



Instructional Modifications in Inclusive Early Childhood Education: A Case Study of Teaching Strategies for Children with Autism in Yogyakarta

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Abstract

Purpose – This study investigates the application and effectiveness of instructional modifications in an inclusive classroom, specifically focusing on a child with autism, at TK ABA Karanganyar, Yogyakarta. The research addresses the knowledge gap in inclusive education by exploring how teaching strategies can be adapted to meet the diverse needs of students, particularly children with special needs (CSN), and foster their academic and social development..

Design/Methods/Approach – A qualitative case study method was employed, utilizing semi-structured interviews, direct classroom observations, and document analysis. Data were collected from the classroom teacher, principal, and students, including one child with autism, over multiple observation sessions. Analysis was conducted using Miles and Huberman's interactive model, ensuring data triangulation through cross-referencing interviews, observations, and school documents.

Findings – The study found that flexible and individualized instructional modifications—such as adapting learning activities and providing intensive assistance—promote engagement and development in children with special needs. These modifications not only support the child with autism but also enhance peer interactions, fostering a more inclusive classroom environment. However, resource constraints, including the lack of specialized aides and visual tools, were identified as challenges in fully implementing inclusive strategies.

Originality/Value – This research contributes to the literature by demonstrating that effective inclusive education can be achieved through teacher-initiated instructional modifications, even in the absence of formal inclusion programs. The findings provide valuable insights into creating inclusive environments in resource-limited settings, emphasizing teacher flexibility and creativity.

Practical Implications – The results offer practical recommendations for educators on implementing flexible, needs-based strategies in inclusive classrooms. Policymakers are encouraged to support inclusive education through targeted teacher training and resource allocation.

Keywords Inclusive education, instructional modification, early childhood, autism.

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1. Introduction

Early Childhood Education (PAUD) represents a crucial phase in a child's development, focusing on fundamental aspects such as religious and moral values, cognitive abilities, socio-emotional development, language, motor skills, and the arts (Suyadi, 2014). Education at this stage provides a foundation for the child's holistic development, ensuring they are better prepared to enter the next educational level (Farida, 2017; Suyadi & Dahlia, 2017). Learning processes in PAUD typically employ a play-based learning approach designed to optimize children's potential in an enjoyable environment. In the context of inclusive education, where children with special needs are integrated with regular students in the same classroom, the role of teachers becomes even more vital. Teachers are not only responsible for guiding students according to their developmental stages, but are also expected to create an inclusive learning environment that is free from discrimination (Irham & Wiyani, 2016). Inclusive education refers to an educational system that provides equal opportunities for all children, including those with special needs, to learn together in the same environment (Menteri Pendidikan Nasional, 2009). Children with special needs can access the same education through various adjustments, including modifications in curriculum, infrastructure, and assessment systems (Hayati, 2016; Irdamurni, 2019).

Several studies have examined the practice of inclusive education in Indonesia, particularly regarding the implementation of instructional modifications. Instructional modification is a strategy used by teachers to accommodate the learning needs of both children with special needs and regular students (Sunanto & H., 2016). These adjustments involve modifications in teaching strategies, materials, and assessments, aimed at creating a learning environment that aligns with the characteristics and needs of all students (Asiyah, 2018). Previous research has shown that instructional modifications in inclusive classrooms can increase the participation of children with special needs and enhance their social and academic development (Andini, 2016; Hermanto, 2006). However, a significant challenge in implementing these modifications is the diverse needs of students, which often complicates the development of effective teaching strategies (Andini, 2022).

Despite various efforts to support inclusive education, some studies indicate limitations in its practice. These limitations include a lack of training for teachers in handling children with special needs, inadequate resources to support instructional modifications, and insufficient monitoring of inclusive education implementation (Hayati, 2016; Irdamurni, 2019). Moreover, research in Indonesia has seldom focused on the development of specific learning models for children with special needs in inclusive classrooms, revealing a knowledge gap that needs to be addressed. Hence, this study aims to fill the empirical gap (Miles, 2017) in the literature on inclusive education, particularly concerning instructional modifications for children with special needs.

Given the background presented, there is an urgent need to understand how instructional modifications are implemented for children with special needs in inclusive classrooms, specifically in Class B3 of TK ABA Karanganyar Yogyakarta. The learning process involving children with diverse needs, including those with special needs, requires a different approach compared to regular classrooms. Therefore, it is essential to explore how the learning process in inclusive classrooms can be optimized through modifications that meet the needs of all students. This study seeks to address questions regarding how instructional modifications and learning processes in inclusive classrooms can support the development of children with special needs.

The objective of this study is to explore the application of instructional modifications in Class B3 of TK ABA Karanganyar Yogyakarta, which has students with diverse needs, including children with special needs. The study also aims to evaluate the effectiveness of

these modifications in supporting the development of children with special needs within an inclusive environment. By understanding how instructional modifications are applied and their impact on student development, this research is expected to provide deeper insights into the effective implementation of inclusive education.

This study is significant both theoretically and practically. Theoretically, it will contribute to the development of literature on inclusive education and instructional modifications. Practically, the findings are expected to provide guidance for teachers in designing more inclusive and effective learning experiences in inclusive classrooms, particularly in addressing the needs of children with special needs. Furthermore, this research is anticipated to encourage the development of educational policies that better support inclusive education in Indonesia.

2. Methods

2.1 Research Approach

This study employed a qualitative approach using a case study method to gain a deeper understanding of the modifications in teaching strategies within an inclusive classroom (Sanjaya, 2013). The qualitative approach was selected as it is well-suited for exploring the specific context and dynamic interactions occurring in inclusive classroom settings, thereby allowing for richer and more detailed analysis (Creswell, 2014). The case study method enabled the researchers to focus attention on a single unit of analysis—the inclusive classroom at TK ABA Karanganyar—allowing for a more comprehensive understanding of the implementation of instructional strategies.

2.2 Research Location and Subjects

The research was conducted in class B3 at TK ABA Karanganyar, Yogyakarta, which operates as an inclusive classroom. A total of 19 subjects participated in the study, consisting of one principal, one classroom teacher, and 17 students. Among the 17 students, one was a child with special needs, Kny (7 years old), diagnosed with autism. The teacher, who was also a subject of the study, had more than five years of teaching experience and an educational background in early childhood education, along with specialized training in inclusive education. The remaining 16 students were regular children from diverse socio-economic backgrounds and with varying academic abilities, creating a heterogeneous learning environment.

2.3 Data Collection Methods

Data were gathered using three primary techniques: semi-structured interviews, direct observation, and document analysis. Each method was chosen to complement one another, providing solid data triangulation. *Semi-Structured Interviews*: Interviews were conducted with the principal and classroom teacher, each lasting 60 minutes. The interview guidelines were developed based on literature on inclusive education, with open-ended questions that allowed for further exploration during the interview process. This technique facilitated the emergence of new insights that may not have been identified during the initial planning stages (Kvale, 2007). *Direct Observation*: Observations were conducted both inside and outside the classroom over several sessions, each lasting two hours. The focus of the observations was on the implementation of teaching modifications for Kny and other students, as well as the interaction between teachers and students during the teaching-learning process. This technique allowed the researchers to directly observe

how adaptations were applied in real situations. *Documentation*: Documents collected included the curriculum, lesson plans, and teacher's daily notes, which provided an overview of the teaching process in the inclusive classroom. This documentation served as supporting data that could be compared with the data from interviews and observations to enhance the validity of the findings

2.4 Data Analysis Procedure

Data analysis was conducted using Miles and Huberman's interactive analysis model (Sugiyono, 2016), involving three main steps:

1. Data Reduction: The data collected from interviews, observations, and documentation were selected and condensed through a process of categorization and grouping to facilitate further analysis.
2. Data Display: The reduced data were presented in the form of matrices, charts, and descriptive narratives, making it easier for the researchers to identify patterns and relationships between the research variables.
3. Conclusion Drawing: Conclusions were drawn based on the patterns that emerged from the data presentation and were continuously verified throughout the analysis process. Verification was carried out to ensure the consistency and validity of the findings, including cross-referencing with relevant theories and previous studies.

2.5 Data Validity and Reliability

To ensure data validity, this study employed source triangulation by comparing data from interviews, observations, and documentation. Additionally, to enhance reliability, two independent researchers were involved in the data analysis process. The analysis results from both researchers were then compared and discussed to reach a consensus on the findings.

2.6 Research Ethics

This study adhered to ethical research principles, especially since it involved a child with special needs. Research permission was obtained from the school authorities, and informed consent was collected from the parents or guardians of the students before data collection began. The anonymity and confidentiality of the research subjects were strictly maintained, and all data collected were reported anonymously.

3. Results

This study aims to explore the application of modified learning strategies in the inclusive classroom setting at TK ABA Karanganyar, Yogyakarta, particularly for children with autism. The research also evaluates the effectiveness of these modifications in supporting the development of children with special needs and their impact on classroom dynamics.

3.1 Learning Modifications for Autistic Children

In Class B3 of TK ABA Karanganyar, learning modifications are implemented by adjusting materials and methods based on the needs and abilities of Kny, a child with autism. The primary focus of Kny's learning is on daily life skills such as handwashing, tidying up toys,

and disposing of trash. The learning activities are designed to align with Kny's motor skills, involving tasks such as playing with clay, cutting, and kicking a ball.

The teacher provides intensive assistance, ensuring that Kny can participate in activities without excessive pressure. This approach allows Kny to learn at a pace consistent with his relatively short attention span.

"Kny can learn calmly because the learning process doesn't impose heavy demands, focusing on the basic skills he needs." – Classroom Teacher

Motor activities like playing with clay and ball games not only aim to enhance Kny's physical abilities but also help sharpen his independence in performing daily tasks. These modifications are carefully designed to meet Kny's needs, ensuring that he can actively engage in classroom activities.

3.2 Stages of Learning in the Inclusive Classroom

The learning process in Class B3 is divided into three main stages: opening, core activities, and closing. The opening activities include prayers, memorization of verses, and the recitation of Asmaul Husna (names of God), though Kny is not yet able to participate in all of these activities. During the core activities, the teacher manages time between regular students and Kny, providing special attention to Kny when necessary. Assistance is provided both inside the classroom and outside, such as during sports and extracurricular activities.

"When Kny cannot follow the memorization, we give him lighter tasks or invite him to engage in physical activities like exercising outside the classroom." – Classroom Teacher

Learning for regular students is conducted in a structured manner, but for Kny, the teacher adopts a flexible approach. If Kny shows signs of fatigue or lacks concentration, the teacher does not force him but instead shifts to an activity more suited to his current condition. This approach reflects a deep understanding of the needs of autistic children, who require greater flexibility in learning.

3.3 Impact of Learning Modifications

The modifications have created a more inclusive learning environment that supports the development of all students, including Kny. The teacher successfully fosters a conducive atmosphere where regular students can interact with Kny, leading to a classroom environment characterized by tolerance and acceptance.

"With these modifications, Kny feels more comfortable, and his classmates are beginning to learn to accept and support him." – Classroom Teacher

The learning modifications not only positively impact Kny's development but also influence the overall classroom dynamics. Regular students have shown increased acceptance and tolerance toward Kny, strengthening the social cohesion within the class. The interaction between Kny and his peers has become more harmonious, and the teacher views this as evidence that the modified learning approach can create an effective inclusive learning environment.

The teacher also noted improvements in Kny's ability to focus on certain tasks, particularly those related to motor skills. The flexible and pressure-free learning

modifications have provided Kny with the space to adapt to the classroom environment without feeling overwhelmed, which in turn has increased his engagement in learning activities.

3.4 Challenges in Implementing Modifications

Although these modifications have had a positive impact, the teacher also acknowledges the challenges. One of the main challenges is the limited resources, particularly in terms of assistance and the tools needed to support Kny's learning optimally. The teacher must devote more attention to Kny than to regular students, making time management and effort allocation a significant challenge.

In the inclusive classroom, the teacher's role becomes more complex, as they must manage the needs of both special needs and regular students simultaneously. The limited number of aides and specialized equipment is a major constraint in providing optimal support for Kny.

The learning modifications implemented in the inclusive classroom of TK ABA Karanganyar have successfully created a learning environment that supports Kny's development as a child with autism while also fostering social interaction and acceptance among regular students. Despite various challenges, the flexible and needs-based approach has proven effective in facilitating a conducive inclusive learning experience. The findings of this study provide important insights for teachers in managing inclusive education and highlight the need for further support in terms of resources and teacher training.

4. Discussion

This study aims to explore and evaluate the implementation of learning modifications in inclusive classrooms at TK ABA Karanganyar, specifically in Class B3, which includes diverse learners, including children with special needs (CSN). The primary focus of the research is to identify how learning modifications can support the development of CSN in the context of inclusion. The key findings reveal that flexible learning strategies, turn-taking among students, and intensive teacher assistance are critical factors in creating an inclusive environment. This emphasizes that although the school does not have an official inclusion program, this approach is effective in meeting the needs of CSN.

The findings of this study affirm that learning modifications, such as adjustments in teaching methods, instructional materials, and assessment practices, play a significant role in supporting the success of inclusive education. Despite the absence of an official Individualized Education Plan (IEP), teachers in Class B3 successfully implemented flexible approaches that support the development of learners, particularly CSN such as Kny, who has autism. These modifications, which include intensive assistance and flexibility in the duration of learning sessions, help create a learning experience that is tailored to the needs and limitations of CSN. This supports the perspectives of authors who highlight the importance of instructional modifications in enhancing CSN participation (Asiyah, 2018; Sunanto & H., 2016).

These findings align with previous literature emphasizing the importance of flexibility in inclusive education (Farida, 2017; Suyadi & Dahlia, 2017). In the context of early childhood education, play-based approaches and responsive adjustments to children's needs can improve engagement and development. Furthermore, this study supports the assertion that the success of inclusive education depends heavily on the flexibility and skills of teachers (Hermanto, 2006). However, major challenges identified, such as the lack of visual

aids and the absence of special education assistants, have also been discussed in previous literature (Hayati, 2016; Irdamurni, 2019).

This study contributes to the development of theory in inclusive education by demonstrating how flexible learning modifications can be applied in schools without formal inclusion programs. The results reinforce the view that the success of inclusive education is more influenced by the initiative and skills of teachers in creating adaptive strategies than by the mere presence of a formal program. This provides a basis for the development of more flexible and contextualized models of inclusive learning tailored to local needs, which remain under-researched in Indonesia (Miles, 2017).

In practice, the findings of this study offer guidance for teachers in implementing more flexible and personalized strategies in inclusive education. Teachers can adopt approaches that focus on the individual needs of learners, such as providing intensive assistance and making adjustments in teaching methods and assessment practices. Thus, even with limited resources, a supportive and inclusive learning environment can be created. This approach can serve as a reference for other schools facing similar challenges in integrating CSN without an official inclusion program.

Several limitations were identified in this study, including the limited resources available at the school, such as the lack of visual aids and specialized therapists. Additionally, another limitation is the lack of adequate training for teachers regarding inclusive education, which may affect their ability to optimally implement learning modifications. These limitations underscore the need for further research to explore ways to overcome resource constraints in inclusive education.

Based on the identified limitations, future research could focus on developing training programs for teachers on inclusive learning strategies, as well as exploring the use of technology or visual aids that could support the learning of CSN. Moreover, in-depth research on the development of individualized learning models for CSN in inclusive classrooms will provide significant contributions to filling research gaps in this field.

Overall, this study provides an important contribution to the literature on inclusive education, particularly regarding learning modifications. The findings demonstrate that with flexible learning strategies, teachers can create an inclusive and supportive learning environment, even in the face of limited resources. This research not only offers theoretical insights but also practical guidance for teachers in designing more inclusive and effective learning, which is expected to contribute to the development of inclusive education in Indonesia.

5. Conclusion

This study explored the application and effectiveness of instructional modifications in an inclusive early childhood classroom at TK ABA Karanganyar, Yogyakarta, with a specific focus on supporting children with special needs (CSN), particularly a child with autism. The findings reveal that flexible and individualized learning strategies, such as adjusting activities to accommodate the child's needs and providing intensive assistance, are essential in fostering an inclusive learning environment. These modifications enabled the child with special needs to engage in the learning process while also promoting social acceptance and interaction with regular students.

The research underscores the importance of flexibility in teaching methods, instructional materials, and assessment practices in inclusive classrooms. Although the school does not have a formal inclusion program, the teacher's initiative and adaptability successfully addressed the diverse needs of all students, particularly CSN. This highlights that inclusive education's success is more dependent on the teacher's skills and creative problem-solving than on the presence of official programs or resources. These findings

contribute to the existing literature by demonstrating that effective inclusive education can be achieved even in resource-constrained settings.

However, several limitations were identified. The school's lack of visual aids, specialized equipment, and additional teaching assistants posed challenges in fully supporting the child with autism. Moreover, the absence of comprehensive training for teachers in inclusive education limited the optimal implementation of modifications. These limitations suggest that future research should focus on overcoming such resource constraints, possibly through the use of technology or specialized training programs for teachers.

In practical terms, this study provides useful recommendations for educators working in inclusive classrooms. Teachers can adopt flexible, needs-based strategies to ensure that all children, including those with special needs, can participate and benefit from the learning process. The findings also imply that policymakers should support inclusive education by investing in teacher training and providing adequate resources, especially in settings where formal inclusion programs are absent.

Future research could explore more structured individualized education models for children with special needs and the role of technological aids in enhancing inclusive learning environments. This study serves as a foundation for further investigation into developing and refining inclusive education practices in Indonesia, especially in early childhood education settings.

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Declarations

Author contribution statement

Winda Syafaatin Maulidah: Conceptualization, Methodology, Investigation, Writing - Original Draft, Writing - Review & Editing, Project Administration, Data Collection, Formal Analysis, Resources, Data Curation, Visualization. **Kurnia Mufalakhah:** Methodology, Investigation, Writing - Review & Editing, Supervision, Validation, Project Administration, Funding Acquisition.

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Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declaration of interest statement

No potential conflict of interest was reported by the authors.

Additional information

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