

The Knowledge Level of Remedial Teachers about Autism

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Abstract

Remedial teachers need to have knowledge and expertise about students with autism to enable them to learn effectively, just like other students. This study aims to evaluate the level of teachers' knowledge about students with autism. It also examines how teaching experience and education levels of remedial teachers influence their knowledge about autism. A quantitative survey method was conducted involving 48 remedial teachers in the Sepang district. Data collection was carried out using questionnaires with a 5-point Likert scale. The collected data was analyzed using the Statistical Package for the Social Sciences (SPSS) software (Version 27). The instrument used was tested with Pearson Correlation analysis, and the Cronbach's Alpha coefficient was 0.73. The findings revealed that the level of remedial teachers' knowledge about students with autism is high. This indicates that these teachers have a deep understanding and the ability to identify and apply appropriate strategies in educating students with autism. Therefore, the professionalism of remedial teachers must be strengthened through continuous training and support programs to ensure their knowledge and skills remain relevant and capable of meeting the increasingly complex educational needs of students with autism.

Keywords: Autism, Remedial Teachers, Teachers' Knowledge

Introduction

Teachers play a vital role in society by educating and shaping students' skills. They undergo various training programs and courses to enhance their knowledge and professional abilities in the field of teaching (Suhana & Jamil, 2020). Generally, most teachers teach according to their areas of specialization and expertise. However, they still face challenges that can sometimes be difficult to overcome, especially when dealing with students exhibiting characteristics of autism in mainstream classes and special remedial programs. Studies by Siti Aisyah (2017) and Norazida (2019) have also highlighted that Malaysia is still facing a shortage of skilled teachers capable of identifying students with autism traits. This shortage requires appropriate attention to ensure that every student receives quality education tailored to their needs.

According to Noraziah and Rosnah (2021), parents often avoid accepting early diagnoses, which leads to delays in obtaining appropriate interventions for their children. Many parents

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tend to believe that their children are still young and that the behaviors or developmental patterns exhibited are part of the normal growth process.

Prof. Datin Dr. Quek Ai Hwa (2019) stated that many parents remain in a phase of denial regarding their children's disabilities. In such situations, parents may begin to realize their children's actual conditions but struggle to accept the reality. The decision to enroll their children in mainstream education often creates pressure on teachers, especially if the teachers lack foundational knowledge in educating students with special needs. According to Abdullah et al. (2021), parents of children with autism strongly hope that their children will be accepted and given the opportunity to participate in regular classes and interact with other children. This has significant implications for the education system and adds additional challenges for teachers in creating an inclusive learning environment.

Abdullah et al. (2020) highlighted that special remedial teachers are specifically trained to address challenges in reading, writing, and arithmetic commonly encountered by students with learning difficulties. While their primary responsibility is to assist students in mastering basic literacy and numeracy skills, these teachers are also often tasked with supporting students with special needs in their classrooms. The Malaysian Education Blueprint 2013–2025 emphasizes that every student deserves equal access to education based on their individual proficiency levels. As a result, many parents choose to enroll their children with special needs in mainstream schools. For subjects such as Mathematics and Malay Language, these students are placed in Special Remedial Education classes. In these circumstances, Special Remedial Education teachers hold a pivotal role in ensuring that students with special needs, including those exhibiting autism traits, receive a high-quality education. Their success in fulfilling this role heavily depends on their ability to apply effective teaching strategies that cater to the unique requirements of autistic students.

Rathaneswaary (2022) reported that Special Remedial Education teachers have a strong understanding of the needs of students with special requirements, demonstrating their readiness to effectively carry out their responsibilities. Despite these positive results, many teachers remain keen to improve their skills by participating in professional courses and workshops. Similarly, Abdul Rahim Hamdan (2020) conducted a study to assess the confidence and knowledge levels of Special Remedial Education teachers in facilitating learning in the classroom. The study found that the majority of teachers were confident in their knowledge and abilities to manage students with special needs. However, challenges remain in delivering more effective instruction, developing creative teaching materials, and incorporating educational technology into the teaching process. Additionally, the study identified a need for further training in specific teaching techniques, appropriate intervention strategies, and the use of technological tools to enhance the effectiveness of learning sessions.

According to Anuar et al. (2021), many Special Remedial Education teachers still lack in-depth knowledge of effective teaching strategies for students with autism. This is largely due to the insufficient specialized training on autism within teacher education programs. Teachers often face challenges in adapting learning activities and managing the unique behaviors of autistic students. As a result, the inadequacy of such training can lead to the implementation of ineffective teaching strategies, which in turn affects students' academic and social

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development (Bakken et al., 2021; Hume et al., 2019). Therefore, the knowledge level of Special Remedial Education teachers regarding autism plays a crucial role in the success of these students' education. While Special Remedial Education teachers are primarily appointed to educate students who have not mastered basic skills in reading, writing, and arithmetic, they are also tasked with guiding students with special needs within their classrooms.

Therefore, this study aims to identify the level of knowledge among Special Remedial Education teachers regarding autism. It is hoped that this research will provide significant benefits to the responsible parties, particularly the Ministry of Education Malaysia, in implementing large-scale initiatives that will have a positive impact on all Special Remedial Education teachers in Malaysia in the future. In efforts to improve student outcomes, collaboration between various parties plays a crucial role in ensuring the overall success of students' education (Ahmad et al., 2021).

Literature Review

According to Noresah Baharum et al. (2000), remediation refers to the process of restoring something to its original state. In the context of education, the concept of remediation refers to efforts aimed at overcoming learning challenges faced by students. Remedial programs are initiatives designed to support students who struggle with mastering basic skills such as reading, writing, and arithmetic (3M). These programs also serve as an additional form of support to address learning barriers, with the goal of tackling the constraints that prevent students from reaching their full potential. The effectiveness of such programs is influenced by how teachers plan and implement teaching and learning (Rathaneswaary, 2022). Special Remedial Education teachers carry a significant responsibility in implementing these programs. They must ensure that students at Level 1 are able to master the basic 3M skills. Additionally, Special Remedial Education teachers are required to conduct the Learning and Development Problem Detection Assessment (IPMBDP) and the Diagnostic Screening Instrument (ISD) to identify students who may exhibit characteristics of special needs.

Autism is an imbalance in the mental development of children, which can be observed in aspects of social interaction, behavior, and communication. According to a study by Nurhayati, Latifah, and Hamdi (2018), the nervous system in the brain of individuals with autism experiences developmental issues, and the effects are visible in behaviors such as a tendency to remain in their own world and a lack of sensitivity to their surroundings. Rahman et al. (2020) further explained that autism is not a disease that can be cured, but rather a continuous condition that requires early intervention and a tailored educational approach. Therefore, individuals with autism need consistent support from various parties to help them adapt to their surrounding environment.

According to the Malaysian Education Blueprint 2013-2025, every student is entitled to receive equitable education based on their level of proficiency. This has encouraged parents to send children with special needs to mainstream schools. Students with special needs are placed in Special Remedial Education classes for subjects such as Mathematics and Malay Language. However, a significant number of special remedial teachers still face challenges in managing students with autism. One of the main challenges faced by teachers is the lack of preparation in terms of knowledge and specific skills needed to address the learning

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difficulties faced by autistic students. This lack of preparation means that teachers may not be fully equipped to handle the unique and complex challenges posed by autism. A study by Siti Rubiyani et al. (2020) also indicates that the imbalance in professional training for teachers in the field of Special Remedial Education limits their ability to address the specific needs of autistic students more effectively.

A study conducted by Rathaneswaary (2022) found that Special Remedial Education teachers possess a very high level of understanding regarding the needs of their students. The research clearly indicates that teachers in this field have a deep understanding of students with special needs. The data obtained shows that all four aspects assessed in relation to Special Remedial Education teachers recorded high mean scores overall. Despite the high overall scores for the four aspects examined, these teachers still expressed an interest in further enhancing their knowledge by attending courses or workshops, given the opportunity (Rathaneswaary, 2022). Additionally, this study was also conducted to assess the level of interest and knowledge among Special Remedial Education teachers in implementing the teaching and learning process. Based on the results, the majority of Special Remedial Education teachers (64.97%) agreed that they possess sufficient knowledge and skills to carry out the teaching and learning process in schools.

Special Remedial Education teachers have a deep understanding of their students' needs and are capable of implementing various approaches in teaching and learning to ensure the process is engaging and can prevent boredom among students. A study conducted by Norazizah Mohamed Norok and Khairul Farhah Khairuddin (2022) titled "The Readiness of Teachers in Using Play-Based Learning Methods for Students with Special Learning Needs" found that the level of knowledge and readiness among teachers was very high. The findings of this study thus confirm that the knowledge and readiness of teachers are at an exceptionally high level. Additionally, the study results indicate a significant relationship between the teachers' knowledge level and their willingness to use playbased learning methods for students with special learning needs. This finding suggests that teachers with higher knowledge levels are more likely to be prepared to apply teaching approaches that are aligned with the needs of the students.

Methodology

According to Alias and Samsudin (2021), research design refers to a systematic framework that serves as a guide for selecting appropriate methods for conducting a study, with the goal of ensuring that the study's objectives are achieved and the research questions are comprehensively addressed. This study aims to provide information and details focused on the knowledge level of Special Remedial Education teachers regarding autism in the Sepang district. The research design for this study is a survey study. Data is collected through questionnaires to gather information relevant to the ongoing research. This method was chosen to identify the knowledge level of Special Remedial Education teachers regarding autism. According to Noraliza (2022), the quantitative method tends to reduce bias, as the results are obtained through an objective process of data collection and analysis.

Population and Sampling

According to Andrade (2020) and Lee and Landers (2022), sampling is the process of selecting a small portion of the entire population to be studied. This process allows for generalizations

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to be made and provides a comprehensive picture of the population. This study involves 48 Special Remedial Education teachers in the Sepang district, selected based on their level of knowledge about autism. The respondents consist of teachers working at National Schools, Chinese National-Type Schools, and Tamil National-Type Schools. According to Syuhada (2019), it is essential for researchers to identify the population size and obtain a list of subjects within the population before determining the appropriate sample size. In the context of a small population, it is recommended to involve the entire population to ensure that the data obtained is comprehensive and accurate. Therefore, this approach was implemented by involving all Special Remedial Education teachers in the Sepang district. This ensures a deeper understanding of their knowledge level regarding autism. This approach also ensures that the findings of the study reflect the true characteristics of the population without any exclusions, thus producing more representative results.

A summary of the respondents' demographic information is provided in Table 1.

Table 1
Respondents' Demographic Profile

-		Frequency (n)	Percentage (%)	
	Male	3	6.3 %	
	Female	45	93.8 %	
Age	20 – 30 years	10	20.8 %	
	31 – 40 years	20	41.7 %	
	41 – 50 years	16	33.3 %	
	51 – 60 years	2	4.2 %	
Teaching Experience	1-5 years	5	10.4 %	
	6 – 10 years	12	25 %	
	11 -15 years	18	37.5 %	
	16 – 20 years	11	22.9 %	
	21 years and above	2	4.2 %	
Education Level	Diploma	9	18.8 %	
	Bachelor's Degree	34	70.8 %	
	Master's Degree	5	10.4 %	
	Doctorate (PhD)	0	0 %	

Research Instrument

According to Ismail and Rahman (2021), a research instrument refers to a tool designed to collect data to answer the predetermined research questions. In this study, data collection was carried out using a questionnaire. The researcher prepared a questionnaire consisting of two sections: Section A and Section B. Section A was used to gather demographic information about the respondents, while Section B aimed to explore the knowledge gained by Special Education Remedial teachers regarding Autism. The knowledge construct of teachers consists of eight questionnaire items formulated to assess their level of understanding of autism. Each item in the questionnaire instrument was evaluated based on the respondents' level of agreement using a five-point Likert scale. The scale includes five levels: number 1 represents

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Strongly Agree, number 2 represents Agree, number 3 represents Somewhat Agree, number 4 represents Disagree, and number 5 represents Strongly Disagree. The questionnaire set was adapted from a study conducted by Abdul Rahim, Ahmad Johari, Jamaluddin, and Musa (2006), with modifications made to suit the needs of this research.

Data Collection Procedure

This study will use a questionnaire for data collection. The questionnaire form will be prepared using the Google Forms platform and sent to Special Education teachers via WhatsApp and Telegram. This approach aims to reduce the time, effort, and costs involved in the data collection process. Before data collection was carried out, the researcher obtained official permission and approval from the Online Educational Research Application System (eRAS) and the Selangor State Education Department. This procedure was carried out in accordance with ethical requirements and regulations to ensure that the study adheres to high academic standards (Ministry of Education Malaysia, 2020).

Data Analysis Procedure

The data analysis for this study involves quantitative data, which will be processed using the Statistical Package for the Social Sciences (SPSS) software, version 27. The results of the analysis will be presented in the form of tables and graphs, applying frequency and percentage to show the differences that have been collected in line with the study's objectives. Descriptive analysis will be used to identify the study sample profile based on the information obtained from Section A, which includes the demographic data of the participants. This research also involves examining the frequency distribution and percentage to analyze the sample profile (Sekaran & Bougie, 2016).

Research Findings

This study aims to examine the level of knowledge of Special Education teachers regarding autism. The findings of the study will be used to explore the level of knowledge of Special Education teachers about autism. The results will be analyzed using descriptive methods based on data collected through the questionnaire.

Level of Knowledge of Special Education Teachers

This study focuses on Special Education teachers in the Sepang district, with a total of 48 respondents. Four main demographic characteristics were analyzed: gender, age, teaching experience in special education classes, and education level. The research data is presented in the form of tables, including the number and percentage of respondents. The findings indicate that the overall mean score is at a very high level of agreement, with a mean value of 4.08 and a standard deviation (SD) of 0.609. The level of knowledge of Special Education teachers regarding autism was measured through 10 predetermined items.

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Table 2
Analysis of Special Education Teachers' Knowledge Level Regarding Autism

	Statement	Frequency and Percentage					
		SD	D	UD	Α	SA	
1.	Students diagnosed with autism face social interaction problems		2 (4.2%)	5 (10.4%)	21 (43.8%)	19 (39.6%)	
2.	Students diagnosed with autism exhibit selfharming behavior		2 (4.2%)	6 (12.5%)	27 (56.2%)	11 (22.9%)	
3.	Students diagnosed with autism display repetitive stereotypical behaviors and interests		3 (6.2%)	8 (16.7%)	28 (58.3%)	9 (18.8%)	
4.	Students diagnosed with autism face communication problems		1 (2.1%)	7 (14.6%)	17 (35.4%)	19 (39.6%)	
5.	I always use English when interacting with autistic students in the classroom.	1 (2.1%)	5 (10.4%)	7 (14.6%)	19 (39.6%)	16 (33.3%)	
6.	Some autistic students exhibit oversensitivity or undersensitivity to pain.	0 (0.0%)	2 (4.2%)	11 (22.9%)	24 (50.0%)	11 (22.9%)	
7.	Some autistic students have uneven gross and fine motor skills.	1 (2.1%)	1 (2.1%)	6 (12.5%)	29 (60.4%)	11 (22.9%)	
8.	Autistic students rarely or never make eye contact.	0 (0.0%)	1 (2.1%)	3 (6.2%)	19 (39.6%)	25 (52.1%)	

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The findings of the study indicate that the level of knowledge of Special Education teachers regarding autism is very high, based on the analysis of eight items in the questionnaire. Item 8, which states "autistic students rarely or never make eye contact," recorded the highest score (mean = 4.38, SD = 0.761). This finding proves that Special Education teachers understand that the lack of eye contact is a major challenge for autistic students, often linked to difficulties in understanding the social and emotional contexts of others.

Furthermore, the first and fourth items, which discuss aspects of social interaction and communication, recorded high scores of (mean = 4.31, SD = 0.776) and (mean = 4.19, SD = 0.915), respectively. These findings demonstrate that Special Education teachers understand the difficulties autistic students face in building social relationships and expressing their needs. This indicates that Special Education teachers have a very good understanding of the challenges autistic students encounter in forming social connections and interacting with others. Followed by item 4, which states "Students diagnosed with autism face communication problems," discussing the communication challenges of autistic students, with a score of (mean = 4.19, SD = 0.915). Both items show that Special Education teachers understand that autistic students often struggle to express their needs, especially in more complex verbal communication.

The next item with a high score is item 2, which states "students diagnosed with autism exhibit self-harming behavior," with a score of (mean = 4.04, SD = 0.771). This finding shows that Special Education teachers understand that self-harming behavior often occurs when autistic students are faced with stressful or uncomfortable situations. Similarly, item 3, which states "students diagnosed with autism display repetitive stereotypical behaviors and interests," recorded a score of (mean = 3.94, SD = 0.809). Furthermore, item 7, which relates to the weaknesses in gross and fine motor skills among autistic students, also recorded a high score of (mean = 4.02, SD = 0.729). These findings prove that Special Education teachers have high knowledge in this aspect, as they understand that motor coordination difficulties are common characteristics among autistic students. Next, item 6, which discusses pain sensitivity among autistic students, also recorded a high score of (mean = 3.92, SD = 0.794). Finally, item 5, which states "I always use English when interacting with autistic students in the classroom," recorded a score of (mean = 3.88, SD = 1.044).

Overall, the findings of this study indicate that the level of knowledge of Special Education teachers is very high regarding various characteristics of autism, particularly in the aspects of social interaction, behavior, and communication needs. Therefore, according to the studies by Fletcher-Watson et al. (2019) and Wood et al. (2021), which highlight the need for continuous support for teachers in the form of professional training to improve the effectiveness of their teaching for autistic students.

Discussion

The findings of this study indicate that the level of knowledge of Special Education teachers about autism is very high, particularly in understanding the characteristics and key challenges faced by autistic students. This deep knowledge plays an important role in enhancing teachers' competence to address various issues related to the social, communication, behavior, and specific needs of autistic students. Teachers with extensive knowledge of autism can design and implement more inclusive and effective teaching strategies.

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This study confirms that teachers demonstrate a very good understanding of the social interaction and communication aspects of autistic students. Knowledge of the difficulties faced by autistic students in building social relationships and communicating enables teachers to design and implement more inclusive and effective teaching approaches. These findings are also supported by the study by Rattazzi et al. (2020), which emphasizes that understanding social communication is a key element in determining the effectiveness of teaching autistic students.

Furthermore, the findings of this study also prove that Special Education teachers understand the challenges related to the behavior of autistic students. Knowledge of these behaviors allows Special Education teachers to avoid misunderstandings and focus on more constructive approaches in addressing these behaviors. A study by Milton (2020) states that stereotypical behaviors are often used by autistic students to control their environment, and this knowledge enables teachers to provide more appropriate and effective support.

The knowledge of Special Education teachers regarding the gross and fine motor development of autistic students also shows that teachers are attentive to the physical challenges faced by autistic students. According to MacDonald et al. (2019), weaknesses in motor coordination are a common characteristic among autistic students and require special attention. Therefore, activities focusing on the development of gross and fine motor skills can help improve social skills and enhance self-autonomy among autistic students (Falkmer et al., 2020).

Overall, the high level of knowledge possessed by Special Education teachers regarding autism can enhance the effectiveness of their teaching. With continuous support through professional training, teachers' knowledge and skills in educating autistic students can be improved. According to Wood et al. (2021), ongoing professional training for teachers is key to enhancing their understanding and skills in addressing the needs of autistic students.

Conclusion

In conclusion, this study found that the level of knowledge of Special Education teachers regarding autism is very high. These teachers demonstrated a deep understanding of the challenges faced by autistic students in various aspects. The findings show that teachers have mastered important knowledge that enables them to plan and implement more inclusive and effective teaching approaches to support the development of autistic students. With continuous support and lifelong learning, Special Education teachers can continue to improve their skills in addressing the needs of autistic students. Therefore, this study highlights the need to provide more training and ongoing support to teachers in the form of courses, workshops, and specialized training programs to ensure they continue to develop their knowledge and skills in teaching autistic students. This study can also serve as a reference to improve the quality of education and support for autistic students in Malaysia. With a deep understanding of the challenges faced by autistic students, Special Education teachers can adapt their teaching approaches to meet the individual needs of students more effectively. This study also emphasizes the importance of ongoing support for Special Education teachers in the form of specialized training to enhance their understanding and skills in addressing various issues related to autism. These implications can provide guidance to education

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policymakers and relevant parties in planning more effective training programs and strengthening support for teachers who teach autistic students.

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