

Building inclusive education: Models and supporting factors in elementary schools

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ABSTRACT

Inclusive education in educational institutions still faces challenges, such as negative societal perceptions, limited teacher competencies, inadequate supporting facilities, and curricula that must be fully adaptive. The purpose of this study is to analyze inclusive education models and identify supporting factors in elementary schools to improve service quality, access, and learning success for all students. This study employs a qualitative descriptive method with an embedded case study approach. Data were collected through in-depth interviews, direct observation, and document analysis, and they were validated using source and technique triangulation. The study identifies three key aspects of inclusive education: (1) student interactions through a uniform curriculum, empathy, and teacher support; (2) infrastructure optimization, including adequate facilities and provisions for students with special needs; and (3) synergy among schools, parents, and resource centers for collaborative inclusion. Recommendations include teacher training, improved facilities for children with special needs, and the use of educational technology. These strategies aim to enhance the effectiveness and sustainability of inclusive education in elementary schools. The contribution of this research provides an understanding of the application of inclusive education models in basic education through interactions between students supported by a uniform curriculum and teacher assistance, optimization of adaptive school infrastructure for students with special needs, and collaboration between schools, parents, and resource centers to create an inclusive learning environment.



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INTRODUCTION

Inclusive education in several countries continues to face significant challenges, one of which is the negative societal perception that children with special needs are difficult to manage (Morina, 2016; Zabeli et al., 2021; Vorlicek et al., 2023). This perspective often leads to objections from parents about their children studying in the same class as children with special needs (Bines & Lei, 2011; Cologon, 2020; Kenny et al., 2023). Furthermore, many elementary school teachers come from general teacher education programs rather than special education, necessitating additional knowledge on how to support students with special needs (Gyasi et al., 2020; Byrd & Alexander, 2020). Other challenges include curricula that are not fully adapted for inclusive classrooms, inadequate supporting facilities, and conflicts among stakeholders involved in its implementation (Woolfson, 2024; Smeets et al., 2024). According to Ianes et al. (2020) and Bachtis et al. (2024), inclusive education strives to provide equal opportunities for children with special needs by integrating them into regular classrooms without discrimination. Teachers need specialized skills, which emphasizes the importance of integrated training to enhance their competencies (Steinert & Jurkowski, 2023). Additionally, parental support is critical, as parents play a key role in shaping early childhood development (Tadesse & Muluye, 2020; Yunus et al., 2023).

Based on previous studies, numerous factors have been identified that support the implementation of inclusive education. First, research by Sharma et al. (2015) revealed that the implementation of inclusive education in the Pacific region is influenced by culture, community, and religion, which are central to local understandings. However, tensions arise due to differences between Western education concepts and the local context. Second, Sharma et al. (2018) identified major barriers, such as inadequate teacher preparation, stigma toward individuals with disabilities, and limited involvement of local leaders. Third, Armstrong et al. (2021) highlighted the dominance of Western ideas in inclusive education in the Pacific, which often sidelines local culture and weakens internal capacity development. Fourth, Arias et al. (2023) emphasized significant challenges in implementing inclusive education in Asian countries, including limited resources, insufficient teacher training, and cultural resistance to diversity. Fifth, studies by Kuyini et al. (2020) and Mendoza & Heymann (2022) indicated that the success of inclusive education depends on training, systemic support, and individual perceptions. A holistic approach involving ongoing training, inclusive policies, and intervention programs is essential to improve readiness and outcomes. Building on these findings, this study will focus on inclusive education models in elementary schools, their supporting facilities, and the synergy between schools, parents, and other resources to support implementation.

This study aims to explore the inclusive education model at elementary school in-depth, identify supporting facilities that play a role in its implementation, and analyze the synergy between schools, parents, and other resources in supporting inclusive education. This study aims to provide a comprehensive understanding of the strategies implemented by schools in creating an inclusive learning environment, especially for students with special needs, and how various parties collaborate to ensure the success of this program. The benefits of this study are that it contributes to the development of inclusive education theory and practice, especially at the elementary school level. The study results can be a reference for academics and researchers examining the critical factors for the success of inclusive education. Practically, this study can guide other schools in implementing an effective inclusive education model, including facility management, parental involvement, and collaboration strategies between parties. In addition, the results of this study are also expected to provide input for policymakers to increase support for the implementation of inclusive education in Indonesia.

Based on the objectives and benefits of the study, the hypothesis proposed in this study is that the inclusive education model at elementary school, which involves synergy between schools, parents, and supporting resources, significantly influences the success of the implementation of inclusive education, especially in creating an inclusive learning environment for students with special needs. In addition, adequate supporting facilities, such as special facilities and infrastructure,

are assumed to contribute positively to implementing inclusive education. Collaboration between schools, parents, and other resources is expected to increase the success of curriculum adaptation and appropriate learning strategies for students with special needs. The role of the Special Assistant Teacher (GPK) is also assumed to have a significant influence in helping students with special needs achieve learning goals according to their potential. This hypothesis is designed to analyze and examine the supporting factors of inclusive education and the success of the implementation of the inclusive program at elementary school.

RESEARCH METHOD

This study employs a qualitative descriptive method, which aims to understand the phenomena experienced by research subjects through detailed descriptions expressed in words and language within a natural context, utilizing various natural methods (Hall & Liebenberg, 2024). The approach used is a case study embedded in the research design, focusing on pre-defined issues, as highlighted by Busetto et al. (2020). The case study examines factors that support the implementation of inclusive education at the elementary school level. According to Busetto et al. (2020), a case study is particularly effective for investigating real-life scenarios within their context. Data sources for this study include the principal, special education assistant teachers, and class V homeroom teachers, along with relevant documents. Research subjects consist of the principal, assistant teachers, and class V homeroom teachers at the elementary school. Data collection involved in-depth interviews, observations, and direct observations of school conditions, as well as document studies to gather information from school inventories (Hall & Liebenberg, 2024).

The researcher employed triangulation to validate the data through both source and technique triangulation. Wright et al. (2024) suggest that source triangulation involves examining data obtained from multiple sources to ensure credibility. In this study, the data sources included the principal, special assistant teacher, homeroom teacher of grade V, and relevant documents. Data from these various sources were compared and analyzed to draw valid conclusions. Furthermore, technical triangulation, as explained by Reig-Alexandre et al. (2024), involves using different data collection methods, such as interviews, observations, and document analysis, from the same source, and then comparing the results to ensure consistency and reliability. This method enhances the trustworthiness of the findings by cross-referencing data from different techniques.

The data analysis method employed in this study is the Miles and Huberman interactive analysis method, which includes four stages: data collection, data reduction, data presentation, and conclusion. According to McCombie et al. (2024) and Wright et al. (2024), the first stage involves selecting the collected data to distinguish valid from invalid data, and then analyzing it to derive meaningful findings. The second stage included conducting in-depth interviews with the principal, assistant teacher, and homeroom teacher of grade V to gather information about the supporting factors for inclusive learning at the elementary school. The third stage involved direct observation of the learning process in the inclusive class, as well as documentation of facilities, infrastructure, and school inventory. In the final stage, Reig-Alexandre et al. (2024) recommend using triangulation techniques and sources to verify the data, ensuring consistency across observations, interviews, and documentation. This comprehensive process led to the generation of valid and in-depth data in alignment with the research objectives (Hascher, 2008; Lowing, 2011).

RESULTS AND DISCUSSION

Results

Implementation of inclusive education in elementary schools

The implementation of inclusive education in Elementary Schools emphasizes the integration of students with special needs and regular students in a harmonious learning environment. This model aims to support the social, emotional, and academic development of all students, with strong support from teachers and staff and infrastructure that is adjusted to ensure equal access to learning

resources. The following are some research findings, based on the results of interviews with informants, namely:

Table 1
Inclusive Education at Elementary School

No	Finding Point	Description
1	Student Interaction	Effective inclusive learning models are indicated by student interactions, participation of students with disabilities, and peer support in the classroom.
2	Implementation of the Same Curriculum	Inclusive curriculum implementation requires adapting materials, ensuring accessibility, and evaluating outcomes for equity between students with and without disabilities.
3	Promotion of Empathy	Empathy promotion involves surveys and programs to enhance understanding and inclusion among students.
4	Institutional and Teacher Support	Support in inclusive classes includes effective teacher assistance, training, resources, assistive technology, differentiated learning, and cooperative methods.

Note: Data were obtained from interviews and school documents

Based on the table above, the implementation of inclusive education at elementary school shows several critical aspects, such as practical and empathetic interactions between students, curriculum adaptation that allows accessibility and equality of learning, and promotion of empathy through programs that increase understanding and tolerance of diversity. Institutional and teacher support, including training and the use of teaching strategies such as assistive technology and learning differentiation, are also crucial in supporting the needs of all students. The effectiveness of this approach is essential to creating an inclusive learning environment, supporting academic achievement, and the personal and social growth of each student.

In addition, inclusive education is an important part of realizing equal access to learning for all children, including children with disabilities. At the elementary school level, the implementation of inclusive schools has shown significant progress, marked by the high participation rate of students with special needs. However, behind these figures, there are still challenges that need to be considered so that education is truly inclusive and equitable. The following is an analysis of data on the participation of students with disabilities in elementary school education based on the 2019 infographic, which illustrates the achievements and obstacles still faced in the implementation of inclusive education in Indonesia. This can be seen in the data below:

Table 2
Percentage of Inclusive Participation Rates in Elementary Schools

No	Student Participation	Nondisabilitas	Disabilitas
1	Participation rates in primary schools	99,31	89,78
2	Gross Enrollment Rate	107,48	104,59
3	Pure Participation Rate	97, 71	88,84

Note: Data were retrieved from Kompas.id. (Kompas. Id, 2022)

Based on statistical data from "Educational Participation at Various Levels by Disability Status," the implementation of inclusive schools at the elementary school (SD) level shows quite positive progress. The school participation rate for children with disabilities at the elementary level reached 89.78%. Although this is still lower than that of non-disabled children (99.31%), it indicates that the majority of children with disabilities already have access to basic education. This is further supported by the gross enrollment rate for students with disabilities, which reached 104.59%, showing that many of them continue to attend school even if they are outside the ideal age range for that level. On the other hand, the net enrollment rate for students with disabilities in elementary school/equivalent is recorded at 88.84%, around 9% lower than that of non-disabled students (97.71%). This indicates that there are still challenges in retaining students with disabilities in school according to the appropriate age. These challenges are likely related to limited supporting infrastructure, a shortage of teachers with specialized training, and the uneven application of

teaching methods that are responsive to special needs. Therefore, although inclusive schools at the elementary level have provided broader opportunities for children with disabilities, ongoing efforts are still needed to improve service quality, expand equitable access, and create a truly inclusive learning environment that supports the success of all students.

Facilities for implementing inclusive education at elementary school

Material support factors are essential in implementing inclusive education at Elementary School. The school is equipped with facilities specifically designed to support the needs of all students, including wheelchair access and comfortable classrooms, which create an inclusive and supportive learning environment. This shows the school's dedication to providing quality and inclusive education for all students.

Table 3
Elementary School Facilities

No	Finding Point	Description
1	School Physical Condition	elementary school Sukorame has a supportive physical environment with 2,808 m ² of land and well-maintained facilities, including classrooms, offices, and a library.
2	Classroom Equipment	SD Negeri Sukorame 1 classes have chairs, tables, whiteboards, and teaching aids that support learning, while neat seating arrangements increase student comfort.
3	Special Facilities for Students with Special Needs	Elementary school Sukorame provides unique rooms and facilities, such as wheelchair ramps and windows, to facilitate access and reduce physical barriers for students with special needs.
4	Inclusion Supporting Facilities and Infrastructure	Elementary school Sukorame has a place of worship, special toilets, and other rooms that support daily activities. Its infrastructure ensures easy and safe access for all students in inclusive education.

Note: Data were obtained from interviews and school documents

Based on the table above, elementary school shows a solid commitment to inclusive education by supporting infrastructure and adequate facilities. With a large land area, this school is equipped with comfortable classrooms, special facilities such as wheelchair ramps and windows that facilitate access, as well as special prayer and toilet facilities that ensure that all students, including those with special needs, can access and participate in all school activities safely and comfortably. This initiative improves student comfort and participation and supports the full integration of students with special needs in the school's daily activities.

Inclusive schools at the elementary level face significant challenges in meeting the diverse needs of students with special needs. SPPPI data shows that the most dominant types include learning difficulties (33.80%), blindness (16.13%), hyperactivity, as well as autism and physical disabilities. This diversity requires adequate facilities such as adaptive learning media, assistive technology, and teachers with specialized competencies. Therefore, the readiness of infrastructure and resources is crucial to creating an inclusive and responsive learning environment for all students.

Table 4
Percentage of Types of Special Needs in Elementary School Students

NO	Type of Special Needs	Percentage (%)
1	Learning Difficulties	33.80
2	Blind	16.13
3	Hyperactive	7.65
4	Mild Mentally Disabled	6.09
5	Autistic	5.45
6	Special Intelligence	5.14
7	Mixed	5.10
8	Speech Impaired	4.23
9	Moderate Mentally Disabled	3.85
10	Deaf	3.01

11	Special Talent	2.48
12	Mild Physically Disabled	2.24
13	Mild Physically Disabled	2.13
14	Down Syndrome	1.54
15	Disabled	1.15

Note: Data were retrieved from kalderanews.com (kalderanews.com, 2021)

Providing inclusive facilities at SPPPI is essential considering the diversity of students' needs. Students with learning disabilities (33.80%) need quiet spaces, assistive technology, and individual teaching methods. Blind students (16.13%) need braille or audio materials and a barrier-free environment. ADHD students (7.65%) need flexible spaces and policies that support focus. Students with mild-moderate mental disabilities (6.09% and 3.85%) need a visual-based personal approach. Autistic students (5.45%) need structured spaces, clear routines, and trained teachers. Speech disorders (4.23%) need communication aids and a supportive environment. Down Syndrome (1.54%) need life skills-based teaching and psychological support. Many schools are still not optimal in providing facilities and teacher training. Investment in technology, increasing accessibility, and collaboration with professionals are needed to support comprehensive and sustainable inclusion.

Based on this, to support inclusion in SPPPI includes teacher training in teaching methodologies that are appropriate to the needs of diverse students, including the ability to recognize early signs of special needs. The accessibility of school physical facilities must also be improved, such as providing ramps, quiet classrooms, and inclusive play areas. Collaboration with professionals such as therapists, psychologists, and medical personnel needs to be strengthened so that the support provided is more comprehensive. In addition, investment in learning technologies such as educational applications, screen readers, and speech aids is essential to maximize the potential of each student.

Non-material support in the implementation of inclusive education

Non-material supporting factors are essential in helping the successful implementation of inclusive education. In elementary school, non-material aspects include a friendly school environment, harmonious social relationships, support from resource centers, and close collaboration with parents. These factors work together to create an inclusive learning atmosphere where every student, including those with special needs, can develop optimally. This approach emphasizes the importance of synergy between schools, teachers, students, and parents in building a supportive and sustainable educational community. The following are the research findings:

Table 5

Non-Material Support for Inclusive Education

No	Finding Point	Description
1	Friendly Schools and Teachers	Elementary school Sukorame fosters a harmonious, inclusive environment, promoting student potential and supporting inclusive education.
2	Resources Center	The resource center at elementary school Sukorame enhances teachers' skills in managing diversity through technical support and training by experienced guest teachers.
3	Parental Support	Close collaboration between parents and Elementary school Sukorame supports students' learning needs through regular meetings and effective communication, ensuring that each student gets the support they need to succeed.

Note: Data were obtained from interviews and school documents

Based on the table above, inclusive education at elementary school is supported by non-material factors such as a friendly school environment and teachers, resource centers, and parental support. An inclusive learning environment and harmonious social relationships support the development of student potential. The resource center provides professional training for teachers to improve their ability to manage diversity in the classroom. In addition, close cooperation between

schools and parents through regular communication ensures that students' needs are optimally met. This synergy between schools, teachers, and parents is the key to the success of inclusive education.

Inclusive education at the elementary school level is an urgent need to ensure that every child has equal access and learning opportunities. Its benefits are wide-ranging, from fostering tolerance and empathy through interactions with peers from diverse backgrounds, to enhancing cooperation and collaboration in overcoming challenges together. This system also provides opportunities for all children, including those with special needs, to grow and thrive in a supportive environment. Furthermore, inclusive education shapes a generation that is tolerant and empathetic, helping to build a more harmonious and welcoming society for all.

Discussion

Inclusive education model in elementary schools

The inclusive education model at the elementary level emphasizes not only equal access but also the cultivation of environments where diversity is seen as a strength (Woodcock et al., 2022). While Pattison-Meek (2024) stresses the normative goal of equality in access and participation, in practice this ideal often collides with challenges such as limited resources and the complexity of differentiated instruction. Alajmi (2024) extends the discussion by noting that inclusion requires more than physical integration; it must foster social acceptance, empathy, and mutual respect, which are not automatically achieved. Compared with traditional models that may inadvertently marginalize students with special needs, inclusive approaches demand that educators balance academic objectives with social-emotional development. The findings of this study support the critical view that inclusion is effective not simply when students share a classroom, but when teaching methods, infrastructure, and peer interactions are strategically structured to achieve equitable outcomes.

The inclusive education model in elementary schools aims not only to accommodate students with special needs (ABK) but also to foster shared academic, emotional, and social growth. Afacan et al. (2021) and Elder et al. (2022) argue that although ABK students benefit from exposure to the same curriculum as their peers, true inclusion depends on the degree of adaptation and individualized support. Sakallı et al. (2021) caution that equal access does not guarantee equal outcomes, particularly in contexts where teacher expertise and resources are limited. Pilus and Nguyen (2023) extend this by emphasizing that meaningful inclusion requires structured pedagogy and sustained peer interaction, rather than mere physical placement. Compared with segregated or partial inclusion, this model promotes empathy, peer bonding, and social development. Yet, this study underscores that such benefits emerge only when inclusivity is systematically managed through differentiated curricula, supportive infrastructure, and teacher readiness.

One model of inclusive education in elementary schools integrates all students, including those with special needs (ABK), in the same classroom without separation (Anderson, 1988; Andriana & Evans, 2020). This model is often credited with fostering empathy, reducing stigma, and encouraging social interaction. However, as Dalkilic and Vadeboncoeur (2016) and Symeonidou and Loizou (2022) emphasize, the success of such integration depends on effective classroom management and teacher readiness, since inclusion without support risks leading to superficial participation. Compared with segregated models, inclusion strengthens ABK students' communication skills and sense of belonging, yet their learning needs may remain unmet without adaptive instruction. Delubom et al. (2020) and Yeap et al. (2021) argue that inclusive classrooms indeed cultivate empathy and respect for diversity, but genuine benefits emerge only when schools commit to differentiated pedagogy and sufficient resources. Thus, inclusion is effective not simply as physical integration but as a balance between academic and socio-emotional development.

In elementary schools, mentoring for students with special needs (ABK) is often facilitated by Special Assistance Teachers (GPK), whose role is central to the success of inclusive education. While ABK join regular classes, GPK provide tailored support outside class hours, ensuring individualized attention (Dalkilic & Vadeboncoeur, 2016; Symeonidou & Loizou, 2022). This

arrangement demonstrates flexibility, yet it also raises concerns about whether additional sessions outside the main classroom risk reinforcing separation rather than full inclusion. Delubom et al. (2020) argue that GPK's guidance enhances not only academic understanding but also emotional well-being, boosting self-confidence. Similarly, Yeap et al. (2021) and Sakallı et al. (2021) emphasize the value of strategies such as visual aids and simplified tasks for meaningful participation. Compared with models relying solely on classroom teachers, GPK involvement provides more individualized support; however, as Pilus & Nguyen (2023) suggest, true inclusion requires balancing specialized mentoring with active participation in regular learning contexts to avoid marginalization.

In elementary schools, the curriculum for students with special needs (ABK) is generally aligned with that of regular students but adapted to individual abilities (Baek et al., 2022; Huang & Wang, 2022). While such adjustments such as matching materials to cognitive rather than grade level promote accessibility, they also highlight tensions between personalization and curricular standards. Delubom et al. (2020) contend that individualized pacing allows ABK to achieve essential competencies, yet they caution that insufficient differentiation risks disengagement. Similarly, Lim (2014) and Yeap et al. (2021) stress that effective use of visual or experiential methods depends on teacher capacity to monitor and adjust strategies. Compared with segregated models, inclusive adaptations strengthen students' sense of belonging, but their success hinges on more than curricular flexibility. The findings suggest that genuine inclusion requires not only differentiated instruction but also institutional commitment and teacher expertise to balance equity with academic rigor.

The inclusive education model in elementary schools underscores the importance of cultivating empathy among regular students toward peers with special needs (ABK), as a foundation for building supportive learning environments (Bacon & Baglieri, 2022). However, Bacon and Baglieri caution that empathy must go beyond sentiment, requiring structured opportunities for interaction to prevent tokenism. Visković (2021) emphasizes that collaborative activities such as group projects or cooperative games can strengthen peer relationships, but their effectiveness depends on teachers' ability to design tasks that encourage genuine cooperation rather than passive assistance. Jusni et al. (2023) further argue that such interactions raise awareness of ABK's challenges while simultaneously nurturing problem-solving and leadership skills among regular students. Compared with classrooms that lack intentional peer engagement, inclusive practices that integrate structured collaboration foster a culture of respect and equity. The findings of this study align with these perspectives, suggesting that empathy-driven inclusion is effective only when paired with purposeful pedagogical design and continuous teacher facilitation.

Effective learning management is a key determinant of successful inclusive education in elementary schools. Toulia et al. (2022) argue that management should ensure equal opportunities for both regular and special needs students (ABK), yet they caution that "equality" risks being superficial when not accompanied by curriculum adjustments. Vantieghem et al. (2020) highlight the teacher's central role in applying flexible strategies and individualized attention, noting that without pedagogical adaptability, inclusive settings may reproduce inequalities rather than reduce them. Similarly, Visković (2021) contends that inclusion requires more than shared physical space; it demands deliberate efforts to build cooperation and mutual respect, aligning with the broader goals of character education. Folostina and Iacob (2020) extend this view by stressing the importance of preparing ABK not only for academic success but also for long-term personal growth and social participation. Compared to models that prioritize standardized outcomes, this study affirms that adaptive, student-centered management creates meaningful inclusion.

Optimizing infrastructure to support inclusive education

This elementary school demonstrates progress in inclusive education by aligning its infrastructure with the needs of all learners, including students with special needs (Commons & Duong, 2019; Shahid et al., 2022). While classrooms furnished with chairs, tables, whiteboards, and

teaching aids are crucial for curriculum delivery (Hu, 2023), infrastructure alone does not guarantee inclusion. Coopmans and Rinnooy Kan (2023) argue that facilities such as libraries, prayer rooms, and accessible restrooms provide necessary support, yet their effectiveness depends on how well they are integrated into daily teaching practices. Similarly, Knaus (2023) emphasizes that specialized rooms for ABK may reduce barriers, but without complementary pedagogical strategies, such spaces risk becoming symbolic rather than functional. Compared with schools lacking such provisions, this model creates stronger foundations for equity. However, the findings highlight that true inclusivity requires a synergy between physical infrastructure, teacher readiness, and adaptive curriculum practices.

The arrangement of facilities in this elementary school reflects not only infrastructural completeness but also intentional design for comfort and inclusion. Uline and Tschannen-Moran (2008) argue that classroom layouts directly influence student interaction and sense of belonging, while Hanaysha et al. (2023) highlight that well-structured seating enhances engagement and collaboration. However, physical arrangement alone cannot ensure inclusion if not paired with pedagogical strategies. Ghesquière et al. (2020) caution that inclusive environments require more than accessibility; they must actively foster peer interaction to prevent marginalization. Similarly, Chan et al. (2023) note that while supportive environments can boost confidence and motivation among students with special needs, these benefits are uneven without consistent teacher facilitation. Compared with schools that only meet minimal infrastructure standards, this model illustrates a stronger commitment to diversity. Yet, the findings suggest that effective inclusion arises from the synergy between facility design, teacher readiness, and classroom dynamics.

The elementary school's infrastructure demonstrates a proactive effort to address the needs of students with special needs (ABK) by integrating facilities that go beyond basic requirements. Buliung et al. (2021) argue that mobility features such as wheelchair ramps are essential in reducing physical barriers and promoting equal participation, while Bhuiya et al. (2022) emphasize that accessibility must be complemented by inclusive practices to ensure genuine integration. Similarly, Douglas et al. (2015) note that safety features, such as strategically designed windows, are not merely technical adjustments but part of a broader commitment to safeguarding vulnerable students. Darling-Hammond et al. (2019) extend this perspective by stressing that infrastructure must align with pedagogical goals to fully support inclusive education. Compared with schools that provide only minimum accessibility, this model illustrates a deeper commitment, though findings suggest that facilities alone are insufficient without teacher readiness and systemic support.

The provision of a specialized sensory room reflects the school's commitment to addressing the unique needs of students with special needs (Habbak & Khodeir, 2023). Such spaces create a secure and calming environment, which Omar and Mukras (2023) argue is essential for supporting focus and emotional regulation. However, while these facilities are valuable, their impact depends on continuous evaluation to ensure alignment with the evolving needs of learners. Caniato et al. (2022) caution that physical infrastructure alone is insufficient if not integrated with adaptive learning strategies and technological innovations. Compared with schools that rely solely on basic accessibility, the presence of sensory facilities marks a progressive step, yet the absence of specialized digital tools or communication software limits their full potential. Thus, findings suggest that inclusive education requires a balance between physical resources, technological adaptation, and pedagogical innovation to maximize learning outcomes for all students.

Experts emphasize that upgrading school facilities is central to sustaining inclusive education. Osunmuyiwa and Ahlborg (2019) argue that physical improvements must be complemented by technological integration and teacher training, otherwise infrastructure risks becoming underutilized. Jasti et al. (2019) add that modernization enhances the functionality of existing resources, yet they caution that without systematic planning, such efforts may only provide superficial benefits. Compared with traditional approaches that focus mainly on accessibility, Žalėnienė and Pereira (2021) stress that inclusive facilities should also model adaptive learning environments, anticipating future educational demands. Yeap et al. (2021) highlight that assistive

technologies are crucial for enabling meaningful participation of students with special needs, but their effectiveness hinges on pedagogical integration. Similarly, Jusni et al. (2023), Delubom et al. (2020), and Visković (2021) underscore that teacher readiness determines whether these innovations foster equity or widen learning gaps, making professional development indispensable.

Synergy of schools parents and resource centers in inclusive education

Inclusive education at the elementary level depends on collaboration among schools, parents, and resource centers. Ludago (2020) and Narot and Kiettikunwong (2024) argue that a supportive environment enables students with special needs (ABK) to reach their potential, but they caution that this requires consistent cooperation beyond symbolic inclusion. Strong relationships among principals, teachers, and parents often facilitated through regular meetings are vital for identifying both academic and non-academic challenges. Vostal et al. (2022) and Opoku et al. (2023) highlight the crucial role of Special Assistant Teachers (GPK), yet they also note that without coordination with regular teachers, ABK may remain on the margins of classroom life. Hughes et al. (2018) and Tarantino and Neville (2023) emphasize that infrastructure and a welcoming atmosphere foster belonging, but they stress that inclusivity is effective only when coupled with active pedagogical strategies. Thus, collaboration becomes not merely supportive, but transformative for equity.

The resource center is central to inclusive education, particularly through the roles of itinerant teachers and Special Assistance Teachers (GPK). Duin and Tham (2020), Tang (2021), and El Deen (2023) emphasize that itinerant teachers provide periodic technical guidance to regular teachers, ensuring adaptive strategies are applied effectively; however, their limited presence may reduce long-term impact without consistent follow-up. By contrast, GPKs specialists in special education offer continuous, classroom-based support, directly addressing challenges such as slow learning, low vision, and autism (Saade et al., 2021; Folostina et al., 2022). This dual system creates complementary benefits: itinerant teachers contribute expertise, while GPKs provide sustained implementation. Mukhopadhyay et al. (2012) and Paccaud et al. (2021) argue that such synergy fosters a more responsive and inclusive environment, yet caution that effectiveness depends on teacher training, coordination, and institutional commitment. Thus, resource centers are not merely supportive but critical drivers of adaptive inclusion.

Parental involvement is widely recognized as a cornerstone of inclusive education, yet its effectiveness depends on the depth of collaboration between families and schools. Paseka and Schwab (2019) argue that parents' participation in decision-making around facilities, curriculum, and student progress enhances inclusion, but caution that schools often underutilize this potential by limiting parents to passive roles. White et al. (2023) extend this view, noting that genuine partnerships require schools to treat parents as co-educators rather than mere observers. Regular meetings among teachers, principals, and parents thus become critical platforms for exchanging information and negotiating strategies that align school and home practices. Symeonidou et al. (2022) highlight that such cooperation strengthens trust and accountability, while Tarantino et al. (2022) emphasize its role in sustaining social and academic inclusion. Compared to school-driven initiatives alone, parental engagement ensures a more holistic, responsive framework that supports diverse learners equitably.

Inclusive education at this elementary school demonstrates notable progress through strong collaboration among schools, parents, and resource centers. Yet, scholars caution that sustainability requires addressing persistent challenges (Mohammad et al., 2023). The "welcoming school" approach creates a supportive climate for students with special needs, with Special Assistance Teachers (GPK) and regular teachers forming the backbone of inclusive practices (See, 2014). However, Lim (2014) argues that inclusive programs often falter when regular teachers lack systematic training, a view reinforced by Elbeltagi et al. (2023), who stress the need for targeted professional development. Resource centers contribute significantly through itinerant teacher support (Lara, 2020), though Orduna-Nocito and Sánchez-García (2022) warn that over-reliance on external expertise risks weakening schools' internal capacity. Parental involvement, especially in

designing Individual Learning Plans, is emphasized by Garcia-Melgar et al. (2022) and Sharma & Subban (2023), contrasting with more school-centric models. Finally, while current facilities suffice, ongoing evaluation is essential to ensure equitable access for all learners, including those with autism or low vision.

CONCLUSION

The inclusive education model at this elementary school promotes the social, emotional, and academic development of both students with and without special needs by fostering collaboration among the school, parents, and resource centers. By implementing a flexible curriculum, employing Special Assistance Teachers (GPK), and providing adequate infrastructure, the school creates a supportive and adaptive learning environment. Strong relationships between the principal, teachers, students, and parents play a crucial role in ensuring that the needs of students with special needs are met effectively, without the need for segregation. This collaborative approach enables students to thrive in a learning atmosphere that values diversity and inclusivity. The model emphasizes a comprehensive, integrated approach to education, making the school a prime example of sustainable and inclusive educational practices. Through continuous adaptation and support, the school exemplifies the potential of inclusive education to create a positive, equitable learning experience for all students.

This research emphasizes the importance of a holistic approach to inclusive education, focusing on curriculum adaptation, professional support from Special Assistance Teachers (GPK), inclusive facilities, and strong collaboration among schools, resource centers, and parents. It contributes to inclusive education theory by highlighting the synergy of multiple stakeholders in supporting students with special needs. Practically, the implementation of flexible curricula, GPK involvement, and school-parent collaboration offers replicable models, showcasing that effective inclusive education requires adaptive management, ongoing teacher training, and active engagement from all stakeholders. This approach ensures that students with special needs are provided with an inclusive and supportive learning environment, promoting their academic and social development alongside their peers.

Future research on inclusive education could focus on evaluating the effectiveness of flexible curricula, learning aids, and teacher training to improve educational competence. Investigating technological supports, such as digital tools for students with special needs, and enhancing collaboration between schools, parents, and resource centers, may offer valuable insights. Comparative studies on inclusive schools and their impact on regular students could identify best practices and inform the development of more adaptive, sustainable inclusive education models. Such studies would help refine educational strategies, ensuring that all students, regardless of their needs, can thrive in an inclusive learning environment, fostering academic success and social integration.

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