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Implementation of the Personalization Learning Approach Strategy for Slow Learners at Inclusive Elementary School SDN Gentan 03

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Abstract. This study aims to implement a personalized learning approach as a strategy to meet the learning needs of students with special needs (slow learners) at SD Negeri Gentan 03, an inclusive elementary school. Using a qualitative method with a case study design, data were collected through observations, interviews, and documentation, then analyzed descriptively to identify effective implementation patterns. Inclusive education provides opportunities for all students, including those with special needs, to experience learning tailored to their individual needs in a supportive environment. The findings of this study indicate that personalized learning is carried out through differentiation of content, process, and products, which are adapted to the characteristics and learning challenges of students with special needs. Teachers employ adaptive strategies, such as using engaging visual media, assigning tasks gradually with a clear structure, and providing individual guidance to enhance students' understanding and independence. However, challenges remain in its implementation, particularly regarding limited resources and the need to enhance teachers' competencies in managing more flexible and responsive learning experiences that cater to individual student needs. These findings confirm that personalized learning has great potential to improve student engagement and learning outcomes for those with special needs, especially when supported by appropriate strategies and close collaboration between teachers, parents, and other educators. Therefore, it is crucial to strengthen teachers' capacities through continuous training and the development of more progressive and inclusive school policies to optimize the effectiveness of personalized learning in an inclusive education setting.

INTRODUCTION

Inclusive education is an education system that accommodates the needs of all students regardless of physical, intellectual, social, emotional, linguistic, or other conditions. The inclusive education paradigm is an important foundation in fulfilling the right to education for all children, including children with special needs (ABK). In Indonesia, the implementation of inclusive education has been supported by various policies, one of which is Permendiknas Number 70 of 2009 concerning Inclusive Education for students who have abnormalities and have the potential for intelligence and/or special talents. Inclusive education provides opportunities for

children with special needs to learn in mainstream schools by utilizing the facilities available to them. By optimally utilizing available facilities, and receiving support from the school environment (1). However, the implementation of inclusive education in the field still faces various challenges, especially in accommodating the learning needs of students with special needs, including slow learner students (2). Slow-learner students are students who have low or slightly below average learning achievement than normal children in general, either in part or all of the academic areas. Slow learners have an IQ between 70-90, so they need longer and more time to be able to complete academic and non-academic tasks (3). The existence of slowlearner students in inclusive schools requires special attention due to their specific characteristics and learning needs. Without the right learning approach, slowlearner students are at risk of academic failure, decreased confidence, and even dropping out of school. Children with these conditions are called children with special needs (3) Despite significant progress in the past decade, the implementation of inclusive education in Indonesia is still faced with various systemic challenges (4). Data from the Ministry of Education, Culture, Research, and Technology shows that around 24% of the total children with special needs in Indonesia are included in the slow learner category. Although the number is quite significant, the handling of slowlearner students in inclusive schools is still not optimal. Research (5) revealed that most teachers in inclusive elementary schools still have difficulty adapting the curriculum and developing learning strategies that suit the needs of slowlearner students. This is inseparable from the lack of understanding of teachers about the characteristics of slowlearner students and limited skills in designing personalized learning. (6) the components of inclusive education should include activities starting with identification and assessment, IEP, curriculum modification, GPK availability and learning evaluation. (7) teachers' activities in the classroom include two main things: teaching and classroom management. Teaching aims to encourage students to achieve learning objectives, while classroom management aims to create and maintain conditions that support the learning process to take place effectively and efficiently. (8) there are three basic curriculum alternatives in supporting the participation level of students with special needs in regular classrooms, namely:1) Similarity Curriculum - similarity in focus, objectives, and learning activities. 2)Multilevel Curriculum - similar curriculum in terms of achievement standards, but adjusted at lower levels using Individual Learning Programs (ILS) based on assessment results. 3)Overlapping Curriculum - similarity in learning activities, but with a different focus.

Personalization of learning is an approach that emphasizes adjusting the learning process according to the needs, interests, and learning speed of each student. This approach is considered effective in accommodating the diversity of students, including students with special needs. Research conducted by (9) in Singapore shows that the implementation of personalized learning can significantly increase the participation and academic achievement of slow learner students. Increased learning motivation and problem-solving skills in slow learner students after the implementation of the personalized learning approach. SDN Gentan 03 is one of the inclusive elementary schools in Susukan, Semarang Regency that has been implementing inclusive education since 2016. Based on data from the school, there are six slow learner students spread across various classes. Even though it has the status of an inclusive school, SDN Gentan 03 still faces various challenges in providing optimal educational services for slow learner students. Initial observations show that most teachers still apply classical learning methods and have not fully accommodated the learning needs of slow learners. As a result, the participation of slow learner students in learning tends to be passive and their academic achievement is still below the grade average. The development of technology and innovation in the field of education opens up opportunities for the development of more adaptive and personalized learning strategies. The use of technology in learning can support the implementation of personalized learning for slow learner students. The integration of technology in learning can help slow learner students understand abstract concepts and increase their

involvement in learning. In line with this, the use of technology-based learning media can improve memory retention and thinking skills of slow learners.

In addition to the use of technology, a multi-sensory approach is also seen as effective in accommodating the learning style of slow learner students. This approach involves various modalities in learning, such as visual, auditory, and kinesthetic. Studies conducted by (10) proving that the application of a multi-sensory approach can help slow learner students in understanding complex mathematical concepts. By involving different modalities in learning, slow learner students have more opportunities to process information and construct their knowledge. Collaborative learning is also a strategy that can be integrated in personalized learning for slow learner students. Through collaborative learning, slow learner students have the opportunity to interact with their peers, develop social skills, and gain support in learning. Collaborative learning can increase the confidence and motivation of slow learners. In addition, collaborative learning can also minimize stigma and discrimination against students with special needs in inclusive schools. In the context of personalized learning, the role of special supervisors (GPK) is very important. GPK is tasked with providing assistance to students with special needs, including slow learners, as well as collaborating with classroom teachers in designing and implementing learning that is responsive to student needs. However, the availability of GPK in inclusive schools is still very limited. At SDN Gentan 03, there are only two GPK people who have to serve all students with special needs at the school. This limitation is one of the factors that hinder the implementation of personalized learning for slow learner students. The preparation of individual learning programs (PPI) is also an important aspect in the implementation of personalized learning for slow learner students. PPI contains learning profiles, learning objectives, strategies, and evaluations that are tailored to the needs and abilities of each student. However, there are still many inclusive schools that are not optimal in compiling and implementing PPI. One of the reasons is the lack of teacher skills in identifying students' learning needs and formulating relevant learning objectives.

Parental involvement in the education of slow learners also plays a crucial role in the success of personalized learning. Parents are important partners for schools in supporting children's development, both at school and at home. There was a positive correlation between parental involvement and academic achievement and the social-emotional development of slow learner students. However, the reality is that there are still many parents who do not have an adequate understanding of the characteristics and needs of slow learners, so the support provided is not optimal. Seeing the complexity of the problems in handling slow learner students in inclusive schools, a comprehensive and systematic strategy is needed in implementing personalized learning. This strategy must consider various aspects, ranging from curriculum preparation, development of learning methods, provision of facilities and infrastructure, to human resource empowerment in schools. In addition, collaboration between various stakeholders, including schools, parents, and the community, also needs to be strengthened to create an educational ecosystem that supports the optimal development of slowlearner students. Based on the description of the problem above, this study aims to analyze and describe the implementation of a personalized learning approach strategy for slowlearner students at SDN Gentan 03. More specifically, this study seeks to identify the personalized learning practices that have been implemented, analyze the factors that affect the effectiveness of the implementation of personalized learning, and formulate a personalized learning development strategy that is more responsive to the needs of slow learners in inclusive schools.

METHOD

This study uses a qualitative approach with a case study design to explore in depth the implementation of the personalized learning approach strategy for slow learner students at SDN Gentan 03. The qualitative

approach was chosen because it allowed researchers to gain a comprehensive understanding of personalization learning practices, stakeholder perspectives, and the dynamics and complexities that arise in the context of inclusive schools (11). Meanwhile, the case study design was used to intensively analyze the phenomenon of personalized learning in a specific context, taking into account various factors influencing its implementation.

Research Location and Time

The research was carried out at SDN Gentan 03, Susukan, Semarang Regency, which has held the status of an inclusion school since 2016. The selection of the location was based on the consideration that the school had 6 slowlearner students spread across various classes, making it relevant to the focus of the research. The research was conducted for four months, including the preparation stage, data collection, data analysis, and report preparation.

Research Subject

The subjects in this study were determined through the purposive sampling technique, which is the selection of samples with certain considerations and objectives. The research subjects include:

1. Slow learner students at SDN Gentan 03, a total of 6 people spread across grades 3, 4, and 5. The selection of students is based on recommendations from special supervisors (GPK) and the results of psychological assessments that show the category of slow learners with an IQ between 70-90.
2. Classroom teachers who teach in classes with slowlearner students, a total of 6 people. The criteria for teacher selection are to have taught in an inclusion class for at least one year and have experience in dealing with slowlearner students.
3. Parents of slowlearner students, a total of 6 people. Parents' selection is based on their active involvement in the child's education, both at home and at school.
4. In addition, the research also involved two GPK and the principal as supporting informants to enrich the research data.

Data Collection Techniques

To obtain comprehensive and in-depth data, this study uses several data collection techniques:

1. Participatory observation is carried out to observe the learning process in the classroom involving slow learner students. Observations focused on the personalized learning practices implemented by teachers, interactions between teachers and students, and the response of slowlearner students to the learning strategies applied. Observations were made in three different classes, with each class observed four times.
2. In-depth interviews were conducted to explore the perspectives and experiences of research subjects related to the implementation of personalized learning. Interviews with teachers focused on their understanding of slow learner students, the learning strategies implemented, and perceived barriers and support. Interviews with slow learner students focus on their learning experiences and their perceptions of personalized learning. Meanwhile, interviews with parents focused on their involvement in the child's education and their perception of the educational services provided by the school.
3. The documentation study was conducted to analyze relevant documents, such as individual learning programs (PPI), learning implementation plans (RPP), and student portfolios. Document analysis aims to understand the planning and evaluation of personalized learning for slow learner students.

4. Focus Group Discussions (FGDs) were conducted to explore collective perspectives and validate the initial findings of the research. The FGD involved classroom teachers, GPK, and school principals as participants.

Data Analysis Techniques

The data analysis in this study uses an interactive model of (12), which includes data condensation, data display, and conclusion drawing. In the data condensation stage, the researcher selects, focuses, and transforms the raw data obtained from the field. Furthermore, the condensed data is presented in the form of narratives, matrices, and charts to make it easier for researchers to see patterns and relationships between data. In the final stage, the researcher draws conclusions based on the results of data analysis. To ensure the validity of the data, the researcher used source and method triangulation techniques. Source triangulation is carried out by comparing data from various research subjects, while method triangulation is carried out by comparing data obtained through various data collection techniques. In addition, the researcher also conducts member checking by confirming the results of the data interpretation to the research subjects to ensure the accuracy of the interpretation.

Research Ethics

This research upholds the principles of research ethics, including informed consent, confidentiality, and protection of research subjects. Before data collection, the researcher obtained approval from the school and the student's parents. To protect the privacy of the subjects, the names used in the research report are pseudonyms. In addition, researchers also ensure that the research process does not interfere with the learning process and student development.

Research Stages

This research was carried out through several stages. First, the preparation stage which includes the preparation of proposals, licensing, and the development of research instruments. Second, the data collection stage is carried out simultaneously through observation, interviews, documentation studies, and FGDs. Third, the data analysis stage is carried out iteratively during and after data collection. Fourth, the stage of drawing conclusions and preparing reports. Through a qualitative approach with this case study design, the researcher hopes to gain an in-depth understanding of the implementation of personalized learning strategies for slowlearner students at SDN Gentan 03, as well as identify best practices that can be adapted by other inclusion schools.

RESULT AND DISCUSSION

Results

The results of this study present findings related to the implementation of the personalized learning approach strategy for slow learner students at SDN Gentan 03. The research was conducted for four months by involving 6 slow learner students, 6 classroom teachers, 6 parents of students, 2 Special Supervisors (GPK), and school principals. Data were collected through participatory observations, in-depth interviews, documentation studies, and Focus Group Discussions (FGDs).

Profile of Slowlearner Students at SDN Gentan 03

Based on the documentation study and the results of psychological assessments, the profiles of 6 slowlearner students who were the subjects of the study were as follows:

Table 1. Profile of Slowlearner Students at SDN Gentan 03

Yes	Pseudonyms	Class	Age	IQ Score	Key Characteristics
1	Bintang	3	9	85	Difficulty understanding abstract concepts, below-average reading ability
2	Farid	3	10	78	Low memory, difficulty completing tasks on time
3	Aqila	4	11	82	Low mathematical ability, easily distracted attention
4	Rafa	4	10	88	Difficulty in problem solving, good language skills
5	Airin	5	12	75	Slow concept understanding, good social skills
6	Biyan	5	13	72	Low concentration power, difficulty in understanding complex instructions

Applied Personalized Learning Practices

Based on the results of classroom observations and interviews with teachers, it was found that several personalized learning practices applied at SDN Gentan 03 are as follows:

Table 2. Personalized Learning Practices for Slowlearner Students

Personalization Aspect	Practices Applied	Deployment Frequency (%)
Learning content	Curriculum modification based on students' abilities	83,3
	Simplification of learning materials	100
	Use of contextual examples	66,7
Learning process	Multi-sensory learning	50
	Classify students based on ability	100
	Allow extra time for task completion	100
Learning environment	Strategic seating arrangements	83,3
	Use of visual media	100
	Minimizing distractions	66,7
Assessment	Portfolio-based assessment	100
	Modification of evaluation instruments	83,3
	Performance-based assessment	50

The results of interviews with classroom teachers revealed that curriculum modifications were carried out mainly in subjects that required an understanding of abstract concepts such as mathematics and science. As expressed by the Grade 4 Teacher:

"For Aqila and Rafa, I made achievement targets that were different from regular students. For example, for fraction material, they simply understand the basic concepts of simple fractions, while other students are already learning fractional operations." (Interview, March 10, 2025)

Classroom observations showed that all teachers (100%) implemented simplification of learning materials and gave additional time to complete assignments. However, only 50% of teachers consistently implement multi-sensory learning and performance-based assessments.

Slow Learner Students' Perception of Personalized Learning

The results of interviews with slowlearner students show mixed perceptions of the implementation of personalized learning:

Table 3. Slow Learner Students' Perception of Personalized Learning

Perception Aspect	Positive Response (%)	Neutral Response (%)	Negative Response (%)
Understanding of the material	83,3	16,7	0
Learning motivation	66,7	16,7	16,7
Confidence	50	33,3	16,7
Social interaction	33,3	50	16,7

The majority of slowlearner students (83.3%) feel that a personalization approach helps them understand the material better. As revealed by Bintang (Class 3):

"I am happy if teacher explains using pictures. So it's easier to remember. If the tasks are not too much, then I can finish." (Interview, March 12, 2025)

However, in the aspect of social interaction, only 33.3% of students gave a positive response. This indicates that the personalization approach applied is not optimal in supporting the development of social skills of slow learner students.

Parental Involvement in Personalized Learning

Documentation studies and interviews with parents reveal varying levels of engagement in supporting personalized learning:

Table 4. Parental Involvement in Personalized Learning

Form of Engagement	Always (%)	Sometimes (%)	Rare/Never (%)
Monitoring children's learning progress	50	33,3	16,7
Regular communication with teachers	33,3	50	16,7
Help your child with tasks	66,7	16,7	16,7
Provide additional learning resources	16,7	33,3	50
Attend PPI-related meetings	83,3	16,7	0

Data shows that the majority of parents (83.3%) actively attend meetings related to their child's Individual Learning Program (PPI). However, only 16.7% consistently provide additional learning resources. This is influenced by socio-economic factors and parents' understanding of the learning needs of slowlearners.

Factors Affecting the Effectiveness of Personalized Learning Implementation

Based on the results of the FGD and interviews with various stakeholders, several factors were identified that affect the effectiveness of the implementation of personalized learning:

Table 5. Factors Affecting the Effectiveness of Personalized Learning Implementation

Factor	Support	Inhibit
School Internal	- Principal's commitment - Availability of GPK - Collaboration between teachers	- Limited teachers' knowledge of slow learners - Large number of students per class - Limited time to prepare personalised materials
External School	- Support from the Education Office - Cooperation with psychologists - Periodic training for teachers	- Limited budget for learning media - Lack of professionals (psychologists/therapists) - Societal stigma towards students with special needs
Family	- Active involvement of parents - Intensive communication with the school - Acceptance of the child's condition	- Parental rejection of the child's condition - Lack of time for home assistance - Family economic gap

The results of the FGD with teachers and GPK revealed that one of the main obstacles is the limited knowledge of teachers about the characteristics and learning needs of slowlearner students. As GPK revealed:

"The majority of classroom teachers do not have an exceptional educational background, so they often struggle to identify the right strategies for slowlearner students. The existing training is still general about inclusion education, not specific about personalized learning." (FGD, March 18, 2025)

Effectiveness of Implementation of Personalized Learning Strategies

Based on triangulation of data from observations, interviews, and documentation studies, the effectiveness of the implementation of personalized learning strategies can be seen from the learning outcomes of slowlearner students:

Table 6. Learning Outcomes of Slowlearner Students After the Implementation of Personalized Learning

Aspects of Achievement	Significant Increase (%)	Moderate Increase (%)	No Change (%)
Cognitive	33,3	50	16,7
Affective	50	33,3	16,7
Psychomotor	66,7	16,7	16,7

A documentation study of student portfolios shows that 83.3% of slowlearner students experience improvements in cognitive aspects, albeit to varying degrees. The most significant increase was seen in the psychomotor aspect (66.7%), especially in practical skills supported by multi-sensory learning.

Discussion

Profile and Characteristics of Slowlearner Students at SDN Gentan 03

The results showed that there were 6 slow learner students at SDN Gentan 03 with an IQ score range between 72-88, which was in accordance with the criteria for slow learner students according to (13) which states that slowlearner students have an IQ score in the range of 70-90. The main characteristics found in slowlearner students at SDN Gentan 03 include difficulty understanding abstract concepts, low memory, low mathematical ability, difficulty in problem solving, slow concept understanding, and low concentration. The characteristics found in slowlearner students at SDN Gentan 03 are in line with the findings (14) which identifies that slowlearner students tend to have difficulty understanding abstract concepts, have limited memory, and take longer to process information. However, the findings of this study also revealed a significant variation in individual characteristics, where some students showed strengths in certain areas such as good language skills in Rafa (IQ 88) and good social skills in Airin (IQ 75). Slowlearner students have cognitive limitations, they often show strengths in certain domains that can be optimized in the learning process. The profile of slowlearner students at SDN Gentan 03 also shows a pattern where the chronological age of students tends to be higher than their classmates, such as Bintang who is 10 years old in grade 3 and Biyan who is 13 years old in grade 5. This condition has the potential to affect the psychosocial aspects of students and the age gap in slowlearner students can lead to challenges in social interaction and the formation of positive self-concept. Therefore, a comprehensive understanding of the profiles and characteristics of slowlearner students is fundamental in the development of responsive personalized learning strategies.

Implementation of Personalized Learning Practices for Slowlearner Students

The implementation of personalized learning practices at SDN Gentan 03 shows variations in aspects of content, processes, learning environments, and assessments. The findings of the study revealed that curriculum modification (83.3%), simplification of learning materials (100%), and the use of contextual examples (66.7%) became dominant practices in the aspect of learning content. This is in line with the view (15) which emphasizes the importance of curriculum flexibility and adjustment of learning materials for slowlearner students to accommodate different cognitive abilities. In the aspect of the learning process, the grouping of students based on ability and the provision of additional time for task completion is applied by all teachers (100%). This strategy is effective in accommodating the needs of slowlearner students, with adequate time and proper grouping can reduce anxiety and increase the chances of slowlearner students completing tasks well. However, the application of multi-sensory learning is still limited (50%), the multi-sensory approach is highly recommended for slowlearner students as it facilitates diverse learning styles and strengthens understanding through various sensory pathways.

In the aspect of the learning environment, the use of visual media was carried out by all teachers (100%), while strategic seating arrangements (83.3%) and minimization of distractions (66.7%) were also implemented significantly. These findings reflect teachers' awareness of the importance of a supportive learning environment, as affirmed by (16) That the structured physical environment and minimal distractions really help the concentration of slowlearner students who tend to be easily distracted. The most dominant assessment practices are portfolio-based assessments (100%) and modification of evaluation instruments (83.3%), while performance-based assessments are still limited in application (50%). Portfolio-based assessments are ideal for

evaluating the development of slow learners because they are sustainable and pay attention to individual progress. However, the limited application of performance-based assessment needs attention considering that this approach can provide a more comprehensive picture of the functional abilities of slowlearner students in a real context. Based on the statement of the Grade 4 teacher who made different achievement targets for slow learner students, it can be seen that there is a teacher's awareness of the principle of individualization in learning. This is in accordance with the concept of the proximal developmental zone put forward by Vygotsky, where learning needs to be directed at a challenging level but still within the range of the student's abilities with the right help. The variety of personalized learning practices implemented at SDN Gentan 03 shows the school's efforts to accommodate the learning needs of slow learners, although there are still several aspects that need to be improved.

Perception and Impact of Personalized Learning on Slow Learner Students

The results showed that the majority of slowlearner students (83.3%) felt the positive impact of personalized learning on material understanding. This positive perception is in line with Bintang's (Class 3) statement who expressed his preference for the use of visual media that facilitates the memory process and tasks that are tailored to his abilities. These findings confirm the research (17) which shows that personalized learning that is responsive to the individual needs of slowlearner students is positively correlated with improved concept understanding and information retention. In terms of learning motivation, 66.7% of slowlearner students gave a positive response, while 16.7% gave a neutral and negative response, respectively. The learning motivation of slowlearner students is influenced by a variety of complex factors, not only learning strategies but also the social environment, peer acceptance, and student confidence. Therefore, a personalized learning approach needs to take into account psychological and social aspects comprehensively.

The confidence aspect showed more varied results, where a half of students responded positively, thirty three percent neutral, and sixteen of seven percent negatively. This condition needs serious attention considering that confidence is a crucial factor in learning success. According to (18), the confidence of slowlearner students correlates with perceptions of self-ability and accumulated success experiences. Therefore, personalized learning strategies need to be designed to provide a gradual but consistent experience of success for slowlearner students. The most interesting finding was in the aspect of social interaction, where only thirty three percent of students gave positive responses, a half of student neutral, and sixteen of seven percent negative. The low positive perception of the social interaction aspect indicates that the personalization approach applied at SDN Gentan 03 is not optimal in supporting the development of social skills of slow learner students. Implementation of personalized learning that focuses too much on academic adjustment risks ignoring the social-emotional needs of students with special needs. The results of the portfolio documentation show that Eighthy three percent of slowlearner students experience improvements in cognitive aspects, with thirty three percent showing significant improvements and a half percent students' moderate improvement. The most significant improvement was seen in the psychomotor aspect, which indicates the suitability of the multi-sensory and practical learning approach with the learning characteristics of slowlearner students. Learning approaches that emphasize kinesthetic aspects and practical activities tend to be more effective for slowlearner students than abstract and theoretical approaches.

Analysis of Parent Engagement and Ecosystem Support for Personalized Learning

Parental involvement in personalized learning at SDN Gentan 03 shows a varied pattern. The findings revealed that the majority of parents actively attended meetings related to the Individual Learning Program (PPI), which indicated the awareness and commitment of parents to children's education planning. This is in line with the view (19)which emphasizes that parental involvement in PPI planning is a crucial factor in the successful implementation of personalized learning for students with special needs. In terms of helping children do tasks, more than a half of student's parent do it consistently, while a half of parents actively monitor their child's learning progress. The high involvement of parents in academic assistance at home is a positive indicator in forming a sustainable learning support ecosystem. Effective partnerships between schools and families create a continuity of learning experience that is highly beneficial for slowlearner students who need consistent repetition and reinforcement.

However, the worrying finding is that only less of half's parents consistently provide additional learning resources, while a half's parents rarely or never do so. This condition is influenced by socio-economic factors and parents' understanding of the learning needs of slowlearners. (20) emphasized that access to diverse and appropriate learning resources is an important component in supporting personalized learning, but it is often a challenge for families with economic limitations. An analysis of the factors that affect the effectiveness of the implementation of personalized learning reveals a complex interaction between internal factors of the school, external school, and family. The existence of Special Supervisors (GPK) and collaboration between teachers are significant internal supporting factors, the existence of professionals who have a deep understanding of inclusive education is very helpful in developing and implementing effective personalized learning.

The support of the Education Office and cooperation with psychologists as external factors also play an important role in creating a supporting ecosystem. Multi-stakeholder engagement in inclusive education creates a comprehensive support network and strengthens the capacity of schools to accommodate the needs of students with special needs. However, challenges such as limited budgets for learning media and lack of professionals are still obstacles that need to be overcome through policy advocacy and more appropriate resource allocation. Community stigma against students with special needs identified as external inhibiting factors. Explaining that negative social perceptions of disabilities are still a significant challenge in the development of inclusive education in Indonesia. Therefore, efforts to increase public awareness and education need to be an integral part of the holistic inclusive education development strategy.

Responsive Personalized Learning Development Strategies

Based on a comprehensive analysis of the implementation of personalized learning at SDN Gentan 03, several development strategies can be formulated that are more responsive to the needs of slowlearner students in inclusive schools. This strategy considers the identified supporting and inhibiting factors as well as the perceptions of various stakeholders in the inclusive education ecosystem. First, strengthening teacher capacity through specific training on learning characteristics and strategies for slowlearner students needs to be prioritized. As revealed by GPK in the FGD, the majority of classroom teachers do not have an extraordinary educational background, so they have difficulty in identifying the right strategy. Improving teacher competence through continuous training is a fundamental investment in building a quality inclusive education system. Professional development programs that focus on personalized learning for slowlearner students will equip teachers with practical knowledge and skills relevant to their classroom context.

Second, the development of consistent multi-sensory learning needs to be improved, considering that only 50% of teachers implement it consistently. The multi-sensory approach has proven to be effective for slowlearner students, explaining that learning involving a variety of sensory modalities facilitates a deeper understanding of concepts and stronger information retention. The implementation of multi-sensory learning can be supported by the development of diverse learning media and practical training for teachers on relevant methods and techniques. Third, strengthening the social-emotional aspect in personalized learning is an important priority, considering that only 33.3% of slowlearner students give a positive response to social interaction aspects. Strategies that can be implemented include the development of structured collaborative activities, sensitive buddy system programs, and the integration of social-emotional learning in the regular curriculum. The importance of a balance between academic and social-emotional development in inclusive education, as strong social skills are the foundation for long-term success in a variety of life contexts. Fourth, strengthening partnerships with families through systematic parent education programs needs to be developed to increase parents' understanding and capacity in supporting the learning of slowlearners at home. The low percentage of parents who provide additional learning resources (16.7%) indicates the need for interventions that focus on strengthening the role of families as partners in learning. A comprehensive parent education program contributes significantly to increasing parental involvement and the suitability of home learning assistance to the specific needs of children with special needs.

Fifth, the development of multi-stakeholder support networks involving the Education Office, universities, and civil society organizations needs to be strengthened to overcome the limitations of resources and professionals in schools. The importance of implementing a collaborative approach in the development of inclusive education involving various sectors of society. This support network can facilitate knowledge exchange, resource sharing, and the development of innovations in personalized learning that are responsive to the needs of slowlearner students. The implementation of this development strategy needs to be accompanied by a comprehensive monitoring and evaluation system to ensure its effectiveness and sustainability. A data-driven approach in decision-making and program development will allow for responsive adjustments to the dynamics of slowlearner student needs and the school's capacity to implement quality personalized learning.

CONCLUSION

Conclusion

This study examines the implementation of a personalized learning approach strategy for slow learner students at SDN Gentan 03 involving 6 slow learner students with an IQ score range of 72-88, 6 classroom teachers, 6 parents, 2 Special Supervisors (GPK), and school principals. The results showed a variation in the characteristics of slowlearner students who had difficulty understanding abstract concepts, low memory, and limited mathematical ability, although some students showed strengths in certain areas such as language and social skills. The implementation of personalized learning at SDN Gentan 03 includes four main aspects: content, process, environment, and assessment. The most dominant practices applied (100%) include simplifying learning materials, grouping students based on ability, providing additional time for task completion, use of visual media, and portfolio-based assessments. However, multi-sensory learning and performance-based assessments are still limited in application (50%). In terms of perception, the majority of slowlearner students (83.3%) felt the positive impact of personalized learning on material comprehension, and 66.7% of students showed increased learning motivation. However, only 33.3% of students responded positively to social interaction aspects, indicating that the personalization approach was not optimal in

supporting the development of social skills. Analysis of parental involvement shows that the majority (83.3%) actively attend meetings related to the Individual Learning Program, but only 16.7% consistently provide additional learning resources. The effectiveness of the implementation was evidenced by 83.3% of students experiencing an increase in the cognitive aspect and 66.7% experiencing a significant increase in the psychomotor aspect. Factors influencing implementation include internal factors (principal's commitment, GPK availability, and collaboration between teachers), external factors (support from the Education Office, cooperation with psychologists, and periodic training), and family factors (parental involvement, intensive communication, and acceptance of children's conditions). The findings of this study indicate that personalized learning is carried out through differentiation of content, process, and products, which are adapted to the characteristics and learning challenges of students with special needs. Teachers employ adaptive strategies, such as using engaging visual media, assigning tasks gradually with a clear structure, and providing individual guidance to enhance students' understanding and independence. The main challenges in implementation include limited teacher knowledge about the characteristics of slow learners, large number of students per class, limited time and learning media, and lack of support professionals.

Suggestion

1. Teacher Capacity Building: It is recommended to conduct ongoing and teacher-specific training on the characteristics and learning strategies of slowlearner students. Mentoring programs between teachers and collaboration with universities need to be developed to strengthen teachers' pedagogical competence in implementing effective personalized learning. Direct practical assistance by GPK also needs to be intensified to help teachers develop appropriate materials and strategies.
2. Social-Emotional Program Development: Schools need to integrate social skills development programs in personalized learning strategies, such as buddy system programs, structured collaborative activities, and integrated social-emotional learning. An inclusive and supportive classroom environment needs to be built to support positive interactions between slowlearner students and regular students, thereby reinforcing the social-emotional aspects that are still weaknesses in current implementation.
3. Strengthening School-Family Partnerships: A comprehensive parent education program needs to be developed to increase parents' understanding and capacity to support slow learners' learning at home. Regular communication and parent discussion forums need to be facilitated to share experiences and effective strategies. Schools also need to develop resource centers that parents can access to obtain additional learning resources that suit their child's needs.
4. Optimization of Multi-Sensory Learning: The development of multi-sensory learning media banks needs to be prioritized to support the implementation of learning involving various sensory modalities. Practical training on multi-sensory learning and dedicated budget support for media procurement needs to be advocated to the Education Office and other stakeholders to support more consistent implementation.
5. Strengthening Multi-Stakeholder Support Networks: The development of collaborations with various stakeholders such as the Department of Education, universities, civil society organizations, and mental health professionals needs to be strengthened to address limited resources and professionals. This support network will facilitate knowledge exchange, resource sharing, and the development of innovations in responsive personalized learning.

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