to provide a comprehensive understanding of the learning environment and practices at the school.

Data Analysis

Data analysis was carried out using Miles and Huberman's interactive model, which consists of three stages: data reduction, data display, and conclusion drawing/verification. The researcher systematically coded and categorized the data to identify emerging patterns and themes. To ensure the validity of the findings, data triangulation was employed by cross-checking information from different sources and using multiple data collection techniques. The research was conducted directly by the researcher, starting from the design of learning-related interview questions, through the data analysis process, to drawing final conclusions. The research process was carried out smoothly and effectively, allowing for a thorough examination of the individualized learning practices at the research site.

RESULT

Early childhood education at SLBN Keleyan Socah offers a distinctive and meaningful learning experience, especially tailored for children with special needs. As a school designed specifically to serve students with intellectual disabilities, SLBN Keleyan Socah implements instructional strategies that cater to the unique developmental characteristics of its students. Education during early childhood is a critical period that forms the foundation for a child's overall growth, including their physical, cognitive, emotional, and social development. In this context, the learning practices at SLBN Keleyan Socah emphasize not only academic skills but also character development and life skills, ensuring a holistic approach to education (Wulandary, 2024).

The research employed direct classroom observations and in-depth interviews with key stakeholders, including the school principal and selected students. This qualitative method allowed for a rich exploration of the dynamics within the learning environment, including

instructional practices, teacher-student interactions, and the school's overall approach to accommodating students with intellectual disabilities.

The classroom observations provided valuable insights into the day-to-day learning activities and the strategies employed by the teachers. At SLBN Keleyan Socah, educators make extensive use of adaptive and interactive teaching materials to capture students' attention and foster active participation. These materials include visual aids such as flashcards and pictures, tactile objects for sensory learning, educational games, and simple motor activities that promote both cognitive and physical development. Teachers demonstrated creativity in modifying lessons to suit individual students' learning styles and pace. For example, some students were guided using step-by-step instructions paired with physical demonstrations, while others responded better to musical cues or storytelling techniques.

The learning environment itself was observed to be warm, structured, and inclusive. Classrooms were organized to minimize distractions and allow for flexible seating arrangements that support small-group or individualized instruction. Teachers maintained a calm and encouraging tone, and frequently praised students' efforts, thereby boosting their confidence and motivation. Importantly, the teachers paid close attention to each student's unique needs, offering one-on-one support when necessary and adjusting lesson plans to align with students' strengths and limitations. This individual attention ensured that all students, regardless of the severity of their disabilities, had the opportunity to engage with the curriculum and make meaningful progress.

Through interviews with the school principal, the study uncovered the underlying philosophy and strategic direction of SLBN Keleyan Socah. The principal emphasized that the school's vision is to provide equitable access to education for children with disabilities in the Keleyan Socah area, a goal that is pursued through inclusive policies and a strong emphasis on individualized learning. The principal explained that while the school adheres to the national education standards, the curriculum is significantly adapted to match the students' capabilities and developmental levels. Adaptations include simplifying learning objectives, using concrete examples, extending instructional time, and integrating functional life skills into daily lessons.

Collaboration is a core principle in the school's educational model. The principal highlighted the importance of coordinated efforts between teachers, parents, and external specialists such as speech therapists and occupational therapists. Regular communication is maintained with families to ensure consistency between home and school environments, and parent involvement is encouraged in activities such as classroom projects, school events, and goal-setting meetings. This triadic partnership ensures that each student receives comprehensive and continuous support across various aspects of their development.

However, the school also faces several challenges, particularly related to limited resources and infrastructure. The principal acknowledged that while the school staff are highly committed, they often work with minimal instructional materials and outdated equipment. Moreover, the school building lacks some specialized facilities that would ideally support students with physical disabilities or sensory impairments. Despite these constraints, the school's commitment to inclusive and adaptive education remains steadfast, and staff members continuously strive to improve their teaching practices through professional development and peer collaboration.

Student interviews were conducted in an informal and interactive manner, which helped to elicit genuine responses from the children. Most students expressed positive feelings toward their learning experience at SLBN Keleyan Socah. They described the school as a fun and friendly place where they felt accepted and supported. Many students mentioned enjoying specific activities such as singing, drawing, and participating in group games. These activities not only helped them learn academic concepts but also built their social and communication skills. Students consistently described their teachers as patient, kind, and helpful, often praising their efforts to explain lessons in ways that were easy to understand.

Some students shared personal stories about how they had initially struggled in a more traditional educational setting but found it easier to learn and socialize at SLBN Keleyan Socah. They appreciated the smaller class sizes, the opportunity to receive more individual attention, and

the freedom to express themselves without fear of being judged. Several students also stated that they had made close friends at the school and enjoyed working together during collaborative learning tasks. These responses underscore the importance of creating a learning environment where children with special needs can thrive academically and emotionally.

The findings from both observation and interview data indicate that the early childhood education program at SLBN Keleyan Socah is effectively tailored to support the learning and development of students with intellectual disabilities. The school's individualized approach, commitment to inclusive practices, and strong collaboration with families and specialists are among its key strengths. At the same time, the findings suggest that there is room for further development, particularly in terms of providing more varied and updated educational resources.

DISCUSSION

Early childhood education at SLBN Keleyan Socah demonstrates an approach that strongly aligns with the principles of education for children with special needs. Based on observations and interviews, the learning process at this school emphasizes an individualized approach, which is a key characteristic. Teachers at SLBN Keleyan Socah serve not only as facilitators but also as companions who guide students according to their unique abilities and needs. The use of teaching methods such as visual aids, educational games, and simple motor activities effectively maximizes student engagement and learning experiences. This approach is consistent with constructivist learning theories, which highlight the importance of direct experience in knowledge acquisition (Piaget, 1952; Vygotsky, 1978). Previous studies have also confirmed that personalized learning strategies can enhance students' self-confidence as well as their motor and cognitive development (Taber, 2016; Rule et al., 2011; Tomlinson, 2014).

Moreover, the role of the school principal as a leader is crucial in shaping the direction of education and fostering an inclusive learning environment. The principal of SLBN Keleyan Socah has a clear vision to make the school a welcoming place for children with special needs, supported by a curriculum adapted to meet national standards while remaining flexible to student capabilities. The collaborative approach between teachers, parents, and therapists exemplifies a holistic support model proven effective in inclusive education (Ainscow & Miles, 2008; Booth & Ainscow, 2011; Turnbull et al., 2011). Effective leadership in an inclusive context involves not only administrative management but also motivating and facilitating collaboration that promotes student success (Leithwood et al., 2006; Fullan, 2014).

Interviews with students reveal positive perceptions of their learning experiences. The supportive and friendly classroom atmosphere contributes to a comfortable environment where students feel motivated and engaged. Such positive environments are essential for young children with special needs who are often sensitive to stress or unsupportive surroundings (Denham, 2006; Ashdown & Bernard, 2012). An emotionally and socially supportive atmosphere helps enhance students' focus and active participation in learning activities (Noddings, 2005; Hamre & Pianta, 2001).

Despite the effectiveness of the learning process at SLBN Keleyan Socah, several challenges remain. Limited facilities, such as learning aids, therapy rooms, and specialized teaching materials, pose significant obstacles. These resource constraints are commonly encountered in inclusive schools, particularly in regions with limited funding (UNESCO, 2020; Sharma et al., 2019). Additionally, the availability of teachers with specialized training is another critical issue, considering the importance of teacher competence in managing inclusive classrooms and applying adaptive teaching methods (Florian & Spratt, 2013; Darling-Hammond et al., 2017). Hence, more robust support from government bodies and the community is essential to overcome these challenges and enhance the quality of education offered by the school.

Nevertheless, SLBN Keleyan Socah has significant potential for further development. Enhancing facilities, providing continuous professional development for teachers, and integrating educational technology are strategic avenues for improving learning effectiveness. The use of interactive and digital technologies has been proven to increase engagement among students with

special needs (Bouck et al., 2016; Alquraini & Gut, 2012). Furthermore, expanding networks and collaborations with higher education institutions, non-governmental organizations, and expert communities can open opportunities for innovative and evidence-based educational programs (Friend et al., 2010; Lindsay, 2007). Such collaborative models are vital for enriching resources and ensuring the sustainability of inclusive education programs.

Implications

The findings from this study have important implications for early childhood education, especially for children with special needs. First, the individualized approach used at SLBN Keleyan Socah demonstrates the effectiveness of tailoring learning experiences to meet each student's unique needs, which can improve engagement, self-confidence, and developmental outcomes. This suggests that schools serving children with disabilities should prioritize adaptive teaching methods and create inclusive environments that foster emotional and cognitive growth. Furthermore, the critical role of school leadership in shaping curriculum adaptation and fostering collaboration among teachers, parents, and therapists highlights the need for strong, visionary leadership in special education settings. The study also underscores the necessity of adequate resources and trained personnel to support inclusive learning, emphasizing that policymakers and educational authorities must allocate sufficient funding and training to sustain such programs.

Research Contribution

This research contributes to the body of knowledge on special education by providing a detailed case study of an inclusive early childhood education program in Indonesia. It offers empirical evidence supporting the effectiveness of individualized, student-centered teaching strategies combined with collaborative leadership approaches. Additionally, this study enriches the understanding of the lived experiences of students, teachers, and administrators within a specialized educational context, illustrating both the successes and challenges faced. The findings can serve as a reference model for other schools in similar contexts aiming to enhance their inclusive education practices.

Limitations

Despite its valuable insights, this study has several limitations. The research was conducted in a single institution, which limits the generalizability of the findings to other special education settings with different socio-cultural and resource conditions. The qualitative nature of the study, relying primarily on observations and interviews, may introduce subjective bias, and the sample size of participants, particularly students, was relatively small. Additionally, the study did not incorporate longitudinal data, which would be useful to evaluate the long-term impact of the educational approaches on student outcomes.

Suggestions

Parents and caregivers are encouraged to create consistent bedtime storytelling routines to Future research should consider expanding the scope to include multiple special education schools across diverse regions to enhance the generalizability of findings. Quantitative studies or mixed-methods approaches could complement qualitative insights and provide more robust data on student progress and learning outcomes. It is also suggested to conduct longitudinal studies to track developmental trajectories of children receiving individualized education. From a practical perspective, policymakers and school administrators should invest in continuous professional development for educators, improve facilities and learning materials, and strengthen partnerships with families and health professionals. Finally, exploring the integration of technology-based learning tools tailored to children with special needs could further optimize engagement and educational effectiveness.

CONCLUSION

Early childhood education at SLBN Keleyan Socah is well-designed with a strong focus on meeting individual student needs through inclusive education principles. However, addressing limitations in facilities and teacher capacity should be prioritized to sustain and improve education quality. With strategic actions, SLBN Keleyan Socah can serve as a successful example of special needs education in Indonesia, making a significant positive impact on children's development. Future research should explore the long-term effects of individualized learning approaches on the cognitive, social, and emotional development of children with special needs. Additionally, studies investigating the integration of technology and innovative teaching tools in special education settings could provide valuable insights to further enhance learning outcomes.

AUTHOR CONTRIBUTION STATEMENT

SDD conceived the research idea. SR and MDM conducted data collection. MFA contributed to the literature review. MAH contributed to proofreading and drafting the manuscript. All authors reviewed and approved the final version of the manuscript.

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