



# Curriculum Adaptation in Science Subjects at Banda Aceh Inclusive Elementary School

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**Abstract:** The inclusive education programme is a step towards implementing the mandate of the 1945 Constitution and eliminating discrimination in the education system in Indonesia. Through this programme, all children with various needs can learn together with other normal children in the same school. This study aims to identify the form of curriculum adaptation, especially in science subjects at SDN 25 Banda Aceh. This research uses a descriptive qualitative approach with a case study method. Data were collected through interviews, observations and documentation, with the interview subjects being a special mentor teacher and a class teacher at the school. Based on the results of interviews, observations and documentation, curriculum adaptation at SDN 25 Banda Aceh is reviewed from the adaptation aspect and the principle aspect. Curriculum adaptation can be seen in teaching modules or lesson plans accompanied by special notes and adjustments to learning outcomes for children with disabilities in accordance with the Merdeka curriculum. Learning adaptation can be seen in the presence of a special mentor teacher in the classroom and accompanied by the class teacher. Environmental adaptation is not optimal because the school is not optimal. In science learning, adaptations and modifications for children with disabilities are still limited.

**Keywords:** Curriculum adaptation; Elementary school; Inclusive education; Science learning

## Introduction

Every child, including children with special needs, has the right to education. Every Indonesian citizen, including children with special needs, has an equal right to education. Education that does not discriminate against children with disabilities is known as inclusive education. Since 2002, an inclusive education system has been implemented in Indonesia and realized through the establishment of inclusive schools. These schools aim to eliminate educational discrimination against children with special needs. Inclusive education eliminates segregation between children with special needs and their peers (Widiyawati et al., 2022). The implementation of an inclusive education system provides equal opportunities for children with

disabilities to learn alongside children without special needs in regular schools (Barsihanor et al., 2019; Rahmatika et al., 2020).

Inclusive education can be defined as providing equal opportunities for all students with special needs to learn in the same classroom (Yunus et al., 2023). Meanwhile, according to Kustawan (2013), inclusive education is the provision of educational services that are open to all people and adjust individual needs based on their respective circumstances. Conceptually, inclusive education is a system of special education that requires all children with disabilities to receive services in the nearest mainstream school with their peers (Ni'mah et al., 2022). This is similar to the opinion of Ilahi et al. (2017) who state that inclusive education is an education service system that includes children with

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disabilities learning together with other children their age in regular schools close to where they live.

The curriculum used in inclusive education refers to the national standards that apply in mainstream schools. However, because children with disabilities have various barriers, adjustments need to be made. These adjustments are based on the principle that each student has differences in academic and non-academic abilities. Therefore, the curriculum that conforms to the national standards must be adapted to suit their individual barriers and needs.

Adapting the curriculum for children with disabilities in inclusive schools is a must. Given the varied abilities and barriers that children with special needs have. For this reason, teachers play an important role in the success of children with special needs in inclusive schools (Khoiruman et al., 2023).

Curriculum adjustments are not only in the content but also in the learning objectives. There needs to be adaptation of the national curriculum, for regular learners, done specifically by the school so that it is suitable for learners with special needs (Junaidi, 2015). The presence of special mentor teachers (GPK) in inclusive schools is another important factor that can support the implementation of the regular curriculum adaptation.

SDN 25 Banda Aceh is one of the inclusive schools in Banda Aceh that also needs to implement these adaptations. One of these subjects is Science, which is often perceived as difficult and less fun (Dewi, 2018). This research aims to identify the forms of curriculum adaptation, especially for students with learning difficulties, such as slow learners or mild physical limitations, such as low vision or hearing impairment. Therefore, this study aims to identify the form of curriculum adaptation, especially in science subjects at SDN 25 Banda Aceh.

Based on the results of preliminary studies of learning and interviews with class teachers in science learning at SDN 25 Banda Aceh, it is known that students with special needs are less able to follow science learning in the classroom using general lesson plans so that they are often left behind in the learning process. This situation has an impact on the learning outcomes of students with special needs, where they tend to be below average. Teachers still use conventional science learning methods, making it less effective for children with special needs in the classroom.

Therefore, the author is interested in examining curriculum adaptation in science learning at State Elementary School 25 Banda Aceh.

## Method

This research uses a descriptive-qualitative approach that aims to identify and describe the patterns of adaptation of the science curriculum in inclusive schools, namely SD Negeri 25 Banda Aceh using a case study method.

A case study is a series of scientific activities carried out intensively, in detail and in depth about a program, event, and activity, whether at the level of an individual, group of people, institution, or organisation to gain in-depth knowledge about the event. Usually, the events selected, hereinafter referred to as cases, are real-life events, which are ongoing, not something that has passed (Rahardjo, 2017).

The data collection techniques used in this research are interview, observation and documentation methods. The interview technique uses a semi-structured question guide regarding two aspects of curriculum adaptation, namely principles and dimensions (Junaidi, 2015). In this study, interviews were conducted with a special mentor teacher at the school. Observation was carried out in the learning process in the classroom. Meanwhile, documentation was carried out as support to strengthen the results of the research. The documents can be in the form of writings and so on.

## Result and Discussion

SDN 25 Banda Aceh is one of the inclusive schools. This inclusive school has 20 students with special needs, including ADHD, autism, slow response, hearing impaired. Curriculum adjustment in inclusive schools is an effort to ensure that children with special needs can learn together with other students in one learning environment.

Adapting the curriculum for children with disabilities consists of three principles. The first principle is the presence of children with special needs. This means that teachers as educators have full awareness of the presence of learners with special needs in their classrooms so that they can facilitate individual needs. Special needs in this case are not only defined by disabilities but also barriers to social participation, development and other aspects of learning.

Teachers at SDN 25 Banda Aceh recognise the presence of children with disabilities so they do not place too high a demand on learning outcomes for children with disabilities. Thus, it can be said that teachers at SDN 25 Banda Aceh have implemented the principle of presence.

Participation is the second principle. Participation can be interpreted as a way to facilitate students with special needs in order to fully involve children in learning in inclusive classes. Especially in science

subjects in elementary schools. The results showed that students with special needs 55who experience disabilities have good abilities when socializing with their friends and are fully involved or interacting in learning without discrimination.

The third principle is that all inclusive class students are given optimal facilities so that they can excel both in the academic and non-academic fields and receive recognition. Achievement in this context is not only defined as winning in competitions or ranking in class, but the extent to which the ability of students with special needs can achieve learning objectives, especially science learning that has been determined. For example, learning outcomes for students with learning disabilities such as slow learners at SDN 25 Banda Aceh have been adapted so that they have a lighter load compared to regular students, with the hope that students with special needs can follow science learning well.

As a result, the special mentor teacher stated that the student was able to follow the lessons well, do the assignments and be disciplined in class. So far, the biggest question in organizing inclusive schools is whether the schools are able to produce the desired results. This question is of course determined by various aspects, one of which is the lack of teacher competence. However, it turns out that the special mentor teacher at SDN 25 Banda Aceh has recognized the small progress of her students, so she can be said to be pedagogically competent.

This agrees with the principles of inclusive education according to Taylor et al. (2012) who state that the principles of presence, acceptance, participation and achievement are things that must be applied to children with special needs.

The diversity of students in inclusive schools, including SDN 25 Banda Aceh, requires adaptation of the regular curriculum to suit the needs of children with special needs. The dimensions of curriculum adaptation include curricular, instructional and learning environment adaptations. This is in line with research conducted by Soeratman (2016) that adaptation or modification of the curriculum for each child by taking into account their needs, uniqueness and strengths.

#### *Curricular Adaptation*

SDN 25 Banda Aceh implements the national curriculum, the Merdeka curriculum. The challenge for teachers in creating an inclusive learning design is the flexibility of the curriculum. Our curriculum is independent. We can develop the curriculum according to the needs of children based on assessment (Prasetyo & Minsih, 2020).

The workload of children with special needs is in accordance with Permendiknas number 39 of 2009 article 1 paragraph 7, the workload of special mentor

teachers in education units that organize inclusive or integrated education is at least 6 face-to-face hours a week (Minsih et al., 2024).

Realising Child Friendly Schools (Inclusive Education) in the implementation of Merdeka Curriculum requires a holistic approach that ensures the school environment supports children's holistic physical, emotional and social development. Based on interviews with special teachers, special adaptations in the implementation of learning are related to learning planning, implementation, evaluation and special assistance. Teachers only make one science teaching module for one class accompanied by special notes tailored to the special needs of children, for example in terms of learning outcomes that need to be adapted or reduced.

In addition to the class teacher, the presence of a special mentor teacher is an important factor in the implementation of learning in inclusive schools. The function of special mentor teachers in inclusive schools is to ensure that children can interact with friends, adjust and actively participate in learning. Competent special mentor teachers must know all the elements needed to communicate in various contexts so that they can convey messages effectively and efficiently. The duties of special mentor teachers listed in Permendiknas No 70 of 2009 are: designing and implementing special programmes; identifying, assessing and developing individualised learning programmes (ILEs); modifying teaching materials; conducting evaluations with the class teacher; and reporting on the programmes and progress of children with disabilities (Barsihanor & Anindia Rosyida, 2019).

The special mentor teacher works together with the class teacher in the teaching process. At SDN 25 Banda Aceh, which is an inclusive school, curricular adaptation in evaluation is done by organising the implementation of the assessment, while the instruments used are the same as for other students. During the evaluation, the special mentor teacher assists students with special needs by reading the evaluation questions and simplifying the sentences in the questions to make them easier for the students to understand.

So it can be said that the inclusive education curriculum basically adheres to a flexible curriculum, where the curriculum is tailored to the needs of each learner, and made with the characteristics of the education provider institution itself, without overriding the existing guidelines. The development and implementation of the inclusive education curriculum itself should foster independence, critical thinking, and can evoke the values of togetherness in the educational environment (Ni'mah et al., 2022).

### *Instructional Adaptation*

SDN 25 Banda Aceh has obtained permission to run an inclusive programme and receives guidance, training and mentoring from the Banda Aceh Education Office. The school already has technical guidelines for the implementation of inclusive education. Ideally, inclusive learning is conducted through an individualised learning program (IEP) involving experts such as psychologists, doctors, counsellors and special teachers to identify the needs of each child with special needs. Facilities and infrastructure have also been facilitated by the school and related agencies.

Learning is still done using teaching modules that have been given special notes according to the needs of children with special needs (Govindasamy et al., 2022; Polutan et al., 2022). Special mentor teachers play a role in assisting children with disabilities in class. However, the limited number of special mentor teachers is an obstacle in the learning process. Therefore, the class teacher still has a major role in teaching both normal and special needs students. Teachers in this school show great flexibility with students and do not demand that children master every material perfectly (Amka, 2021; Yardi et al., 2024).

In science learning, learning adaptations for children with special needs are still limited. In science learning, there should be practical methods for both normal and special needs students, so there is no significant difference (McGinnis & Stefanich, 2013; Scruggs et al., 1998; Suprihatiningrum, 2022; Villanueva et al., 2012). For example, in electrical circuit material, students are invited to make simple lights using certain tools and materials. With this simple practice, students are expected to get hands-on experience and be able to understand the material thoroughly. Conventional learning does not provide much meaning for students with special needs in learning science (Rizzo & Taylor, 2016).

### *Environmental Adaptation*

As an inclusive school, SDN 25 Banda Aceh is well facilitated and supported by the Banda Aceh education office. In terms of adaptation of learning facilities and infrastructure, it is still not optimal. Seating arrangements for students with special needs have been implemented. For example, students with low vision disorders are placed in the front row. Meanwhile, hyperactive students are placed in the back row. The learning media provided for children with special needs is still limited and tends to be the same as other students (Mais, 2016; Mulyani & Abidinsyah, 2021).

## **Conclusion**

Based on the research objectives and the results obtained, it can be concluded that SDN 25 Banda Aceh has made various efforts to adapt the curriculum, both in terms of principles and dimensions of adaptation. The principles of attendance, participation and achievement have been well implemented in this school. In terms of the dimensions of curriculum adaptation, (1) curricular adaptation can be seen in the teaching modules (lesson plans) with special notes and adjustments to learning outcomes for children with disabilities; (2) learning adaptation is reflected in the presence of special mentor teachers in the classroom although the frequency of meetings is very limited; (3) environmental adaptation can be seen in the special seating arrangements for children with disabilities. In adjusting or adapting to science learning, teachers have not made many adaptations or modifications for children with disabilities. This research has many limitations, especially in the number of respondents interviewed. The recommendation for future research is to reveal the adaptation of the science learning curriculum from various perspectives of the research subjects, so as to present more complete data.

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### **Conflict of interest**

The authors declare no conflict of interest.

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