



Learning Strategies on Sound Materials for Phase Students with Disabilities in Extraordinary Schools

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ABSTRACT

This study aims to describe the implementation of sound science learning for students with disabilities in special schools. The results of the study showed that teachers started learning with greetings, prayers, and perceptions, then conveyed learning objectives and inserted ice breaking to increase students' enthusiasm for learning. In the core activity, teachers use lecture methods and learning resources in the form of powerpoint learning media (PPT) and LKPD to help students understand sound material. Teachers also pay special attention to students with disabilities by adjusting teaching styles, learning tempos, and forms of communication according to students' needs. The characteristics of visually impaired students observed were motor difficulties, limitations in communication and expression, low motivation and confidence, difficulty understanding abstract material, dependence on teacher assistance and tools, and difficulty in following the rhythm of group learning. The learning strategies used are an individualized approach, which is effective in fostering a sense of security, appreciating even the smallest effort, and guiding students to remain active in learning activities. The results of the study show that teachers have tried to adapt learning strategies to the needs of students with disabilities, but there is still a need for improvement in media use, more active interaction, and a more concrete and participatory approach to make learning more effective and in accordance with the needs of students. Thus, this research can contribute to the development of more effective learning strategies for students with disabilities in exceptional schools. The study also shows that an individualized approach can increase the motivation and confidence of students with disabilities in learning, as well as help them understand the material better. Therefore, this research can be a reference for teachers and education practitioners in developing more effective learning strategies and in accordance with the needs of students with disabilities.

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INTRODUCTION

Inclusive education affirms that every individual, including children with special needs, has a fundamental right to a decent education. Research in the context of inclusive education shows the importance of designing learning that is tailored to the characteristics of students, especially for children with disabilities (Faisah et al., 2023). They need a special educational approach so that their potential can be developed to the fullest. Children with disabilities often face obstacles in recognizing and adjusting to the surrounding environment, such as being slow to respond or having difficulty following teachers' instructions. This has an impact on their communication skills and independence (Beginning et al., 2024). This challenge will be even greater if it is not supported by the right media and learning strategies (Vani, 2016). Therefore, learning

spaces in Special Schools (SLB) need to be designed adaptively so that the learning process can take place effectively and be able to accommodate the needs of students with disabilities.

Learning strategies for students with disabilities require a special approach that involves multiple senses (multisensory). The use of concrete media such as instruments that emit sound or vibration can help students better understand the meaning of sound (Faisah et al., 2023)

In addition to the multisensory approach, learning also needs to be tailored individually. Every student with a disability has different learning needs and abilities. Teachers need to develop flexible and adaptive methods, as well as conduct periodic evaluations of the effectiveness of the strategies used (Ramadhani et al., 2022). This is in line with the opinion (Julvianti et al., 2025) which emphasizes that barriers to cognitive and emotional development in children with disabilities can be minimized with appropriate and continuous learning services. (Mardhia & France, 2025)

Careful learning planning is also an important factor. (Zuhria & Hayudinna, 2021) mentioning that teachers need to compile a daily journal or individual lesson plan as a guide in choosing methods, media, and strategies that suit students' characteristics.

Based on this background, this study aims to identify the learning strategies used by teachers in teaching F phase students in SLB. The purpose of this study is to describe the learning implementation process and recognize the approach that is most relevant to the characteristics of the students. This research is expected to contribute to the development of more adaptive and contextual physics learning in SLB.

METHOD

This study uses a qualitative approach with a descriptive method which aims to explore sound learning strategies applied to phase F students with disabilities at SLB Negeri Gorontalo. Data collection was carried out through two main techniques, namely direct observation of the learning process in the classroom, and interviews with special education teachers who teach students in this phase. To ensure the credibility and validity of the data, this study uses triangulation techniques. According to Soegiyono (2015), triangulation is a method to test the validity of data through the incorporation of various relevant data techniques and sources. In this study, the results of observations were compared with data from interviews to see the suitability or inconsistency of information about the sound learning strategies used. This triangulation process is carried out to obtain a comprehensive and in-depth understanding of the phenomenon being studied.

RESULTS AND DISCUSSION

Based on the results of observation of learning in class XI of the disabled SLB Negeri Gorontalo City, there were six students with diverse backgrounds (1 disabled, 1 visually impaired, and 4 deaf). The learning process of class XI (Phase F) was temporarily combined with regular class XI due to technical reasons and the absence of homeroom teachers. This merger aims to maintain the continuity of learning activities, prevent students from leaving the classroom without supervision, and create a more controlled learning atmosphere.

Although the activities took place together, the focus of the research was still directed at students with disabilities in class XI (Phase F). The results of the observation showed that teachers applied the repetition strategy consistently as a form of adjustment of the material to the abilities and characteristics of students with disabilities. Here are some of the main elements observed in the preliminary aspect of the Table as follows:

Table 1 . Preliminary Indicators

Indicators	Implementation of Learning
Student preparation	Teachers check the physical and psychological condition of students to ensure learning readiness.
Opening greetings	The teacher greets and the students respond according to their abilities.
Prayer together	The teacher invites students to pray before the learning begins.
Attendance check	Teachers routinely check attendance as a habituation of discipline and responsibility.
Perception	The teacher relates sound material to the student's experience to build initial knowledge.
Opening time	The initial activity lasted ± 10 minutes including prayer and perception.

Science learning in sound materials begins with the teacher conveying goals and perceptions using everyday language and sign language so that all students, including the deaf, understand them. Teachers use concrete examples (musical instruments, mobile phones, animal sounds, electronic media, and nature) with strategies of repetition, demonstration, and appreciation to motivate students. Students' responses varied: the visually impaired were active, the visually impaired answered slowly but precisely, while the deaf paid more attention.

Through the medium of images, PowerPoint, and LKPD, students are introduced to five sources of sound: musical instruments, humans, animals, electronic objects, and nature. Teachers give an individual approach especially to the disabled with repetition and direct encouragement to dare to answer. At the LKPD

stage, the teacher guides students to write down examples of musical instruments according to how to play them.

The results of observations showed that learning took place actively, students began to get used to responding and writing answers, the visually impaired were more confident, the deaf were able to follow through sign language, and the visually impaired showed an increase in participation even though they still needed intensive guidance. Some of the Main Elements Observed in the Aspect Core Activities in Table as Numbered:

Table 2 . Core Activity Indicators

Indicators	Observation and Implementation of Learning
New material	The teacher immediately conveys the material without connecting with the previous one. Learning focuses on new topics with relevant examples to make them easy to understand.
Delivery of material	The teacher conveys the purpose and sound material. Students are directed to understand important goals and concepts.
Topic writing	The teacher writes the topic of the material on the board, helping with the student's focus, attention, and notes.
Material explanation	The teacher explains the concepts of everyday sounds and examples gradually to make them easier to understand.
Student attitude	Students pay attention to the teacher calmly. The classroom atmosphere was orderly and conducive.
Visualization	The teacher writes the sound material on the board to help students understand and take notes.
Guidance	The teacher guides students who do not understand with re-explanations, concrete examples, and questions and answers.

In the closing activity, the teacher asked the students the conclusion of the material, but some students, especially the disabled and visually impaired, did not respond at first. The teacher then explains the meaning of the conclusion and guides students to summarize the sound material briefly. During the question and answer session on the source of the sound, the teacher provided guidance, concrete examples, and encouragement to keep students active, including helping the blind answer with confidence. The teacher gives appreciation for the students' responses, repeats the material with a brief explanation, and emphasizes examples of sound sources from humans, animals, electronics, and nature. The teacher closes the lesson by asking the students about the students' understanding and feelings about the day's learning, giving homework related to the types of sounds, and directing students to use technology as a learning resource. All closing activities are carried out with an approach that supports active participation, material understanding, and a conducive classroom atmosphere. Some of the Main Elements Observed in the Closing Aspect of the Table as Numbered:

Table 3 . Closing Indicator

Indicators	Observed Main Elements and Implementation of Learning
Closing Aspects	The teacher checks the students' understanding, repeats the material that is difficult to understand, concludes the material directly while guiding students to conclude on their own, and gives homework in the form of searching for types of sound sources using mobile phones. Evaluation was carried out through oral questions and answers and LKPD. The teacher reflects on the learning process, followed by a closing prayer and greeting. The closing time of the activity lasted about 10 minutes.
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CONCLUSIONS AND SUGGESTIONS

Based on the results of the research, the individualized approach strategy applied by teachers in learning sound science in class XI SLB Negeri Gorontalo City proved to be effective. Teachers adjust teaching styles, tempos, and communication according to the characteristics of students with disabilities, so that students are more comfortable, motivated, and able to understand the material well. This approach encourages active participation, increases confidence, and assists students in concluding material and following the learning rhythm. In addition, the use of concrete examples, LKPD, and digital learning media supports student understanding more optimally.

It is recommended that teachers continue to develop individual learning strategies by paying attention to the characteristics and needs of each student with disabilities. Teachers can also increase the variety of learning media, provide concrete guidance, and encourage students to be more active in discussion and reflection. This effort is expected to increase learning effectiveness, learning motivation, and maximum achievement of student competencies.

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