

## Improving Inclusive Services in Educational Units Focusing on Children with Special Needs in Bontang City

Okto Arbianta Hutahaean <sup>1)</sup>, Aji Ratna Kusuma <sup>2)</sup>, Santi Rande <sup>3)</sup>, Estefanie R. Cortez <sup>4)</sup>

<sup>1, 2, 3)</sup> *Public Administration Study Program, Faculty of Social and Political Sciences, Universitas Mulawarman, Indonesia*

<sup>4)</sup> *Department of Political Economy, Polytechnic University of the Philippines, Philippines)*

*Corresponding Author: Okto Arbianta, Email: [arby\\_hutahaean@yahoo.com](mailto:arby_hutahaean@yahoo.com)*

---

**History:** Received 22/04/2026 | Revised 03/05/2026 | Accepted 26/06/2026 | Published 30/06/2026

---

**Abstract.** This study investigates the improvement of inclusive education services for children with special needs in Bontang City, Indonesia, with emphasis on teacher capacity, adaptive curriculum implementation, disability-friendly infrastructure, and stakeholder collaboration. A descriptive qualitative design was applied to examine how inclusive education policies are translated into service practices at the local level. Data were collected through observation, semi-structured interviews from the Education and Culture Office, inclusive schools, parents, and supporting institutions, and documentation of relevant policy and school records. The data were analyzed using qualitative procedures involving data reduction, data display, thematic coding, and conclusion drawing. The findings indicate that technical guidance and teacher training were perceived to improve teachers' readiness to identify student needs and apply differentiated instruction. Curriculum adaptation was reflected in modified learning indicators, lesson plans, assessment criteria, and individualized support based on psychological assessment. Infrastructure development was demonstrated through the Autism Service Center, school accessibility facilities, and assistive learning resources, although distribution across schools remained uneven. Stakeholder collaboration involved local government, schools, parents, psychologists, and community organizations. The study contributes a locally grounded framework for strengthening inclusive education services through integrated pedagogical, institutional, infrastructural, and collaborative strategies.

---

**Keywords:** *Inclusive Education; Children with Special Needs; Educational Services; Adaptive Curriculum; Disability-friendly Schools*

---

### INTRODUCTION

Education is a fundamental public service that determines the quality of human capital, social participation, and national competitiveness. In the context of sustainable development, education is not only expected to improve knowledge and skills, but also to guarantee equal learning opportunities for all children regardless of their physical, intellectual, social, emotional, or behavioral conditions. Inclusive education is therefore an essential component of educational equity because it ensures that children with special needs can access schooling, participate in learning, and develop their potential in supportive educational environments. The development of inclusive education is also consistent with the broader agenda of quality education, democratic values, and human resource development, which emphasizes equal access, learner diversity, and social justice in educational services (Mumtahana & Madkan, 2024; Widiatmoko et al., 2024; Zahwa et al., 2025).

Inclusive education requires more than the administrative placement of children with special needs in regular schools. It demands transformation in teacher competence, curriculum flexibility, school infrastructure, assessment systems, and stakeholder collaboration. Previous studies have shown that inclusive education is effective when schools are supported by trained teachers, adaptive instructional strategies, accessible facilities, and coordinated institutional services (Chow, 2024; Haines et al., 2022; Ismailos et al., 2022). In the Indonesian context, inclusive education is closely related to the fulfillment of disability rights and the obligation of educational institutions to provide accessible, equitable, and quality learning services for all students (Karya et al., 2021; Khaerunisa & Rasmitadila, 2023; Susilowati et al., 2022).

Despite its normative importance, the implementation of inclusive education continues to face various challenges. Teachers often experience difficulties in identifying children with special needs, designing differentiated instruction, modifying assessment, and managing classrooms with diverse learning characteristics. Studies on inclusive education have consistently emphasized that teachers' attitudes, self-efficacy, and professional support are decisive factors in determining whether inclusive policies can be translated into meaningful classroom practices (Chow & Sharma, 2024; Meda et al., 2023; Yada & Alnahdi, 2024). In Indonesia, similar concerns have been reported in relation to teacher readiness, limited specialized assistance, and the need for continuous professional development in inclusive schools (Alfian et al., 2025; Munawir et al., 2025; Zainuddin, 2025).

Another major challenge concerns curriculum adaptation. Inclusive classrooms require learning objectives, teaching materials, instructional strategies, and assessment procedures that are responsive to students' individual abilities and support needs. The Merdeka Curriculum provides opportunities for flexibility, but its implementation in inclusive settings requires teachers to understand differentiated instruction, individualized learning support, and assessment-based planning. Previous research has emphasized that inclusive learning is strengthened when curriculum design integrates Universal Design for Learning, differentiated instruction, cooperative learning, project-based learning, and flexible assessment (D'Elia et al., 2024; Gallego-Noche et al., 2022; Griful-Freixenet et al., 2021; Lin et al., 2024). However, curriculum adaptation remains difficult when schools lack clear guidelines, specialized personnel, and systematic monitoring.

Facilities and infrastructure also play a crucial role in supporting inclusive education. Disability-friendly schools require physical accessibility, assistive devices, accessible toilets, mobility support, learning aids, resource rooms, and other facilities that allow students with special needs to participate fully in school activities. Without accessible infrastructure, inclusive education may remain limited to formal admission without ensuring meaningful participation.

This is consistent with studies showing that inclusive services require environmental accessibility, institutional readiness, and the removal of structural barriers that prevent people with disabilities from accessing public services (Akaateba et al., 2023; Rahmat et al., 2020; Tagg, 2025; Wiesel et al., 2024).

Stakeholder involvement is equally important because inclusive education cannot be implemented by schools alone. Children with special needs often require support from parents, teachers, school leaders, psychologists, therapists, local government agencies, community organizations, and professional institutions. Collaborative governance and multidisciplinary service models are therefore essential to ensure that identification, assessment, intervention, curriculum adaptation, and monitoring are implemented coherently (Aidi et al., 2024; Baric et al., 2023; Campbell et al., 2023; Taqiyah, 2025). The involvement of parents is particularly important because parental acceptance, communication with schools, and participation in assessment processes affect the continuity of support provided to children with special needs (Rahayu et al., 2023).

In Bontang City, inclusive education has become an important policy concern as the local government seeks to expand educational access for children with special needs. The development of inclusive education services in the city includes teacher training, technical guidance, school designation, assessment services, and the provision of supporting facilities through institutions such as the Autism Service Center. Local studies have indicated that inclusive schools in Bontang have begun to modify learning indicators, lesson plans, and teaching materials, while also involving teachers, parents, and support institutions in service delivery (Afdhol C. Maa'ruf et al., 2023; Choliqul Maa'ruf et al., 2023). Nevertheless, challenges remain in relation to teacher capacity, infrastructure readiness, curriculum implementation, and stakeholder coordination.

In the context of this study, inclusive education service improvement is conceptualized through four interrelated components: teacher capacity, adaptive curriculum, disability-friendly facilities and infrastructure, and stakeholder involvement. Teacher capacity reflects the readiness of educators to identify, accommodate, and support students with diverse learning needs. Adaptive curriculum refers to the adjustment of learning objectives, instructional strategies, teaching materials, and assessment procedures. Disability-friendly facilities and infrastructure ensure that students with special needs can access and participate in school activities, while stakeholder involvement strengthens coordination among local government, schools, parents, professional institutions, and community actors. These components form the conceptual basis of the study, as presented in Figure 1.



Figure 1. Key components of inclusive education service improvement

Although previous studies have examined teacher readiness, curriculum adaptation, infrastructure accessibility, and stakeholder participation in inclusive education, limited research has analyzed these components as an integrated municipal service system. This gap is particularly important in Bontang City, where inclusive education has expanded from selected pilot schools toward broader public school implementation. Existing studies have often focused on inclusive education management, teacher competence, or curriculum implementation separately (Januariani et al., 2023; Patilima et al., 2024; Susilowati et al., 2022). Therefore, a more integrated analysis is needed to understand how local government policy, school readiness, professional support, and community participation interact in strengthening inclusive education services.

Based on this background, this study aims to analyze the improvement of inclusive education services for children with special needs in Bontang City. Specifically, the study examines how teacher capacity, adaptive curriculum, disability-friendly facilities and infrastructure, and stakeholder involvement contribute to the strengthening of inclusive education services. The novelty of this study lies in its integrated municipal-level perspective, which positions inclusive education not merely as a school-based program, but as a coordinated public education service system. Accordingly, this study is guided by the following research questions: (1) How is teacher capacity developed to support inclusive education services in Bontang City? (2) How is the adaptive curriculum implemented in inclusive classrooms? (3) How do disability-friendly facilities and infrastructure support the participation of children with special needs? and (4) How do stakeholders collaborate in strengthening inclusive education services in Bontang City?

## LITERATURE REVIEW

Inclusive education is widely conceptualized as a rights-based and service-oriented approach that seeks to ensure meaningful participation, access, and achievement for all learners, including children with special needs. In this perspective, inclusion does not merely refer to the placement of students with disabilities in regular classrooms, but to the transformation of educational systems so that schools can respond to diverse learner characteristics, needs, and potentials. The literature emphasizes that inclusive education requires institutional readiness, teacher competence, adaptive pedagogy, accessible infrastructure, and coordinated support from multiple actors (Karya et al., 2021; Merrigan & Senior, 2021; Schwab et al., 2024). Therefore, inclusive education should be understood as a comprehensive educational service system rather than a limited administrative policy of school admission.

Teacher capacity constitutes one of the most frequently discussed determinants of effective inclusive education. Teachers in inclusive classrooms are required to understand student diversity, identify learning barriers, design differentiated instruction, manage heterogeneous classrooms, and collaborate with families and specialists. Previous Indonesian studies have highlighted that teachers need systematic training to identify children with special needs and to implement inclusive learning strategies in regular schools (Alfian et al., 2025; Patilima et al., 2024; Zainuddin, 2025). Similarly, international studies indicate that teachers' attitudes, self-efficacy, and perceived institutional support influence their readiness to implement inclusive practices (Chow, 2024; Ismailos et al., 2022; Yada & Alnahdi, 2024). These findings suggest that teacher capacity should not be reduced to pedagogical knowledge alone, but should include affective readiness, professional confidence, classroom management skills, and the ability to collaborate within an inclusive support network.

The development of teacher capacity is closely related to professional development and school-based support. Training programs on inclusive education have been shown to strengthen teachers' beliefs, self-efficacy, and preparedness when they are designed as continuous and practice-oriented interventions rather than one-time activities (Kivirand et al., 2021; Kivirand et al., 2022; Vieira et al., 2024). Studies on pre-service and in-service teachers further indicate that inclusive education courses, mentoring, practicum experiences, and collaborative inquiry can help teachers translate inclusive values into classroom practices (Fairbrother et al., 2025; Makoelle & Burmistrova, 2025; Specht et al., 2025). In the Indonesian context, the need for continuous teacher development is particularly relevant because teachers often face heterogeneous classroom conditions while having limited access to special education expertise, adaptive learning resources, and sustained mentoring (Khaerunisa & Rasmitadila, 2023; Munawir et al., 2025).

Adaptive curriculum is another central element in inclusive education. A curriculum that assumes uniform learner ability may create structural barriers for children with special needs, especially when learning objectives, instructional materials, and assessment standards are applied rigidly. In contrast, an adaptive curriculum allows schools to adjust learning indicators, teaching strategies, learning media, and evaluation procedures according to students' abilities and developmental needs. Prior studies in Indonesia have emphasized that curriculum modification and flexible assessment are essential for improving the quality of inclusive education services (Januariyani et al., 2023; Susilowati et al., 2022). This position is consistent with broader inclusive pedagogy literature, which highlights differentiated instruction and Universal Design for Learning as approaches that support learner diversity and reduce barriers to participation (Griful-Freixenet et al., 2021; Lin et al., 2024; Sharma et al., 2021).

Curriculum adaptation also requires an adequate understanding of assessment and individualized learning support. Inclusive classrooms require teachers to identify students' learning profiles, determine realistic learning targets, and select instructional strategies that allow children with special needs to participate meaningfully in general classroom activities. Studies on inclusive assessment and teacher preparation indicate that inclusive education requires assessment systems that are responsive to learner diversity and aligned with sustainable educational goals (Gallego-Noche et al., 2022; Suprihatiningrum et al., 2024). In addition, recent research on students with special educational needs has emphasized the value of cooperative learning, problem-based learning, project-based learning, and service learning as strategies that can enhance participation and social interaction in inclusive educational settings (D'Elia et al., 2024; Rodríguez-Ferrer et al., 2023). Therefore, curriculum adaptation should be framed not as a lowering of academic standards, but as a mechanism for ensuring equitable access to meaningful learning.

The literature also emphasizes the importance of identification, assessment, and multidisciplinary support in inclusive education. Children with special needs require educational services that are informed by accurate assessment and coordinated intervention. Taqiyah (2025) emphasized the relevance of multidisciplinary collaboration in identification and assessment services for students with special needs in inclusive schools. Similarly, studies on inclusive service delivery suggest that collaboration among teachers, therapists, psychologists, parents, and other professionals can strengthen the continuity of support provided to students (Baric et al., 2023; Campbell et al., 2023; Jeremy et al., 2025). This is particularly important because inclusive education often involves academic, behavioral, social, emotional, and therapeutic dimensions that cannot be addressed by classroom teachers alone.

Disability-friendly facilities and infrastructure are also essential to inclusive education service quality. Accessibility is not limited to physical access to school buildings, but also includes access to classrooms, toilets, playgrounds, learning materials, assistive devices, communication support, sensory-friendly spaces, and safe school environments. Research on inclusive public services and disability access indicates that accessibility must be embedded within service design, institutional planning, and resource allocation (Akaateba et al., 2023; Tagg, 2025; Wiesel et al., 2024). In educational settings, inadequate infrastructure can create barriers even when inclusive policy is formally implemented. Rahmat et al. (2020) similarly noted that inclusive education requires sufficient budgetary support and resource allocation, particularly for disability-related facilities and professional support personnel. Thus, school infrastructure should be examined as a core component of inclusive education, not as a supplementary facility.

Stakeholder involvement is another key theme in inclusive education literature. Inclusive education cannot be implemented solely through the effort of individual teachers or schools because it requires support from local governments, school leaders, parents, professional organizations, communities, and relevant service institutions. Studies on collaborative governance and inclusive public service delivery indicate that inclusive services become more sustainable when institutional actors share responsibilities, coordinate resources, and build participatory mechanisms (Aidi et al., 2024; Grech et al., 2025; Hwang et al., 2025). In the context of inclusive education, parents play a crucial role in providing information about children's needs, supporting learning continuity at home, and participating in school-level decision-making. Rahayu et al. (2023) emphasized that parental acceptance and psychological assessment are important factors in supporting students with disabilities, while Said et al. (2023) highlighted that inclusive education transformation requires collaborative support and innovative service models.

The role of community and institutional collaboration is also relevant to reducing stigma and strengthening inclusive culture. Inclusive schools are expected to create social environments in which children with special needs are recognized as active participants rather than passive recipients of assistance. Studies on inclusive service models indicate that participation, co-production, and relational support can improve the responsiveness of services for vulnerable groups (Ingólfssdóttir et al., 2021; Lee & Wolf-Branigin, 2023; Makey et al., 2023). In education, this means that inclusive services should connect classroom practices with broader support systems, including family involvement, community acceptance, professional assistance, and policy commitment. Iskandar (2024) similarly emphasized that inclusive education programs require the strengthening of institutional and community support to ensure that inclusion becomes part of the educational culture.

Although previous literature has examined teacher capacity, curriculum adaptation, infrastructure, and stakeholder collaboration, many studies have tended to discuss these dimensions separately. Patilima et al. (2024) focused on educator competence, Susilowati et al. (2022) emphasized management of inclusive education, and Januariani et al. (2023) discussed service quality through educator competence, curriculum modification, and assessment. International studies have also provided strong evidence on teacher self-efficacy, differentiated instruction, collaborative service models, and accessible service design (Baric et al., 2023; Chow, 2024; Griful-Freixenet et al., 2021; Haines et al., 2022). However, there remains a need for studies that integrate these dimensions into a locally grounded framework of inclusive education service improvement, particularly in municipal contexts where policy implementation depends on local government capacity, school readiness, infrastructure distribution, and stakeholder coordination.

Based on the reviewed literature, the present study positions inclusive education service improvement as an integrated process involving four mutually reinforcing components. Teacher capacity provides the pedagogical foundation for inclusive classroom practice. Adaptive curriculum enables learning to be adjusted to the abilities and needs of children with special needs. Disability-friendly infrastructure ensures that educational environments are physically and functionally accessible. Stakeholder involvement sustains inclusive education through shared responsibility, professional collaboration, family participation, and community support. This framework provides the conceptual basis for analyzing how inclusive education services for children with special needs are strengthened in Bontang City.

## **RESEARCH METHODS**

This study employed a qualitative descriptive approach to examine efforts to improve inclusive education services for children with special needs in Bontang City, Indonesia. A qualitative approach was considered appropriate because the study aimed to understand the meanings, experiences, institutional practices, and service processes associated with inclusive education implementation in a specific local context. Rather than measuring causal relationships statistically, this study sought to describe how inclusive education policies were translated into school practices, teacher capacity development, curriculum adaptation, disability friendly facilities, and stakeholder collaboration. The descriptive qualitative design enabled the researcher to obtain rich contextual information from participants who were directly involved in the planning, implementation, and support of inclusive education services (Gadis Tabina, 2023). This approach is also consistent with studies that examine inclusive education as a complex service system involving teachers, schools, families, professional institutions, and local government actors (Baric et al., 2023; Campbell et al., 2023; Haines et al., 2022).

The research was conducted in Bontang City, East Kalimantan, Indonesia. The city was selected because inclusive education has become part of the local government's educational service agenda, particularly in relation to the expansion of inclusive schools, teacher training, curriculum adaptation, and the provision of support services for children with special needs. The main research setting included the Bontang City Department of Education and Culture, selected inclusive schools at the elementary and junior secondary levels, and supporting institutions involved in assessment or service provision for children with special needs. This setting was relevant because inclusive education requires coordination between policy makers, school leaders, teachers, parents, and professional support providers. Previous studies have emphasized that inclusive service delivery should be examined through institutional coordination and collaborative support because effective inclusion cannot be achieved by schools alone (Aidi et al., 2024; Alduais & Deng, 2022; Lee & Wolf-Branigin, 2023).

The informants included representatives of the Department of Education and Culture, school principals, classroom teachers, special education teachers or support teachers where available, parents of children with special needs, and representatives of supporting institutions such as psychologists, therapists, or assessment service providers. Purposive sampling was used because the study required information from individuals who had direct knowledge of inclusive education policy, classroom implementation, school management, assessment procedures, and support services. The inclusion criteria were as follows: direct involvement in inclusive education services in Bontang City, experience in managing or supporting children with special needs, willingness to participate in the study, and ability to provide information relevant to at least one of the four analytical components of the study. These components were teacher capacity, adaptive curriculum, disability friendly facilities and infrastructure, and stakeholder involvement. The selection of informants was informed by prior research showing that inclusive education requires attention to teacher readiness, multidisciplinary assessment, collaborative service delivery, and institutional support (Chow, 2024; Chow & Sharma, 2024; Taqiyah, 2025).

Data were collected using three main techniques: observation, semi-structured interviews, and documentation. Observation was conducted to examine the physical and pedagogical conditions of inclusive education services in selected educational units. The observation focused on classroom accessibility, availability of learning aids, school facilities, teacher interaction with students, classroom accommodation, and visible forms of support for children with special needs. Observation also helped the researcher understand whether inclusive education was implemented only as an admission policy or as a broader educational service involving pedagogical adaptation and institutional readiness. This focus is consistent with inclusive service literature, which emphasizes that accessibility and participation should be examined through actual service

environments rather than policy statements alone (Akaateba et al., 2023; Tagg, 2025; Wiesel et al., 2024).

Semi-structured interviews were conducted to obtain in-depth information from informants regarding their experiences, perceptions, and roles in inclusive education implementation. The interview guide was developed based on the four analytical components of the study. Questions for government representatives focused on policy direction, school designation, training programs, resource allocation, monitoring, and stakeholder coordination. Questions for school principals focused on school readiness, teacher assignment, facilities, student admission, and coordination with parents and external institutions. Questions for teachers focused on their training experience, classroom challenges, curriculum modification, assessment practices, differentiated instruction, and collaboration with support personnel. Questions for parents focused on admission procedures, communication with schools, perceived support, and challenges experienced by children with special needs. Questions for supporting institutions focused on assessment procedures, referral systems, therapy or intervention services, and coordination with schools. The use of semi-structured interviews enabled the researcher to maintain consistency across informants while allowing participants to explain their experiences in detail.

Documentation was used to complement observation and interview data. The documents analyzed included local education policies, school records, training documents, technical guidance materials, inclusive education reports, student admission procedures, curriculum documents, lesson plans, assessment records where accessible, and documents related to support services for children with special needs. Documentation was important for verifying institutional claims and strengthening the credibility of the findings. For example, statements about teacher training, school readiness, curriculum adaptation, and infrastructure development were compared with available documents to determine whether they were supported by formal records. This procedure was necessary because inclusive education studies require evidence from both policy and practice, particularly when examining how institutional commitments are translated into concrete educational services (Kivirand et al., 2021; Kivirand et al., 2022; Susilowati et al., 2022).

The research instrument consisted of the researcher as the primary instrument, supported by interview guidelines, observation sheets, and document review protocols. As the main instrument, the researcher was responsible for collecting, interpreting, comparing, and synthesizing data from different sources. The interview guideline was structured around the four main components of the study, while the observation sheet recorded evidence related to facilities, classroom practices, and service accessibility. The document review protocol was used to identify relevant information from policy documents, school records, and training materials. This instrument design was intended to ensure that the data collection process remained aligned with

the research objectives and research questions. It also allowed the researcher to examine inclusive education as an integrated service system involving pedagogical, curricular, infrastructural, and collaborative dimensions (Griful-Freixenet et al., 2021; Haines et al., 2022; Taqiyah, 2025).

Data analysis was conducted inductively using the interactive model of qualitative analysis, which includes data reduction, data display, and conclusion drawing. In the data reduction stage, interview transcripts, observation notes, and documents were reviewed repeatedly to identify information relevant to the study objectives. The researcher then organized the data into preliminary codes related to teacher capacity, adaptive curriculum, disability friendly infrastructure, stakeholder involvement, implementation barriers, and service improvement strategies. In the data display stage, the coded data were arranged in matrices and narrative summaries to compare information across informant groups and data sources. In the conclusion drawing stage, the researcher interpreted the patterns, relationships, and meanings emerging from the data. The analysis focused on how each component contributed to the improvement of inclusive education services and how the four components interacted within the local education system.

The validity of the data was ensured through triangulation, source comparison, and iterative interpretation. Methodological triangulation was conducted by comparing data from observation, interviews, and documentation. Source triangulation was conducted by comparing information from government representatives, school leaders, teachers, parents, and support institutions. This process helped identify consistencies and differences among informants and reduced the risk of relying on a single institutional perspective. For example, claims about teacher readiness were checked against teacher interviews, school records, and training documents. Claims about infrastructure availability were compared with observation data and school documentation. Claims about stakeholder involvement were compared across school, parent, and institutional perspectives. Such triangulation is important in inclusive education research because service implementation often involves different actors whose experiences and interests may not be identical (Grech et al., 2025; Hwang et al., 2025; Makey et al., 2023).

Ethical considerations were applied throughout the research process. Informants were informed about the purpose of the study, the voluntary nature of participation, and their right to withdraw from the study. Informed consent was obtained before interviews were conducted. The identities of informants and schools were protected by using codes or general descriptors, unless institutional identification was necessary and formally permitted. Data were used only for research purposes and were presented in a way that did not expose sensitive personal information, especially information related to children with special needs. The ethical procedure was particularly important because inclusive education research involves vulnerable groups and

requires careful handling of information related to disability, assessment, school placement, and family experiences. The study therefore sought to maintain confidentiality, respect participants' perspectives, and ensure that the findings were reported responsibly.

Through this methodological design, the study was able to examine inclusive education service improvement in Bontang City from multiple perspectives and data sources. The integration of interviews, observation, and documentation provided a comprehensive basis for analyzing teacher capacity, curriculum adaptation, disability friendly facilities and infrastructure, and stakeholder collaboration. This design also allowed the study to identify both progress and remaining challenges in the implementation of inclusive education services for children with special needs.

## **RESULT**

This section presents the findings according to four analytical components: teacher capacity, adaptive curriculum implementation, disability-friendly facilities and infrastructure, and stakeholder involvement. The findings indicate that inclusive education services in Bontang City have developed through policy commitment, teacher training, curriculum modification, institutional support, and cross-sector collaboration. However, the implementation remains uneven across educational units, particularly in relation to specialized personnel, infrastructure readiness, assessment systems, and continuous monitoring.

### **Teacher Capacity in Inclusive Education**

The findings show that teacher capacity development has become one of the main strategies used by the Bontang City Department of Education and Culture to strengthen inclusive education services. In 2023, the department organized training and technical guidance for teachers and school principals from regular schools designated or prepared as inclusive education providers. The technical guidance focused on strengthening teachers' understanding of inclusive education, identifying children with special needs, assessing students' learning characteristics, and developing classroom service procedures for inclusive learning. This finding indicates that the local government attempted to address teachers' limited readiness by providing professional development activities related to inclusive pedagogy.

Data from interviews and institutional documents suggest that the training was perceived to improve teachers' readiness to manage inclusive classrooms. Teachers reported that the training helped them understand that children with special needs require differentiated instructional approaches, flexible classroom management, and collaboration with support personnel. The training also introduced teachers to basic procedures for identifying students' needs and adapting learning strategies. This finding is consistent with the broader literature showing that teacher

attitudes, self-efficacy, and professional support are important factors in the implementation of inclusive education (Chow, 2024; Ismailos et al., 2022; Kivirand et al., 2022). In the local context, the training was regarded as an initial foundation for improving teacher competence, although it did not fully resolve the need for continuous mentoring and specialized support.

A more specific example was found at SDN 001 North Bontang, where several teachers participated in external technical guidance programs, including training held outside the region. Two teachers from the school reportedly received intensive inclusive education training in 2024 to strengthen their competence in handling students with special needs. This finding indicates that capacity-building efforts were not limited to general socialization, but also included more intensive professional development for selected teachers. However, the availability of GPK remains limited, which means that regular classroom teachers still carry a major responsibility in adapting instruction for students with diverse needs.

The findings also reveal that teacher capacity is not only related to knowledge of inclusion, but also to practical classroom competence. Teachers are expected to identify students' learning barriers, modify instruction, adjust assessment, manage classroom behavior, and communicate with parents. This finding supports prior studies that define inclusive teacher competence as a combination of pedagogical, diagnostic, affective, and collaborative skills (Alfian et al., 2025; Munawir et al., 2025; Zainuddin, 2025). Nevertheless, interviews indicated that some teachers still require additional assistance in developing individualized learning plans, using adaptive learning media, and managing students with more complex behavioral or communication needs. Therefore, teacher training in Bontang has contributed to improved readiness, but its effectiveness depends on follow-up mentoring, peer support, and the availability of specialized professionals.

### **Implementation of an Adaptive Curriculum in Inclusive Classrooms**

The second finding concerns the implementation of an adaptive curriculum. Inclusive schools in Bontang generally use the national curriculum, including the 2013 Curriculum and the Merdeka Curriculum, but modify selected components to accommodate the needs of children with special needs. The modifications include adjustments to learning indicators, lesson plans, instructional materials, learning targets, and assessment standards. This finding indicates that curriculum adaptation has been understood as an important strategy for enabling children with special needs to participate in regular classrooms while receiving appropriate accommodations.

Documents and interviews indicate that curriculum adaptation was implemented through differentiated learning activities and flexible assessment. For example, at SDN 001 North Bontang, teachers developed inclusive teaching materials using special guidebooks provided by the Education and Culture Office. Students with special needs joined classroom learning with

their peers, but teachers adjusted the method of material delivery and assessment according to the students' psychological assessment results. The modification of the Minimum Completion Criteria was also used to ensure that learning targets were realistic and aligned with students' abilities.

The adaptive curriculum was also supported by external assessment and intervention services. The school collaborated with the Autism Service Center, locally referred to as PLA, where children with special needs could receive additional learning or therapeutic support after regular school hours. This finding indicates that curriculum adaptation in Bontang did not occur solely inside the classroom, but was also connected to external services that provided assessment and intervention support. However, the role of PLA should be understood as complementary support rather than a replacement for school-based curriculum adaptation. The school remains responsible for ensuring that classroom instruction, assessment, and learning participation are accessible to students with special needs.

The findings suggest that adaptive curriculum implementation has improved the flexibility of learning services, but it remains dependent on teacher competence and school resources. Some teachers were able to adjust teaching materials and assessment based on student needs, while others still required guidance in designing individualized learning targets and disability-specific instructional strategies. This condition reflects a broader challenge in inclusive education, where differentiated instruction and Universal Design for Learning require systematic teacher preparation and institutional support (D'Elia et al., 2024; Griful-Freixenet et al., 2021; Lin et al., 2024). Thus, adaptive curriculum implementation in Bontang has begun to develop, but its consistency across schools requires further strengthening through curriculum guidelines, supervision, and professional mentoring.

### **Disability-Friendly Facilities and Infrastructure**

The third finding shows that disability-friendly facilities and infrastructure have become an important part of inclusive education development in Bontang City. At the municipal level, the establishment of the Autism Service Center represents a significant support facility for children with special needs. The center functions as an assessment and therapy facility and is used by the Education and Culture Office as part of the admission and placement process for prospective inclusive students. Before being accepted into inclusive public schools, children with special needs are required to undergo assessment to identify their abilities, needs, and recommended forms of support. This procedure is intended to help schools provide more appropriate services based on the child's condition.

Despite its important role, the Autism Service Center has limited service capacity. Based on institutional information, the center can serve a maximum of 16 children with autism per day because the number of therapists and support personnel remains limited. This finding indicates that the existence of a municipal support facility does not automatically ensure sufficient service coverage for all children with special needs. The capacity limitation also suggests the need for additional human resources, service expansion, and stronger coordination between schools and professional support institutions. Research on inclusive service delivery similarly emphasizes that disability-related services require adequate professional capacity, accessibility, and sustained institutional coordination (Campbell et al., 2023; Haines et al., 2022; Taqiyah, 2025).

At the school level, several inclusive schools have begun to provide disability-friendly facilities such as ramps, accessible toilets, wheelchairs, teacher handbooks, and learning aids. SDN 001 North Bontang, for example, has provided wheelchairs for students with mobility barriers and special guidebooks for teachers who manage inclusive classrooms. These facilities indicate that pioneer schools have started to develop physical and instructional support for students with special needs. However, field data also show that infrastructure availability remains uneven across schools. Some schools are relatively more prepared because they have previously served as inclusive education providers, while other schools still need facility improvement, assistive devices, accessibility adjustments, and resource rooms.

The expansion of inclusive schools in Bontang is presented in Figure 2. The figure shows that inclusive education in Bontang has moved from a limited pilot model toward a citywide public school policy. In 2013, inclusive education was initiated through a small number of pilot schools. By 2021, four schools had been officially designated as inclusive education providers, namely SDN 003 North Bontang, SDN 010 South Bontang, SDN 004 West Bontang, and SMPN 2 Bontang. The most significant policy shift is reflected in the 2025 target, in which all 30 public primary schools and 9 public junior secondary schools in Bontang are required to admit children with special needs. Consequently, the number of inclusive public primary and junior secondary schools is expected to reach 39 in the 2025 academic year.

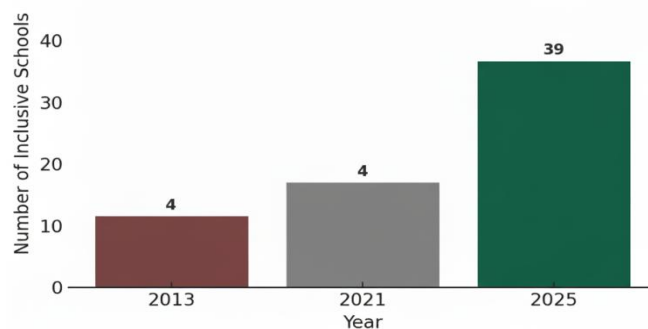


Figure 2. Growth of inclusive schools in Bontang City, 2013 to 2025

*Source: Processed by author based on Bontang inclusive education policy documents and field data, 2025.*

The pattern shown in Figure 2 indicates that the local government has made a strong policy commitment to expand inclusive education access. However, the figure also demonstrates a critical implementation implication. The rapid increase in the number of inclusive schools requires parallel improvement in teacher readiness, disability-friendly infrastructure, assistive learning resources, and professional support mechanisms. Without such preparation, the expansion of inclusive schools may become an administrative achievement rather than a substantive improvement in service quality. This finding is consistent with studies emphasizing that inclusive service expansion must be accompanied by accessible facilities, institutional capacity, and service evaluation mechanisms (Akaateba et al., 2023; Rahmat et al., 2020; Tagg, 2025; Wiesel et al., 2024).

Therefore, Figure 2 strengthens the interpretation that infrastructure development in Bontang should be understood as a citywide policy challenge. The Autism Service Center and selected school-level facilities represent important initial progress, but they are insufficient if the 2025 inclusive school expansion is not supported by equitable accessibility standards across all schools. Disability-friendly education requires accessible classrooms, mobility support, learning aids, communication support, sensory-friendly spaces, resource rooms, and professional services. Thus, the growth of inclusive schools shown in Figure 2 provides evidence of policy expansion, while simultaneously indicating the need for systematic monitoring to ensure that all schools can provide inclusive services in practice.

### **Stakeholder Involvement in Inclusive Education Services**

The fourth finding concerns stakeholder involvement. Inclusive education in Bontang is supported by multiple actors, including the local government, school leaders, teachers, parents, psychologists, therapists, professional organizations, community groups, and local media. The local government plays a central role as policy initiator, program coordinator, and provider of educational support. The Department of Education and Culture facilitates teacher training, school designation, student assessment procedures, and coordination with support institutions. This finding shows that inclusive education in Bontang has been framed as a shared public responsibility rather than a school-level program only.

Parental involvement is evident in the admission, assessment, and monitoring processes for children with special needs. Parents are required to submit psychological assessment results when enrolling children in inclusive public schools. Schools also conduct interviews with parents to obtain information about the child's condition, developmental history, behavior, and learning

needs. Teachers reported that communication with parents is necessary to ensure consistency between school-based support and home-based assistance. This finding is consistent with Rahayu et al. (2023), who emphasized the importance of parental acceptance and psychological assessment in supporting students with disabilities. However, the data also suggest that parental involvement needs to be strengthened through structured communication forums, parent education, and school-family support networks.

Professional and community institutions also contribute to inclusive education services in Bontang. The Autism Service Center provides assessment and therapeutic support for children with special needs, while professional organizations such as the Bontang branch of the Indonesian Psychologist Association are involved in assessment and placement procedures. Community organizations and the media contribute to public awareness of disability inclusion. One example is the 2025 Disability Sports Festival organized by the Bontang City Government in collaboration with the National Paralympic Committee of Indonesia. The festival provided opportunities for students from inclusive schools and special schools to demonstrate their talents. Although the event was not a classroom-based intervention, it contributed to broader community awareness that children with disabilities can participate and achieve when given appropriate opportunities.

The multi-stakeholder pattern identified in the findings is synthesized in Figure 3. The figure illustrates that effective inclusive education in Bontang is not produced by a single actor, but by the interaction among local government, schools, teachers, parents, psychologists, PLA, community organizations, and public communication channels. The local government provides policy direction, regulation, budget support, and program coordination. Schools and teachers translate the policy into curriculum adaptation, classroom accommodation, and daily learning support. Parents provide developmental information, home-based support, and continuous communication with schools. Psychologists, therapists, and PLA provide assessment and intervention services. Community organizations, media, and disability-related institutions strengthen public awareness and reduce stigma.

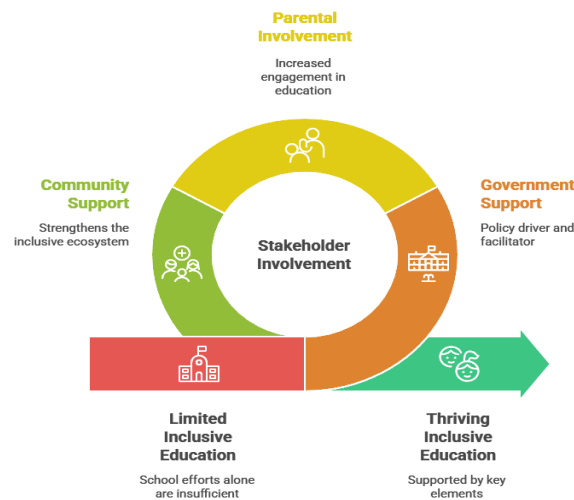


Figure 3. Stakeholder collaboration model for achieving effective inclusive education in Bontang City

Source: Author-developed based on field data and literature synthesis, 2025.

Figure 3 clarifies that stakeholder involvement functions as the connecting mechanism between policy commitment and service implementation. The model suggests that inclusive education becomes effective when four service dimensions operate together: teacher capacity, adaptive curriculum, disability-friendly infrastructure, and collaborative support. Teacher capacity enables inclusive values to be translated into classroom practice. Adaptive curriculum allows learning to be adjusted to students' abilities and needs. Disability-friendly infrastructure ensures that students can access the school environment physically and functionally. Stakeholder collaboration sustains these elements through shared responsibility and coordinated service delivery.

The role structure shown in Figure 3 is consistent with research emphasizing that inclusive education requires collaborative governance, multidisciplinary support, and relational service systems (Aidi et al., 2024; Baric et al., 2023; Campbell et al., 2023; Lee & Wolf-Branigin, 2023; Makey et al., 2023). However, the findings also reveal that collaboration in Bontang still requires stronger institutionalization. The roles of schools, parents, PLA, psychologists, and local government need to be defined more systematically to avoid overlapping responsibilities or fragmented services. The sustainability of inclusive education will depend on whether stakeholder involvement can be formalized through regular coordination, data sharing, referral mechanisms, funding support, and monitoring.

**Table 1. Stakeholder Roles in Inclusive Education Services in Bontang City**

<b>Stakeholder</b>	<b>Role in inclusive education services</b>	<b>Evidence from findings</b>	<b>Implementation issue</b>
Local government	Policy direction, training, school designation, resource support	Department programs and policy documents	Need for systematic monitoring
School leaders	School readiness, teacher assignment, parent communication	School interviews and documents	Readiness varies across schools
Teachers	Classroom instruction, curriculum adaptation, student support	Teacher interviews and observation	Need for continuous mentoring
Parents	Assessment submission, communication, home support	Admission procedures and interviews	Need for stronger parent networks
Psychologists and PLA	Assessment, therapy, intervention support	Institutional collaboration	Limited service capacity
Community and media	Awareness building and stigma reduction	Disability Sports Festival and public campaigns	Need to measure impact on school participation

**Integrated Pattern of Inclusive Education Service Improvement**

Overall, the findings indicate that inclusive education service improvement in Bontang City has progressed through four interconnected components. Teacher capacity development has increased awareness and readiness among educators, although more intensive mentoring and specialized support are still needed. Adaptive curriculum implementation has allowed students with special needs to participate in regular classrooms through modified learning indicators, teaching materials, assessment criteria, and individualized support, although documentation and consistency remain limited. Disability-friendly facilities and infrastructure have begun to develop through the Autism Service Center and selected school-level accommodations, but equitable distribution across all schools remains a major challenge. Stakeholder involvement has supported the sustainability of inclusive education through collaboration among government, schools, parents, professional institutions, and the community, but coordination mechanisms need to be strengthened.

Figures 2 and 3 provide complementary evidence for understanding this integrated pattern. Figure 2 demonstrates the structural expansion of inclusive education access, particularly through the projected increase to 39 inclusive public primary and junior secondary schools by 2025. Figure 3 explains the relational mechanism required to make this expansion meaningful, namely coordinated collaboration among stakeholders who contribute to policy implementation, classroom practice, assessment, infrastructure readiness, and community acceptance. Taken together, the figures show that inclusive education in Bontang is moving from limited school designation toward a broader local education service system. Nevertheless, the transition remains

partial because not all schools have the same level of teacher readiness, infrastructure capacity, curriculum adaptation, and professional support.

The evidence suggests that the success of inclusive education in Bontang depends on the integration of training, curriculum flexibility, accessible facilities, multidisciplinary assessment, parental involvement, and continuous monitoring. Figure 2 identifies the scale of the implementation challenge, while Figure 3 identifies the collaborative structure needed to address that challenge. Therefore, inclusive education service improvement in Bontang should be understood not merely as the expansion of inclusive school status, but as the development of a coordinated municipal education system that ensures children with special needs can access, participate in, and benefit from quality education.

## DISCUSSION

The findings demonstrate that inclusive education service improvement in Bontang City is progressing from a limited school-based initiative toward a broader municipal service system. This development is evident in the expansion of inclusive school designation illustrated in Figure 2 and in the stakeholder collaboration model synthesized in Figure 3. However, the study also shows that policy expansion does not automatically produce substantive inclusion unless it is accompanied by teacher competence, adaptive curriculum, accessible infrastructure, professional support, and coordinated governance. This confirms the argument that inclusive education must be understood not merely as student placement in regular schools, but as a systemic transformation of educational services to ensure access, participation, and meaningful learning for children with special needs (Schwab et al., 2024; Sulistyowati & Radiana, 2024; Wiesel et al., 2024).

The growth pattern shown in Figure 2 indicates a strong policy commitment by the Bontang City Government. The transition from a limited pilot program in 2013 to the projected inclusion of 39 public primary and junior secondary schools by 2025 reflects a significant institutional shift. This finding is important because local government commitment is a prerequisite for widening access to inclusive education. Nevertheless, the rapid expansion also raises a critical concern regarding implementation capacity. If schools are required to admit children with special needs without adequate teacher preparation, infrastructure, assessment systems, and support personnel, inclusive education may become administrative inclusion rather than pedagogical inclusion. This concern is consistent with previous studies emphasizing that inclusive policy must be supported by school readiness, professional development, and service redesign (Alduais & Deng, 2022; Haines et al., 2022; Lee & Wolf-Branigin, 2023).

Teacher capacity emerged as a central factor in determining the quality of inclusive education services. The training and technical guidance provided to teachers in Bontang indicate that the local government has recognized the need to strengthen educators' readiness to identify children with special needs, adapt instruction, and manage inclusive classrooms. This finding supports previous research showing that teacher attitudes, self-efficacy, and perceived support significantly influence inclusive classroom practices (Chow, 2024; Ismailos et al., 2022; Yada & Alnahdi, 2024). It also aligns with Indonesian studies that emphasize the importance of teacher competence in identifying learner characteristics, designing differentiated instruction, and using adaptive learning strategies (Alfian et al., 2025; Munawir et al., 2025; Zainuddin, 2025).

However, the findings also indicate that teacher training in Bontang remains insufficient when viewed as a long-term service improvement strategy. Although training activities improved awareness and basic understanding, teachers still require continuous mentoring, classroom-based coaching, and technical support in developing individualized learning plans, adaptive media, and differentiated assessment. This finding is consistent with Kivirand et al. (2021) and Kivirand et al. (2022), who argued that inclusive education training is more effective when implemented as a school-team development process rather than a short-term professional development activity. Similar conclusions have been reported in studies showing that mentoring, practicum-based learning, and collaborative inquiry strengthen teachers' confidence and practical competence in inclusive settings (Fairbrother et al., 2025; Makoelle & Burmistrova, 2025; Specht et al., 2025). Therefore, Bontang's teacher development strategy should move from episodic training toward sustained professional learning communities and school-based mentoring.

The findings on adaptive curriculum implementation show that inclusive schools in Bontang have begun modifying learning indicators, lesson plans, teaching materials, assessment criteria, and learning targets according to students' needs. It also supports the broader literature on differentiated instruction and Universal Design for Learning, which emphasizes that learning should be designed flexibly to accommodate learner diversity (D'Elia et al., 2024; Griful-Freixenet et al., 2021; Lin et al., 2024). Thus, curriculum adaptation in Bontang represents an important step toward transforming inclusive education from a formal access policy into a classroom-based learning service.

Nevertheless, curriculum adaptation remains uneven and highly dependent on individual teacher competence. The study found that some teachers were able to adjust instruction based on students' psychological assessment results, while others still required guidance in documenting individualized targets and developing disability-specific strategies. This suggests that adaptive curriculum implementation requires clearer operational guidelines, school-level supervision, and professional collaboration between classroom teachers, special assistance teachers, psychologists,

and parents. Previous research has emphasized that inclusive assessment must be linked to learning planning and instructional decision-making, not treated merely as an administrative requirement (Gallego-Noche et al., 2022; Suprihatiningrum et al., 2024; Taqiyah, 2025). In this regard, Bontang's adaptive curriculum practices would be strengthened by standardized procedures for assessment-based planning, individualized learning documentation, and periodic review of students' progress.

The role of the Autism Service Center or PLA is another important finding. The center provides assessment and therapeutic support and functions as a bridge between families, schools, and professional services. This arrangement reflects the multidisciplinary character of inclusive education, particularly for children with autism and other developmental needs. The finding supports studies showing that inclusive service delivery requires collaboration among teachers, therapists, psychologists, families, and other professionals (Baric et al., 2023; Campbell et al., 2023; Jeremy et al., 2025). However, the limited service capacity of the center indicates that municipal support services remain vulnerable to resource constraints. The ability to serve only a limited number of children per day demonstrates that specialized services must be expanded and complemented by stronger school-based support systems.

The findings on disability-friendly facilities and infrastructure further indicate that inclusive education in Bontang is still in a transitional stage. Some schools have provided ramps, accessible toilets, wheelchairs, learning aids, and teacher guidebooks, but the distribution of these facilities remains uneven. This is particularly important in light of Figure 2, which shows the planned expansion of inclusive schools across all public primary and junior secondary schools. Infrastructure readiness must therefore be treated as a citywide equity issue rather than as a facility concern for selected pioneer schools. Previous studies have emphasized that disability-friendly services require accessible environments, assistive resources, communication support, and institutional commitment to remove structural barriers (Akaateba et al., 2023; Rahmat et al., 2020; Tagg, 2025; van Holstein et al., 2024). Accordingly, Bontang needs minimum accessibility standards for all inclusive schools, accompanied by periodic audits and targeted budget allocation.

Stakeholder collaboration, as illustrated in Figure 3, is one of the most significant strengths of inclusive education service improvement in Bontang. The model shows that local government, school leaders, teachers, parents, psychologists, PLA, community organizations, and the media each contribute to inclusive education implementation. This finding supports collaborative governance literature, which emphasizes that inclusive public services require shared responsibility, coordination, and participation among institutional and community actors (Aidi et al., 2024; Grech et al., 2025; Hwang et al., 2025). In the educational context, collaboration is

essential because children with special needs often require academic, psychological, behavioral, social, and family-based support that cannot be provided by schools alone.

However, the findings also suggest that collaboration in Bontang needs stronger institutionalization. The involvement of multiple stakeholders is beneficial, but it may become fragmented if roles, referral procedures, data sharing, and monitoring mechanisms are not clearly defined. For example, schools require clear guidance on when to refer students to PLA, how to use psychological assessment results for curriculum adaptation, how parents should be involved in learning support, and how government agencies should monitor implementation quality. This concern is consistent with studies emphasizing that inclusive service systems must be relational, coordinated, and continuously evaluated (Ingólfssdóttir et al., 2021; Lee & Wolf-Branigin, 2023; Makey et al., 2023). Therefore, Figure 3 should not only be interpreted as a map of stakeholder involvement, but also as a framework for strengthening governance accountability in inclusive education services.

The integration of Figures 2 and 3 provides an important conceptual contribution. Figure 2 represents the structural dimension of inclusive education expansion, while Figure 3 represents the relational dimension of inclusive service delivery. The structural dimension shows how access is widened through policy and school designation. The relational dimension shows how that access can become meaningful through teacher capacity, curriculum adaptation, infrastructure readiness, assessment support, parental involvement, and community participation. This distinction is important because inclusive education may fail when structural access is expanded without relational support. Conversely, stakeholder collaboration may remain limited if it is not supported by formal policy, budget, infrastructure, and monitoring. Thus, effective inclusive education requires both structural expansion and relational coordination.

The findings contribute to the literature by offering a locally grounded model of inclusive education service improvement in an Indonesian municipal context. Previous studies have examined teacher competence, curriculum modification, inclusive management, and stakeholder collaboration separately (Januariyani et al., 2023; Patilima et al., 2024; Susilowati et al., 2022). This study extends that literature by showing how these dimensions interact within local government policy implementation. The Bontang case demonstrates that inclusive education service improvement depends on the alignment between policy expansion, teacher professional development, adaptive curriculum, infrastructure provision, and multi-stakeholder collaboration. This integrated perspective is particularly relevant for local governments that seek to expand inclusive education access while ensuring that service quality is not compromised.

Practically, the findings suggest several implications. First, teacher training should be institutionalized as a continuous professional development program supported by mentoring,

classroom observation, and peer learning. Second, adaptive curriculum practices should be supported by formal guidelines, individualized learning documentation, and assessment-based instructional planning. Third, disability-friendly infrastructure should be developed through citywide accessibility standards and targeted budget allocation. Fourth, stakeholder collaboration should be strengthened through formal referral systems, regular coordination meetings, shared data mechanisms, and monitoring indicators. These implications are consistent with the view that inclusive education requires systemic service design rather than isolated school-level initiatives (Baric et al., 2023; Campbell et al., 2023; Haines et al., 2022; Wiesel et al., 2024).

In summary, the discussion confirms that Bontang City has made meaningful progress in strengthening inclusive education services for children with special needs. The expansion of inclusive schools, teacher training initiatives, curriculum adaptation, support from PLA, and stakeholder collaboration indicate a positive policy direction. However, the findings also reveal that inclusive education remains uneven in practice because schools differ in teacher readiness, facilities, professional support, and implementation capacity. The main challenge is therefore not only to increase the number of inclusive schools, but to ensure that every designated school can provide accessible, adaptive, and coordinated educational services. The study demonstrates that inclusive education in Bontang will be sustainable only when policy expansion is accompanied by pedagogical competence, institutional readiness, infrastructure equity, and collaborative governance.

## CONCLUSION

This study concludes that the improvement of inclusive education services for children with special needs in Bontang City has progressed through four interrelated dimensions: teacher capacity, adaptive curriculum implementation, disability-friendly facilities and infrastructure, and stakeholder collaboration. The findings indicate that teacher training and technical guidance have strengthened teachers' awareness and initial readiness to support students with diverse needs. However, continuous mentoring, specialized assistance, and school-based professional development remain necessary to ensure that inclusive practices are implemented consistently across educational units.

Curriculum adaptation has begun to support more flexible learning through modified learning indicators, instructional materials, assessment criteria, and individualized support based on students' characteristics. Nevertheless, the implementation of adaptive curriculum still requires clearer documentation, assessment-based planning, and stronger supervision. The provision of disability-friendly infrastructure, including the Autism Service Center and selected school-level facilities, reflects a positive institutional commitment. Yet, the rapid expansion of

inclusive schools demands more equitable accessibility standards, assistive resources, and professional support across all public schools.

Stakeholder collaboration involving local government, schools, teachers, parents, psychologists, support institutions, community organizations, and the media has contributed to the development of a broader inclusive education ecosystem. The study contributes to the literature by demonstrating that inclusive education service improvement at the municipal level requires the integration of structural policy expansion and relational stakeholder coordination. Future studies should involve broader school samples, longitudinal analysis, and direct evaluation of learning outcomes among children with special needs to assess the long-term effectiveness of inclusive education policies in Bontang City.

## REFERENCES

- [1] Aidi, A., Avianti, I., Koeswayo, P. S., Poulus, S., & Mariam, S. (2024). The effect of an inclusive approach to collaborative governance and its impact on digitizing the quality of public services. *Cogent Business & Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2392324>
- [2] Akaateba, M. A., Adumpo, E. A., & Yakubu, I. (2023). Towards inclusive transport: The responsiveness of intercity bus services to the needs of people with disabilities in Tamale, Ghana. *Geo: Geography and Environment*, 10(2). <https://doi.org/10.1002/geo2.131>
- [3] Alduais, A., & Deng, M. (2022). Stakeholders' perceptions of equity in providing special education and inclusive education services in China: Zero rejection and multiple provision mechanisms. *International Journal of Chinese Education*, 11(3). <https://doi.org/10.1177/2212585X221144898>
- [4] Alfian, A., Santosa, I., & Surya Saputra, D. (2025). Pelatihan penerapan strategi pembelajaran inklusif bagi guru sekolah dasar dalam upaya identifikasi siswa berkebutuhan khusus. *KOMUNITA: Jurnal Pengabdian dan Pemberdayaan Masyarakat*, 4(2), 302–314. <https://doi.org/10.60004/komunita.v4i2.165>
- [5] Baric, V. B., Yngve, M., Holmefur, M., Feldman, I., Wilder, J., Johansen, K., Klang, N., Lidström, H., & Borgestig, M. (2023). Partnering for change (P4C) in Sweden: A study protocol of a collaborative school-based service delivery model to create inclusive learning environments. *BMC Public Health*, 23(1). <https://doi.org/10.1186/s12889-023-17053-0>
- [6] Bontang, D. K. (2025). [Title of webpage or official document needed]. Website Kota Bontang. [URL needed]
- [7] Boyle, C., Barrell, C., Allen, K.-A., & She, L. (2023). Primary and secondary pre-service teachers' attitudes towards inclusive education. *Heliyon*, 9(11). <https://doi.org/10.1016/j.heliyon.2023.e22328>
- [8] Campbell, W., Missiuna, C., Dix, L., & Whalen, S. S. (2023). Partnering for change: Collaborating to transform occupational therapy services that support inclusive education. *Frontiers in Public Health*, 11. <https://doi.org/10.3389/fpubh.2023.1275920>
- [9] Chow, W. S. E. (2024). Exploring in-service teachers' attitudes, teacher self-efficacy, and influential factors for implementing inclusive practices in Hong Kong classroom. *Educational Psychology*, 44(4), 436–454. <https://doi.org/10.1080/01443410.2024.2361280>
- [10] Chow, W. S. E., & Sharma, U. (2024). Are in-service teachers supported in Hong Kong? Teachers' perceived support needs in the implementation of inclusive education. *International Journal of Inclusive Education*, 28(11), 2546–2562. <https://doi.org/10.1080/13603116.2022.2118379>

- [11] D’Elia, P., Stalmach, A., Di Sano, S., & Casale, G. (2024). Strategies for inclusive digital education: Problem/project-based learning, cooperative learning, and service learning for students with special educational needs. *Frontiers in Education*, 9. <https://doi.org/10.3389/educ.2024.1447489>
- [12] Fairbrother, M., Specht, J., Delorey, J., Whitley, J., Ismailos, L., & Villeda, M. (2025). Integrating practice and theory in teacher education: Enhancing pre-service self-efficacy for inclusive education. *Education Sciences*, 15(4). <https://doi.org/10.3390/educsci15040497>
- [13] Gadis Tabina. (2023). Analisis sistem pengelolaan arsip inaktif di PT Prima Mitra Elektrindo. *Student Scientific Creativity Journal*, 2(1), 48–62. <https://doi.org/10.55606/sscj-amik.v2i1.2544>
- [14] Gallego-Noche, B., García-González, E., Jiménez-Fontana, R., & Azcárate, P. (2022). Inclusive assessment and sustainability dimensions: Pre-service teachers’ ideas and knowledge. *Sustainability*, 14(15). <https://doi.org/10.3390/su14159651>
- [15] Grech, N., Greer, D. A., & Russell-Bennett, R. (2025). Co-creating inclusive public services with customers experiencing vulnerability. *Journal of Services Marketing*, 39(6), 645–658. <https://doi.org/10.1108/JSM-04-2024-0191>
- [16] Griful-Freixenet, J., Struyven, K., & Vantieghem, W. (2021). Exploring pre-service teachers’ beliefs and practices about two inclusive frameworks: Universal Design for Learning and differentiated instruction. *Teaching and Teacher Education*, 107. <https://doi.org/10.1016/j.tate.2021.103503>
- [17] Haines, S. J., Giangreco, M. F., Shepherd, K. G., Suter, J. C., & Moore, M. (2022). Examination and redesign of inclusive special education service delivery in a rural school. *Rural Special Education Quarterly*, 41(1), 25–38. <https://doi.org/10.1177/87568705211052497>
- [18] Hwang, H., Vedlitz, A., Mostafavi, A., & Lim, S. (2025). Socially equitable public service provision: Towards inclusive coproduction of public infrastructure. *International Journal of Public Administration*, 48(13), 863–877. <https://doi.org/10.1080/01900692.2024.2427652>
- [19] Ingólfssdóttir, J. G., Traustadóttir, R., & Egilson, S. Þ. (2021). Rethinking practices by rethinking expertise: A relational approach to family-centred inclusive services. *Scandinavian Journal of Disability Research*, 23(1), 1–13. <https://doi.org/10.16993/sjdr.734>
- [20] Iskandar, Y. (2024). Penguatan pendidikan anak usia dini melalui program pendidikan berbasis inklusi di Kabupaten Sukabumi. *Eastasouth Journal of Positive Community Services*, 2(02), 123–131. <https://doi.org/10.58812/ejpcs.v2i02.217>
- [21] Ismailos, L., Gallagher, T., Bennett, S., & Li, X. (2022). Pre-service and in-service teachers’ attitudes and self-efficacy beliefs with regards to inclusive education. *International Journal of Inclusive Education*, 26(2), 175–191. <https://doi.org/10.1080/13603116.2019.1642402>
- [22] Januariani, Masrokan, P., & Fuadi, I. (2023). Manajemen pelayanan dalam peningkatan mutu pendidikan inklusi sekolah di Tulungagung. *Al-Fahim: Jurnal Manajemen Pendidikan Islam*, 5(1). <https://doi.org/10.54396/alfahim.v5i1.486>
- [23] Jeremy, J., Spandagou, I., & Hinit, J. (2025). From individual to inclusive: Exploring the spectrum of service delivery models in occupational therapist-teacher collaborations. *The Australian Educational Researcher*, 52(2), 941–972. <https://doi.org/10.1007/s13384-024-00748-7>
- [24] Karya, G., Insiatun, I., Rizqianti, N. A., Ningsih, P. K., Ediyanto, E., Sunandar, A., & Iliško, D. (2021). Fullfillment of disability rights based on definitions, legal basis, criteria, and aims of inclusive education in Indonesia. *International Journal of Educational Management and Innovation*, 2(3), 287. <https://doi.org/10.12928/ijemi.v2i3.4093>
- [25] Khaerunisa, H., & Rasmitadila. (2023). Pembelajaran inklusif: Membangun kesetaraan di dalam kelas pada masa pencabutan PPKM. *Karimah Tauhid*, 2(5), 2234–2244. <https://doi.org/10.30997/karimahtauhid.v2i5.9641>

- [26] Kivirand, T., Leijen, Ä., & Lepp, L. (2022). Enhancing schools' development activities on inclusive education through in-service training course for school teams: A case study. *Frontiers in Psychology, 13*. <https://doi.org/10.3389/fpsyg.2022.824620>
- [27] Kivirand, T., Leijen, Ä., Lepp, L., & Tammemäe, T. (2021). Designing and implementing an in-service training course for school teams on inclusive education: Reflections from participants. *Education Sciences, 11*(4). <https://doi.org/10.3390/educsci11040166>
- [28] Lee, J. A., & Wolf-Branigin, M. (2023). Generating inclusive services for children, youth and families: A shift to using complex systems theory. *Child & Family Social Work, 28*(4), 897–907. <https://doi.org/10.1111/cfs.13010>
- [29] Lin, X.-F., Luo, G., Luo, S., Liu, J., Chan, K. K., Chen, H., Zhou, W., & Li, Z. (2024). Promoting pre-service teachers' learning performance and perceptions of inclusive education: An augmented reality-based training through learning by design approach. *Teaching and Teacher Education, 148*. <https://doi.org/10.1016/j.tate.2024.104661>
- [30] Makey, L. M., Walsh, C. L., & Salih, I. (2023). Co-production: What it is and how it can ensure inclusive practice for service users and staff. *Nursing Management, 30*(1), 18–23. <https://doi.org/10.7748/nm.2022.e2046>
- [31] Makoelle, T. M., & Burmistrova, V. (2025). Mentoring of pre-service teachers as a method of enhancing effective inclusive teaching: A collaborative action study. *South African Journal of Education, 45*(4). <https://doi.org/10.15700/saje.v45n4a2700>
- [32] Meda, L., ElSayary, A., & Mohebi, L. (2023). Exploration of in-service teachers' preparedness and perceived challenges about inclusive education in the United Arab Emirates. *Journal of Educational and Social Research, 13*(1), 22–31. <https://doi.org/10.36941/jesr-2023-0003>
- [33] Merrigan, C., & Senior, J. (2021). Special schools at the crossroads of inclusion: Do they have a value, purpose, and educational responsibility in an inclusive education system? *Irish Educational Studies, 42*(2), 275–291. <https://doi.org/10.1080/03323315.2021.1964563>
- [34] Mumtahana, L., & Madkan, M. (2024). The integration of democratic values in learning from an Islamic education perspective. *Jurnal Paradigma, 16*(2), 166–179. <https://doi.org/10.53961/paradigma.v16i2.229>
- [35] Munawir, M., Septya, N. M., Amalia, R., & Muallifa, Z. (2025). Tantangan dan strategi guru profesional dalam menangani keberagaman siswa di pendidikan inklusif. *Ainara Journal (Jurnal Penelitian dan PKM Bidang Ilmu Pendidikan), 6*(2), 275–283. <https://doi.org/10.54371/ainj.v6i2.858>
- [36] Patilima, H., Rahayu, T., Zakiyah, L., Sugriarsih, L., Gustini, E., & Ekaningrum, Z. (2024). Peningkatan kompetensi pendidik anak usia dini dalam memfasilitasi anak dengan kebutuhan khusus pada satuan pendidikan inklusi. *Jurnal Abdimas Bina Bangsa, 5*(2), 971–984. <https://doi.org/10.46306/jabb.v5i2.1070>
- [37] Rahayu, H. G., Warsono, H., Kurniati, R., & Purnaweni, H. (2023). Perspective of the psychological assessment team on factors influencing parental acceptance of students with disabilities. *Psymphatic: Jurnal Ilmiah Psikologi, 10*(2), 185–196. <https://doi.org/10.15575/psy.v10i2.29358>
- [38] Rahmat, A. F., Purnomo, E. P., Mutiarin, D., & Malawani, A. D. (2020). Education budget politics: Is it pro-disabilities? Case of Yogyakarta Municipality, Indonesia. *IJDS: Indonesian Journal of Disability Studies, 7*(2), 266–279. <https://doi.org/10.21776/ub.ijds.2020.007.02.15>
- [39] Rodríguez-Ferrer, J. M., Manzano-León, A., & Aguilar-Parra, J. M. (2023). Game-based learning and service-learning to teach inclusive education in higher education. *International Journal of Environmental Research and Public Health, 20*(4). <https://doi.org/10.3390/ijerph20043285>
- [40] Said, H., Ndibo, Y. L., Amaludin, R., Lilianti, L., & Nasir, N. (2023). Educational inclusion transformation: Innovative “InclusionPlus” model to enhance access and support for children

- with special needs. *Journal of Education and Teaching (JET)*, 5(1), 28–41. <https://doi.org/10.51454/jet.v5i1.346>
- [41] Saloviita, T., & Consegnati, S. (2019). Teacher attitudes in Italy after 40 years of inclusion. *British Journal of Special Education*, 46(4), 465–479. <https://doi.org/10.1111/1467-8578.12286>
- [42] Schwab, S., Resch, K., & Alnahdi, G. (2024). Inclusion does not solely apply to students with disabilities: Pre-service teachers' attitudes towards inclusive schooling of all students. *International Journal of Inclusive Education*, 28(2), 214–230. <https://doi.org/10.1080/13603116.2021.1938712>
- [43] Sharma, U., Sokal, L., Wang, M., & Loreman, T. (2021). Measuring the use of inclusive practices among pre-service educators: A multi-national study. *Teaching and Teacher Education*, 107. <https://doi.org/10.1016/j.tate.2021.103506>
- [44] Specht, J., Fairbrother, M., Gallagher, T. L., Ismailos, L., Vilella, M., & MacCormack, J. (2025). Learning from what my mentor teachers were doing in the classroom to include diverse learners: Experiences that contribute to the use of inclusive instruction in pre-service teachers. *International Journal of Disability, Development and Education*, 72(8), 1456–1469. <https://doi.org/10.1080/1034912X.2024.2403384>
- [45] Sulistyowati, C., & Radiana, U. (2024). Peningkatan mutu pendidikan dengan penerapan Kurikulum Merdeka untuk mencapai tujuan Sustainable Development Goal. *JiIP: Jurnal Ilmiah Ilmu Pendidikan*, 7(11), 12706–12712. <https://doi.org/10.54371/jiip.v7i11.6223>
- [46] Suprihatiningrum, J., Wijayanti, A., Salam, F. W., & Hidayah, M. A. (2024). Scale for pre-service science teachers' knowledge in designing inclusive learning: Construction, validation, and reliability. *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, 8(2), 577–592. <https://doi.org/10.22437/jiituj.v8i2.33958>
- [47] Susilowati, T., Trisnamasyah, S., & Syaodih, C. (2022). Manajemen pendidikan inklusi dalam meningkatkan mutu pendidikan. *JiIP: Jurnal Ilmiah Ilmu Pendidikan*, 5(3), 920–928. <https://doi.org/10.54371/jiip.v5i3.513>
- [48] Tagg, A. (2025). Inclusive environments: Access to commercial property, goods and services: Disability-specific access requirements. *Journal of Building Survey, Appraisal and Valuation*, 13(3), 277–295. <https://doi.org/10.69554/QYNP3593>
- [49] Taqiyah, D. B. (2025). Multidisciplinary collaborative model for identification and assessment services for students with special needs in inclusive schools. *Cakrawala Pendidikan*, 44(2), 378–387. <https://doi.org/10.21831/cp.v44i2.81083>
- [50] The following list contains only the additional references used in the revised manuscript sections. References already included in the previous article are not repeated. Source document:
- [51] van Holstein, E., Wiesel, I., Bigby, C., & Gleeson, B. (2024). Repairing disability access in competitive environments: Drivers of inclusive service provision for people with intellectual disabilities. *Social & Cultural Geography*, 25(10), 1613–1630. <https://doi.org/10.1080/14649365.2024.2347892>
- [52] Vieira, L., Rohmer, O., Jury, M., Desombre, C., Delaval, M., Doignon-Camus, N., Chaillou, A.-C., Goulet, C., & Popa-Roch, M. (2024). Attitudes and self-efficacy as buffers against burnout in inclusive settings: Impact of a training programme in pre-service teachers. *Teaching and Teacher Education*, 144. <https://doi.org/10.1016/j.tate.2024.104569>
- [53] Widiatmoko, C., Indriasari, R., Fajar Sidiq, F., & Kartini Mendrofa, D. E. (2024). Penguatan pendidikan karakter sebagai wujud pendidikan berkualitas dalam upaya mencapai tujuan pembangunan berkelanjutan (SDGs). *Jurnal Wahana Bina Pemerintahan*, 6(2), 40–47. <https://doi.org/10.55745/jwbp.v6i2.273>
- [54] Wiesel, I., Bigby, C., van Holstein, E., & Gleeson, B. (2024). Inclusive mainstream services for people with intellectual disabilities: A relational approach. *Journal of Intellectual and Developmental Disability*, 49(4), 391–401. <https://doi.org/10.3109/13668250.2024.2334336>

- [55] Yada, A., & Alnahdi, G. H. (2024). A comparative study on Saudi and Japanese in-service teachers' attitudes towards inclusive education and self-efficacy in inclusive practices. *Educational Studies*, 50(4), 539–557. <https://doi.org/10.1080/03055698.2021.1969646>
- [56] Zahwa, A., Safitri, R. D., Pratiwi, A. N. R., & Subiakto, V. S. N. (2025). Meningkatkan daya saing bangsa: Peran strategis investasi pendidikan dalam pengembangan SDM. *Indonesian Journal of Education*, 2(1), 150–155. <https://doi.org/10.71417/ije.v2i1.392>
- [57] Zainuddin, A. H. (2025). Peran guru sekolah dasar dalam pembelajaran inklusif: Sebuah tinjauan literatur. *Indonesian Journal of Intellectual Publication*, 5(3), 186–196. <https://doi.org/10.51577/ijpublication.v5i3.669>