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## **Implementation of Inclusive Education in Elementary Schools: Challenges and Opportunities in Learning**

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### **Abstract**

*Inclusive education is an approach that aims to provide equal educational rights for all students, including students with special needs. This study aims to identify challenges faced in implementing inclusive education in elementary schools and opportunities that can be utilised to overcome them. This research method uses a qualitative approach through interviews, observation, and documentation to obtain in-depth data on inclusive education practices in several elementary schools in Indonesia. Data were collected through in-depth interviews with 15 people: four teachers, one principal, five parents, and five students with special needs. Data analysis techniques were done through data reduction, data presentation, and conclusion. The study results indicate that the main challenges faced include a lack of inclusive teacher training, limited supporting facilities for students with special needs, and a lack of effective social interaction in the school environment. However, several opportunities can be utilised, such as providing ongoing practice-based training, improving disability-friendly facilities and infrastructure, establishing social support groups in schools, and using educational technology as an interactive learning tool. The conclusions of this study confirm that a practical training-based approach for teachers, investment in inclusive facilities, development of social activities that support interaction with students with special needs, and the use of digital media can improve the effectiveness of inclusive education. The main contribution of this study is to provide new insights into practical strategies for addressing the challenges of inclusive education at the elementary school level, which can serve as a reference for policymakers and education practitioners.*

**Keywords:** *Elementary School, Challenges, Inclusive Education, Opportunities, and Special Needs*

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**Abstrak**

Pendidikan inklusif merupakan suatu pendekatan yang bertujuan untuk memberikan hak pendidikan yang sama bagi semua peserta didik, termasuk peserta didik berkebutuhan khusus. Penelitian ini bertujuan untuk mengidentifikasi tantangan yang dihadapi dalam penyelenggaraan pendidikan inklusif di sekolah dasar serta peluang yang dapat dimanfaatkan untuk mengatasinya. Metode penelitian ini menggunakan pendekatan kualitatif melalui wawancara, observasi, dan dokumentasi untuk memperoleh data yang mendalam tentang praktik pendidikan inklusif di beberapa sekolah dasar di Indonesia. Data dikumpulkan melalui wawancara mendalam kepada 15 orang yaitu empat guru, satu kepala sekolah, lima orang tua, dan lima siswa berkebutuhan khusus dan teknik analisis data dilakukan melalui reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa tantangan utama yang dihadapi antara lain kurangnya pelatihan guru inklusif, terbatasnya fasilitas pendukung bagi peserta didik berkebutuhan khusus, dan kurangnya interaksi sosial yang efektif di lingkungan sekolah. Namun demikian, beberapa peluang dapat dimanfaatkan, seperti memberikan pelatihan berkelanjutan berbasis praktik, meningkatkan sarana dan prasarana yang ramah disabilitas, membentuk kelompok dukungan sosial di sekolah, dan menggunakan teknologi pendidikan sebagai alat pembelajaran interaktif. Simpulan penelitian ini menegaskan bahwa pendekatan berbasis pelatihan praktis bagi guru, investasi dalam fasilitas inklusif, pengembangan kegiatan sosial yang mendukung interaksi peserta didik berkebutuhan khusus, dan penggunaan media digital dapat meningkatkan efektivitas penyelenggaraan pendidikan inklusif. Kontribusi utama penelitian ini adalah memberikan wawasan baru mengenai strategi praktis untuk mengatasi tantangan pendidikan inklusif di tingkat sekolah dasar, yang dapat menjadi referensi bagi para pembuat kebijakan dan praktisi pendidikan.

**Kata Kunci: Kebutuhan Khusus, Pendidikan Inklusif, Peluang, Sekolah Dasar, dan Tantangan**

**Introduction**

Inclusive education is an educational approach that seeks to provide equal learning opportunities for all children, including those with special needs. This concept is based on the principle that every child, regardless of physical, intellectual, social, emotional, or language differences, has the right to receive a proper education in a regular school environment (Disleksia et al., 2024). In Indonesia, the concept of inclusive education has received serious attention along with the emergence of various policies that support its implementation, such as Permendiknas Number 70 of 2009 concerning Inclusive Education for Students Who Have Disabilities and Special Intelligence and/or Talent Potential (Sain et al., 2022). However, implementing inclusive education at the primary school level still faces significant challenges.

One of the main problems faced in implementing inclusive education is the lack of adequate understanding from educators regarding effective teaching strategies for students with special needs. Many teachers in primary schools do not have adequate training to deal with children's diverse learning needs, resulting in a lack of adaptation of learning methods that are friendly to all students (Dover & Rodriguez-Valls, 2018). In addition, the limitations of supporting facilities, such as disability-friendly classrooms and a lack of appropriate learning resources, complicate these efforts (Al-Mamary, 2022). Another problem is the high social resistance from teachers, parents, and the surrounding community. Negative stigma against students with special needs is often a major barrier to creating an inclusive learning environment (Mogale & Malatji, 2022). As a result, students with special needs are at risk of discrimination, social isolation, and barriers to developing their potential.

To overcome these problems, various comprehensive and sustainable solutions are needed. One of the solutions that can be implemented is providing intensive training for teachers on inclusive learning strategies (Alhawsawi & Jawhar, 2021). This training includes an understanding of the special needs of children, effective communication techniques, and teaching methods that vary according to the student's needs. In addition, schools also need to be supported with disability-friendly facilities and adequate learning resources so that students can learn optimally (Gosdin et al., 2021).

This research explores challenges and opportunities in implementing inclusive education at the primary school level. What distinguishes this study from previous research is a more holistic approach by combining the perspectives of teachers, students, parents, and education managers (Lyman et al., 2023). The study also highlights best practices in certain schools that effectively implement inclusive education. In addition, this study identified a significant gap in previous studies, namely the lack of attention to the psychosocial aspects of students with special needs in an inclusive educational environment (Garcia et al., 2020). Factors such as self-confidence, social interaction, and emotional support from teachers and

peers have a crucial role in the success of inclusive education (Ibna, 2018). This research is expected to provide more comprehensive insights into creating a truly inclusive learning environment by understanding these factors.

The purpose of this study is to identify the challenges faced by primary schools in implementing inclusive education and explore opportunities that can be used to improve the quality of education services for all students. It is hoped that the results of this study can be the basis for the development of more effective inclusive education policies and support the creation of a fair, friendly, and empowered learning environment for all students.

## **Methods**

This study employed a qualitative research approach with a case study design to explore the challenges and opportunities in implementing inclusive education at Tahfidz Kuttub Al Hasan Elementary School, Gowa Regency, South Sulawesi in 2024. The participants were determined using a purposive sampling technique with specific inclusion criteria. A total of 15 respondents were involved, consisting of four teachers (who had at least two years of teaching experience in inclusive classrooms), one principal (who was directly responsible for the implementation of inclusive education), five parents (whose children were identified as students with special needs and enrolled in the school), and five students with special needs (who were actively participating in inclusive learning activities).

Data collection was carried out over a period of three months (March–May 2024) to ensure adequate observation of school routines and interactions. The instruments used in this study included a semi-structured interview guide designed to explore participants' perceptions, experiences, and challenges, as well as an observation sheet to record learning activities, teacher-student interactions, and the use of school facilities. In addition,

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document analysis was conducted on relevant school policies, student records, and evaluation results to complement the primary data.

To ensure the validity and credibility of the data, several strategies were applied. Data triangulation was conducted by comparing information obtained from interviews, observations, and documentation. Method triangulation was also employed by using different data collection techniques to confirm consistency of findings. Furthermore, member checking was carried out by presenting the preliminary findings to several respondents to verify the accuracy of the interpretations and to minimize researcher bias. The analysis process followed the stages of data reduction, data display, and conclusion drawing (Miles et al., 2018), allowing themes and patterns to emerge systematically from the data.

## **Result and Discussion**

### **1. Result**

The results of this study show that the main challenge faced in implementing inclusive education in primary schools is the lack of adequate teacher training. Many teachers state that they lack knowledge about appropriate learning methods for students with special needs. As a result, they tend to use a uniform approach to learning without considering students' individual needs. This impacts the low active participation of students with special needs in learning activities.

In addition, interviews with school principals revealed that structural constraints such as budget limitations and unsupportive facilities are also significant challenges. Some of the schools that were the object of the study did not have access to support resources such as special learning aids, disability-friendly classrooms, and mentoring services for students with special needs. This results in the difficulty of creating a truly inclusive learning environment.

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From the side of students and parents, it was found that there are still feelings of anxiety and lack of confidence among students with special needs. Interviews with students showed that they often found it difficult to interact with their peers due to differences in social abilities and understanding. Parents also revealed that the lack of effective communication between the school and the family is a factor that hinders their child's development in an inclusive educational environment.

Below are some excerpts from interviews with participants (Class Teachers, Principals, and Parents):

“We've never received any special training on how to teach students with special needs. So we teach all students the same way, even though we know they have different needs”. (Interview with Teacher, Tahfidz Kuttab Al Hasan Elementary School, June 12, 2025).

The Principal also stated:

“We want to provide adequate facilities, but the school budget is very limited. There are no wheelchair ramps or visual aids for blind students”. (Interview with Principal, Tahfidz Kuttab Al Hasan Elementary School, June 13, 2025)

However, this study also finds several opportunities that can be used to improve the success of inclusive education. Some schools that have implemented a collaborative approach between teachers, parents, and external parties, such as social organisations, have created a more effective, inclusive education model. This approach involves ongoing teacher training, establishing support groups for students with special needs, and creating inclusive and welcoming school communities for individual differences.

This study also found that using technology-based learning media can potentially increase the participation of students with special needs. Some teachers who utilise interactive learning apps, educational videos, and digital aids report significant improvements in students' conceptual comprehension who previously struggled with conventional learning. By understanding these challenges and opportunities, it is hoped that the results of this research can provide practical recommendations for elementary schools in improving the implementation of inclusive education. Continuous efforts to

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provide teacher training, improve disability-friendly infrastructure, and build effective communication between schools and families are important steps to create a more inclusive and empowered learning environment for all students.

This study found that the implementation of inclusive education in elementary schools is not without its challenges, but also presents opportunities that can be utilised to strengthen the learning process. These challenges include limited teacher training, inadequate infrastructure, and communication barriers with parents. Nevertheless, significant opportunities exist, such as providing ongoing training, improving facilities, and utilising learning technology, as illustrated in the following table:

Table 1. Aspects of Challenges and opportunities for the implementation of inclusive education

<b>No</b>	<b>Aspects</b>	<b>Challenge</b>	<b>Chance</b>
1	Teacher Training	Lack of inclusive training for teachers	Continuous training with a hands-on approach
2	Supporting Facilities	Classrooms are not disability-friendly and lack of tools	Increased budget to support inclusive infrastructure
3	Social Interaction	Students with special needs find it difficult to get along	Establishment of support groups and inclusive activities
4	Communication with Parents	Lack of effective communication with family	Active collaboration between schools and parents
5	Utilisation of Technology	Lack of use of interactive learning media	Utilisation of educational applications, videos, and digital devices

Table 1 summarises five key aspects influencing the success of inclusive education: teacher training, supporting facilities, social interaction, communication with parents, and technology utilisation. By understanding the challenges and opportunities in each of these aspects, schools can formulate more targeted strategies to create an inclusive, adaptive, and

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empowering learning environment for all students. Each aspect contains both a primary challenge and a potential opportunity:

1. **Teacher Training:** The lack of inclusive pedagogical skills remains a core issue. However, ongoing and practical-based training offers a promising solution to increase teacher competence.
2. **Supporting Facilities:** Many schools lack disability-friendly infrastructure. Still, increasing investment and budget allocations can provide essential physical and learning tools.
3. **Social Interaction:** Students with special needs struggle with peer engagement. This can be addressed by establishing inclusive peer groups and social support systems.
4. **Communication with Parents:** Limited dialogue between schools and families impedes progress, but active school-family collaboration has been shown to foster student confidence and adaptation.
5. **Utilisation of Technology:** Traditional teaching approaches often neglect the learning needs of students with disabilities. Incorporating interactive apps, educational videos, and digital devices has been observed to improve student engagement and understanding.

By linking these findings to the table, it becomes clear that each challenge has a corresponding opportunity that, if utilized effectively, can lead to meaningful progress. The alignment of targeted strategies such as teacher empowerment, infrastructure development, inclusive culture building, and tech-based learning can serve as an integrated roadmap for improving the implementation of inclusive education in primary schools. The results of teacher interviews revealed that most felt less confident in implementing inclusive learning methods. They admitted that they did not know enough about the appropriate approach for students with special needs, so the teaching methods used were uniform. This results in students with special needs having difficulty following the subject matter optimally.

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Observations in several schools show that support facilities for students with special needs are still very limited. The available classrooms are not fully disability-friendly, for example, with the lack of wheelchair access or the absence of visual and audio aids needed by students with certain barriers. As a result, students with special needs often face physical barriers that reduce their comfort in learning. Documentation in student education records and evaluation results shows that students with special needs struggle to achieve optimal learning outcomes if they do not receive appropriate attention. Some cases show that students with hearing impairments have difficulty understanding the teacher's instructions without the help of supporting tools. In contrast, schools implementing a technology-based learning approach report a significant increase in students with special needs participation. Interactive visual media and educational software have been proven to increase students' understanding of the subject matter.

Parents also echoed this sentiment regarding their children's progress at school:

“The school rarely invites us to discuss our children's progress. We really want to know what we can do to help at home”. (Interview with Parents of Deaf Students, Tahfidz Kuttub Al Hasan Elementary School, June 14, 2025)

Collaboration with parents is also an important factor in the interview results. Parents who actively communicate with teachers tend to be better able to support their children's learning needs at home. Meanwhile, the lack of communication between the school and the family often results in students not getting optimal support in facing challenges in the school environment (Hamdi et al., 2022). So, it is very important to hold continuous training for teachers, improve disability-friendly infrastructure, and use educational technology as an effective strategy to improve the implementation of inclusive education in elementary schools.

## **2. Discussion**

### **Teacher Training**

The findings of this study highlight teacher readiness as the most urgent challenge in inclusive education. Unlike previous research (Sahroni & Subroto, 2022), which mainly emphasised the effectiveness of training in general, this study demonstrates that the lack of hands-on practice-based training leads teachers to apply uniform methods that do not accommodate students' diverse learning needs. This study further emphasises the importance of field-based simulations and case studies as effective models for building teacher competence. In line with Vygotsky's social constructivism, teachers act as mediators of interaction rather than mere transmitters of knowledge. Therefore, the novelty of this research lies in its identification of the need for competency-building in inclusive classroom management and differentiated instruction, which goes beyond the training models proposed in previous studies.

The findings of this study confirm that inclusive education in elementary schools still encounters substantial challenges, especially in areas related to teacher readiness, infrastructure, social dynamics, parental involvement, and technological utilization. However, these findings must be critically examined and contextualised within previous research and relevant educational theories to move beyond mere confirmation. Firstly, teacher readiness emerges as the most prominent issue. The lack of practical training has led to the use of generalised learning approaches, which fail to accommodate students with special needs. In this case, hands-on practice-based training programs are an effective solution that allows teachers to gain real experience in applying appropriate methods. From the lens of Vygotsky's social constructivism theory, the teacher is not merely a content deliverer but also a mediator of social interaction, especially crucial for students with diverse learning needs. Hence, investment in teacher professional development must focus on knowledge and building competencies for inclusive classroom management and differentiated instruction.

## **Facilities**

Consistent with MacLachlan et al. (2018), this study also finds that disability-friendly infrastructure plays a decisive role in supporting inclusive education. However, the contribution of this research is in showing that infrastructure gaps are not only technical but also have a direct moral and pedagogical implication. For example, the absence of wheelchair access, visual aids, or audio devices not only limits mobility but also reinforces exclusion in the learning process. Supported by Bronfenbrenner's ecological systems theory, this study demonstrates that the physical environment must be seen as an ethical responsibility, positioning facilities as a determinant of educational equity.

The findings about the lack of supporting facilities emphasize the importance of the attention of the government and schools in improving disability-friendly infrastructure. For example, the provision of wheelchair access points, visual aids, and adequate audio devices will greatly help students with special needs to participate in teaching and learning activities actively. Theoretically, this is supported by Bronfenbrenner's ecological systems theory, which posits that the physical environment (microsystem) directly shapes student experiences. Therefore, improving school infrastructure must be seen not merely as technical work but as a moral and pedagogical imperative to foster educational equity.

## **Social Interaction**

The issue of social interaction remains one of the central findings of this study. While Aubert et al. (2017) underline the role of cooperative activities, this study identifies those social barriers persist even in structured activities, highlighting the need for sustained support groups and inclusive extracurricular programs. The novelty of this study lies in showing that sustained and repeated inclusive interactions such as sports, cultural events, and group projects are more effective in fostering empathy and reducing stigma compared to ad-hoc activities. This contributes to strengthening the

application of social interaction theory in inclusive education by emphasizing continuity over one-off interventions.

In addition, the study's results emphasize the importance of good social interaction among regular students and students with special needs. Although barriers are found in association, opportunities arise through the formation of support groups, and inclusive activities can be an effective approach. Activities such as group work, joint sports, or cultural arts activities can strengthen a sense of empathy and togetherness among students (Agustina et al., 2023).

### **Parent Communication**

This study reaffirms the importance of parental involvement, consistent with Shin (2018), but adds new insight by showing that communication gaps between schools and parents often become a structural barrier to student progress. Unlike earlier research, which tends to focus on parental involvement in learning outcomes, this study highlights the need for systematic communication mechanisms, such as communication books, online forums, and regular meetings. By integrating the theory of parental involvement, this research contributes novelty by stressing that inclusive education requires not only parental participation but also institutionalized communication systems to align strategies between home and school.

Good communication between schools and parents is also the key to the success of inclusive education. The finding that lack of communication often hampers student development confirms the need for a partnership-based approach. Teachers can hold regular meetings with parents to discuss the child's specific needs and strategies that can be implemented at school and at home (Asfahani et al., 2022).

### **Technology**

The role of educational technology is confirmed in this study as a key facilitator for inclusive learning. While Wang & Zhu (2019) emphasize the effectiveness of visual and audio learning media, this research goes further

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by demonstrating that technology is not merely supplementary but transformative in inclusive classrooms. In accordance with Siemens' connectivism theory, the study identifies that digital media create new learning networks and participation channels for students with special needs. The novelty of this study lies in revealing that teacher digital literacy is as critical as access to technology itself. Without adequate competence in utilising interactive applications, the potential of educational technology cannot be fully realised in inclusive settings.

Educational technology also plays a crucial role in supporting the implementation of inclusive education. The use of technology-based learning media has been proven to be able to improve students' understanding of special needs (Aldiab et al., 2019). For example, visual and audio-based educational applications can provide explanations that are easier for students with hearing or visual impairments to understand. Finally, the results of this study show that successful inclusive education requires a holistic approach that involves teachers, students, parents, and the government (Deluk & Fariq, 2023). The key to the success of implementing inclusive education lies in the readiness of all parties to collaborate, innovate, and adapt to the unique needs of each student. Thus, inclusive education is expected to create a fairer, equal, and meaningful learning environment for all students.

The results of this study highlight the various challenges faced in implementing inclusive education, but several opportunities can be used to overcome them. This analysis will discuss how these challenges can be managed with an effective and sustainable approach. Teacher training is the most pressing issue that requires serious attention. Teachers who do not understand inclusive learning methods tend to have difficulty adapting materials for students with special needs. Ongoing, hands-on training can be effective (O'Connor et al., 2023). This training program should involve real case studies, simulations, and hands-on practice in the field so that teachers can understand the needs of students more comprehensively (Asfahani et al.,

2023). In addition, forming an inclusive teacher community can be a forum for sharing experiences and knowledge related to best practices in teaching students with special needs.

Adequate support facilities are a key factor that greatly affects the comfort and success of students with special needs in the school environment. The provision of facilities such as wheelchair access points, visual aids, and assistive technology can help students to be more independent and confident (Abdurahman et al., 2023). Schools that actively seek help from the government or social organizations to fund facility upgrades have a greater chance of creating an inclusive and comfortable learning environment.

Social interaction is a significant challenge, especially for students with special needs who often feel isolated. Forming support groups and inclusive activities can help address these challenges (Abdurahman et al., 2024). Activities such as group projects, educational games, and arts and cultural events that involve all students can strengthen a sense of community and encourage students with special needs to be more confident in socializing.

Effective communication between teachers and parents also plays a very important role in supporting the implementation of inclusive education. This collaboration can be realized through regular meetings, communication books, and online discussion forums that allow parents to share their child's development more effectively (Rostiani, 2023). This approach strengthens the teacher's understanding of the student's needs and allows parents to provide appropriate support at home.

Educational technology has proven to be effective in increasing student participation with special needs. Interactive visual media, educational software, and audio-video-based learning apps can help students with various learning barriers understand the material better (Falloon, 2020). Teachers creatively utilizing this technology can increase student engagement and create a more engaging learning atmosphere.

The successful implementation of inclusive education is highly dependent on a joint commitment between the government, schools, teachers, and parents. Strong policy support must be accompanied by real efforts to optimally realise the principle of inclusivity (Florian & Beaton, 2018). With solid collaboration, the challenges faced in implementing inclusive education can be overcome so that all students have an equal opportunity to achieve academic and social success in primary school (Kamis et al., 2017). The results of this study highlight the various challenges faced in implementing inclusive education, but several opportunities can be used to overcome them. This analysis will discuss how these challenges can be managed with an effective and sustainable approach by linking them to previous research and related theoretical studies.

Previous research conducted by Sahroni & Subroto (2022) revealed that continuous training based on hands-on practice significantly improves teacher competence in implementing inclusive education. This finding aligns with the study's results, which show that teachers who receive simulation-based training and case studies can adjust learning methods according to the needs of students with special needs. In the context of the theory of social constructivism developed by Vygotsky, the importance of social interaction in shaping students' understanding further emphasizes that teachers must have good skills in accompanying students with special needs in interacting with their classmates (Harahap & Sahputra, 2023).

In terms of supporting facilities, this study's results align with a study conducted by MacLachlan et al. (2018), which emphasizes the importance of disability-friendly infrastructure in supporting inclusive education. The theory of educational ecology developed by Bronfenbrenner emphasizes that a comfortable and supportive physical environment plays an important role in student learning success. Therefore, investing in infrastructure such as wheelchair paths, visual aids, and easily accessible classrooms is an important strategic step (Murdianto, 2024).

The findings regarding challenges in social interaction are also closely related to research conducted by Aubert et al. (2017), which emphasises the importance of cooperation-based activities in increasing the social acceptance of students with special needs. Group projects, interactive games, and art activities have been shown to strengthen relationships between students with special needs and others. This is by the principles of social interaction theory, which emphasises that individuals learn optimally through cooperation.

Effective communication between teachers and parents is important in supporting inclusive education. A study by Shin (2018) emphasises that active parental involvement in the child's education process can improve the motivation and learning outcomes of students with special needs. This approach is in line with the theory of parent involvement, which emphasises that strong partnerships between families and schools are crucial for a child's educational success (Malintang et al., 2025).

The use of educational technology as an innovative solution to increase the participation of students with special needs is strengthened by research conducted by Wang & Zhu (2019), which shows that visual and audio-video-based learning media are very effective in helping students with learning disabilities understand complex concepts. The theory of connectivity developed by Siemens emphasises the importance of utilising technology in supporting the student learning process in today's digital era (Rahayu et al., 2023).

The role of technology as a facilitator of inclusive education is increasingly evident. This study found that technology-based tools (e.g., audio-visual media, educational software) significantly improved participation and comprehension among students with disabilities. These findings are in line with Wang & Zhu (2019) and resonate with Siemens' connectivism theory, which posits that learning in the digital era is best supported by networks and digital platforms. However, the challenge lies in access to technology and in equipping teachers with the digital literacy to use

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these tools meaningfully. By integrating the findings of this study with the theoretical review and results of previous research, the implementation of inclusive education can be more effective if carried out comprehensively through continuous teacher training, the provision of adequate supporting facilities, increased social interaction through inclusive activities, intensive communication with parents, and the use of innovative educational technology. These findings suggest that successful inclusive education requires a holistic approach that integrates teacher readiness, infrastructure improvement, social engagement, parent-school partnerships, and technology utilization, all framed within broader theoretical perspectives.

### **Conclusion**

This study concludes that implementing inclusive education in primary schools faces concrete and interrelated challenges, particularly in teacher competence, inadequate infrastructure, limited social interaction, weak communication with parents, and underutilization of educational technology. Teachers lacking experience and training in inclusive pedagogy tend to apply one-size-fits-all teaching methods, often marginalising students with special needs. Similarly, the absence of disability-friendly facilities, such as wheelchair-accessible classrooms or visual and audio aids, hinders the active participation of these students. In addition, limited collaboration between schools and families contributes to the lack of consistent support for students at school and at home. However, the study also reveals that inclusive education can be significantly improved through practice-based teacher training, strengthening school-parent partnerships, and utilising interactive and visual technology to enhance student engagement and comprehension.

In light of these findings, this study recommends developing a structured and practice-oriented teacher training policy at the national and local government levels, focusing on equipping educators with real-world skills in inclusive teaching. This should be supported by regulations that

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require schools to upgrade facilities based on accessibility standards gradually. Furthermore, school administrators are encouraged to build inclusive cultures by integrating regular inclusive activities and structured communication systems with parents. As an agenda for future research, an in-depth exploration of the integration of AI-based learning tools for students with disabilities is needed, with a focus on their potential to support personalised learning pathways. If implemented collectively, these efforts will contribute to more equitable, responsive, and sustainable inclusive education practices at the primary school level.

## **References**

- Abdurahman, A., Asfahani, A., Sudarwati, N., Warwer, F., & Asrijal, A. (2023). The influence of the problem-based learning model on students' learning outcomes. *International Journal of Trends in Mathematics Education Research*, 6(3).
- Abdurahman, A., Saro'i, M., Asfahani, A., Pranajaya, S. A., & Djollong, A. F. (2024). The role of family in building religious awareness in elementary school children. *BASICA Journal of Arts and Science in Primary Education*, 4(1), 1–10.
- Agustina, I., Siregar, L. A., Husain, D. L., Asfahani, A., & Pahmi, P. (2023). Utilisation of digital technology in children's education to enhance creative and interactive learning. *At-Tarbawi: Jurnal Pendidikan, Sosial Dan Kebudayaan*, 10(2), 276–283.
- Al-Mamary, Y. H. S. (2022). Why do students adopt and use learning management systems?: Insights from Saudi Arabia. *International Journal of Information Management Data Insights*, 2, 1–9. <https://doi.org/10.1016/j.jjime.2022.100088>
- Aldiab, A., Chowdhury, H., Kootsookos, A., Alam, F., & Allhibi, H. (2019). Utilization of learning management systems (LMSs) in higher education system: A case review for Saudi Arabia. *Energy Procedia*, 160, 731–737. <https://doi.org/10.1016/j.egypro.2019.02.186>
- Alhawsawi, S., & Jawhar, S. S. (2021). Negotiating pedagogical positions in higher education during COVID-19 pandemic: teacher's narratives. *Heliyon*, 7(6), e07158. <https://doi.org/10.1016/j.heliyon.2021.e07158>
- Asfahani, A., Abdurahman, A., Krisnawati, N., & Prusty, A. (2022). Innovative solutions for ai contribution in developing socially inclusive education for children. *Journal of Artificial Intelligence and Development*, 1(2), 79–88.

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- Asfahani, A., El-Farra, S. A., & Iqbal, K. (2023). International benchmarking of teacher training programs: lessons learned from diverse education systems. *EDUJAVARE: International Journal of Educational Research*, 1(2), 141–152.
- Aubert, A., Molina, S., Schubert, T., & Vidu, A. (2017). Learning and inclusivity via interactive groups in early childhood education and care in the Hope School, Spain. *Learning, Culture and Social Interaction*, 13, 90–103.
- Deluk, M., & Fariq, W. M. (2023). Islamic teaching and values in boat deployment kenduri in Deluk Village, Bengkalis District. *At-Tarbawi: Jurnal Pendidikan, Sosial Dan Kebudayaan*, 10(2), 329–345.
- Disleksia, H. D., Wismanto, Y. M., Damai, A., Samoeri, Y., & Rafi, B. M. (2024). Analisis model pendidikan bagi anak abk ( anak berkebutuhan khusus ): 2(2), 145–155. <https://doi.org/https://doi.org/10.59581/jipsoshum-widyakarya.v2i1.3109>
- Dover, A. G., & Rodriguez-Valls, F. (2018). Learning to “brave up”: collaboration, agency, and authority in multicultural, multilingual, and radically inclusive classrooms. *International Journal of Multicultural Education*, 20(3), 59–79.
- Falloon, G. (2020). From digital literacy to digital competence: the teacher digital competency (TDC) framework. *Educational Technology Research and Development*, 68, 2449–2472.
- Florian, L., & Beaton, M. (2018). Inclusive pedagogy in action: getting it right for every child. *International Journal of Inclusive Education*, 22(8), 870–884.
- Garcia, O. F., Fuentes, M. C., Gracia, E., Serra, E., & Garcia, F. (2020). Parenting warmth and strictness across three generations: Parenting styles and psychosocial adjustment. *International Journal of Environmental Research and Public Health*, 17(20), 7487.
- Gosdin, L., Sharma, A. J., Tripp, K., Amoafu, E. F., Mahama, A. B., Selenje, L., Jefferds, M. E., Martorell, R., Ramakrishnan, U., & Addo, O. Y. (2021). A school-based weekly iron and folic acid supplementation program effectively reduces anemia in a prospective cohort of Ghanaian adolescent girls. *Journal of Nutrition*, 151(6), 1646–1655. <https://doi.org/10.1093/jn/nxab024>
- Hamdi, S., Nurjannah, S., Nasrullah, A., & Zuarnum, L. S. (2022). Madhhab negotiation, education transformation and conflict resolution in conveying the sermon of tablighi jamaat in Southeast Asia. *Religious: Jurnal Studi Agama-Agama Dan Lintas Budaya*, 6(1), 95–110. <https://doi.org/10.15575/rjsalb.v6i1.13802>
- Harahap, K., & Sahputra, D. (2023). Democratic parenting of single-parent men and women in instilling social interaction in children. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, 5(2), 95–109.

- Ibna, F. (2018). Factors that influence writing in english language classrooms: a case study of a secondary school in the Maldives. *International Journal of Social Research and Innovation*, 2(1), 19–36. <https://doi.org/10.55712/ijrsri.v2i1.25>
- Kamis, A., Rus, R. C., Rahim, M. B., Yunus, F. A. N., Zakaria, N., & Affandi, H. M. (2017). Exploring green skills: A study on the implementation of green skills among secondary school students. *International Journal of Academic Research in Business and Social Sciences*, 7(12), 327–345.
- Lyman, F. T., Tredway, L., & Purser, M. (2023). Think-Pair-Share and ThinkTrix: Standard bearers of student dialogue. In *Contemporary Global Perspectives on Cooperative Learning: Applications Across Educational Contexts*. <https://doi.org/10.4324/9781003268192-12>
- MacLachlan, M., Banes, D., Bell, D., Borg, J., Donnelly, B., Fembek, M., Ghosh, R., Gowran, R. J., Hannay, E., & Hiscock, D. (2018). Assistive technology policy: a position paper from the first global research, innovation, and education on assistive technology (GREAT) summit. *Disability and Rehabilitation: Assistive Technology*, 13(5), 454–466.
- Malintang, J., Wulandani, N., Rachman, A., & Husain, D. L. (2025). Pendidikan karakter dalam membentuk generasi entrepreneur berbasis kearifan lokal di sekolah menengah atas. *Jurnal Kolaboratif Sains*, 8(2).
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). *Qualitative data analysis: A methods sourcebook*. Sage publications.
- Mogale, M. L., & Malatji, K. S. (2022). Progressed learners' participation in developing curriculum support programmes: a critical pedagogy approach. *E-Journal of Humanities, Arts and Social Sciences*, October, 475–487. <https://doi.org/10.38159/ehass.20223105>
- Murdianto, M. (2024). Implementation of Islamic education management to realize a superior education institution. *At-Tarbawi: Jurnal Pendidikan, Sosial Dan Kebudayaan*, 11(1), 134–143.
- O'Connor, J., Ludgate, S., Le, Q.-V., Le, H. T., & Huynh, P. D. P. (2023). Lessons from the pandemic: Teacher educators' use of digital technologies and pedagogies in Vietnam before, during and after the Covid-19 lockdown. *International Journal of Educational Development*, 103(January), 1–10. <https://doi.org/10.1016/j.ijedudev.2023.102942>
- Rahayu, N., Mayzura, S., & Sari, R. (2023). Optimizing basic teacher teaching skills to stimulate student learning activities in TPA. *At-Tarbawi: Jurnal Pendidikan, Sosial Dan Kebudayaan*, 10(2), 264–275.
- Rostiani, A. (2023). Learning fun during the COVID-19 pandemic: phenomenological research based on the perspective of elementary school students. *EDUHUMANIORA: Jurnal Pendidikan Dasar*, 15(2), 183–194.

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- Sahroni, S., & Subroto, T. (2022). Implications of innovative learning for pendidikan profesi guru (ppg) for increasing professional teacher competence. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, 14(2), 725–738.
- Sain, Z. H., Asfahani, A., & Krisnawati, N. (2022). Utilization AI for socially responsive education as a path to inclusive development. *Journal of Artificial Intelligence and Development*, 1(2), 69–78.
- Shin, W. (2018). Empowered parents: The role of self-efficacy in parental mediation of children's smartphone use in the United States. *Journal of Children and Media*, 12(4), 465–477.
- Wang, K., & Zhu, C. (2019). MOOC-based flipped learning in higher education: students' participation, experience and learning performance. *International Journal of Educational Technology in Higher Education*, 16(1), 1–18.

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