

## **PEDAGOGICAL KNOWLEDGE OF REMEDIAL EDUCATION TEACHERS TOWARDS STUDENTS WITH AUTISM**

**Sivachanthini Pathmanathan\*<sup>1</sup>, Mohd Mokhtar Tahar<sup>1</sup>**

<sup>1</sup>Faculty of Education, Universiti Kebangsaan Malaysia,  
43600 UKM Bangi, Selangor Darul Ehsan, Malaysia.

\*Corresponding author: Sivachanthini Pathmanathan (s.chanthini@gmail.com)

### **ABSTRACT**

Autism Spectrum Disorder (ASD) can impact every family and kid, regardless of color, ethnicity, or educational attainment. This study aims to assess remedial teachers' level of understanding regarding children with autism. The association between the remedial teacher's understanding of autistic students and their educational background as well as their teaching experience is also examined in this study. A descriptive cross-sectional study methodology was used to assess the remedial teachers' degree of understanding regarding kids with autism. Simple random sampling was used to pick 50 remedial instructors from 50 elementary schools in the Petaling Perdana area. Using a Google Form questionnaire based on earlier research, primary data was gathered. Statistical Packages for The Social Sciences (version 27) was utilized to process and evaluate the data. The instrument that has been produced with a Cronbach's Alpha coefficient value of  $\alpha = 0.73$  was examined using the Pearson Correlation test. With a mean score of 3.39, this research indicates a low degree of expertise. This demonstrates the necessity for remedial teachers to increase their understanding of ASD. Most remedial teachers expressed enthusiasm in working with students who have autism when given the right support. Additionally, remedial teachers lack expertise about students with autism. They are having trouble identifying the pupils. Thus, the researcher recommends that basic courses, training, workshops, or pertinent seminars on autistic kids be implemented in all schools going forward.

**Keywords:** Autism, Remedial Teachers, Remedial Teacher's Knowledge, demographic perspectives

### **1. INTRODUCTION**

Certain models form a curriculum aimed at implementing the educational policy of the state. The design of a curriculum that takes into account the needs of individuals and society to achieve the objectives and goals set is essential for the success and sustainability of the system. This does not matter whether it is related to the syllabus, learning objectives or teaching and learning methods used by teachers (Ministry of Education Malaysia, 2013). An effective curriculum has a constantly changing design that helps students during teaching and learning in the classroom. According to Norakyairee Mohd Raus (2019), the planning, implementation and evaluation of the curriculum will see and improve changes and developments. The Malaysian Education Development Plan 2013–2025 was created by the Ministry of Education Malaysia to serve as a guideline for teachers while teaching and learning is conducted in the classroom. This is made to ensure that the

curriculum is in line with the current development of the country in educational levels.

Akta Orang Kurang Upaya 2008 was also introduced by the Ministry of Education Malaysia with the permission of the Malaysian Parliament on 24 December 2007 to ensure that all students in Malaysia receive the same education (Zulazhar Tahir, 2015). A lot of research has been conducted to determine the level of knowledge of teachers of special education about students with special needs. One of them is the Daisykavani 2020 study, which aims to determine the level of knowledge of teachers about controlling the disruptive behavior of students with special needs. The study found that teachers' level of knowledge of Special Needs pupils was high. They can accept Special Needs students in their classroom and know how to plan and conduct teaching and learning for Special Needs students. (Daisykavani, 2020)

On the other hand there is also another study conducted by Anis Shahirah Zulkifli aimed to determine the level of knowledge of teachers about managing the behaviour of students with special needs (MBK). Overall, researchers argue that special education teachers need high knowledge and wisdom to professionally manage MBK behavior. They use the appropriate theory and philosophy of behavior (Anis Shahirah Zulkifli, 2019). The 2022 study of Norazizah Mohamed Norok, which aims to find out the level of willingness of teachers to use play methods while learning for pupils with special learning needs, may reinforce both of these findings. It was found that the knowledge and readiness of the teacher is very high. In addition, the results of this study show that there is a significant relationship between the level of knowledge of teachers and their level of willingness to use play methods while studying for students with special learning needs. This suggests that when teachers have high knowledge, they are also more willing to adopt a play-while learning approach. (Norazizah Mohamed Norok, 2022).

Other than that according to Akta Orang Kurang Upaya 2008 pupils with special needs also do have their right to choose their school and learning environment. Special needs pupils will be sent to Remedial classes in mainstream schools to learn 4M skills: reading, writing, counting and reasoning. Remedial classes is a type of teaching and learning designed by the Ministry of Education and teachers for students who achieve a minimum level of learning. It is a learning strategy that teachers can use to achieve their learning objectives by helping their students. Having learned the needs, weaknesses and abilities of students, teaching and learning will be carried out. Remedial students will be having special coaching with their teacher for a better reinforcement in certain skills (Sasalia, 2020).

Overall, Remedial teachers are essential in the learning process for students with special needs. Remedial Education teachers know how to educate students with special needs. They will also guide and educate the students. The study aimed to find out the level of pedagogical knowledge of teachers of Remedial Education about how they teach students with Autism.

### **1.1. Objective**

- i. Identify the level of knowledge of Remedial Education teachers towards Autism students

### **1.2. The Question of The Study**

- i. What is the level of knowledge of Remedial Education teachers towards Autism students in primary schools in the Petaling Perdana area?

## **2. LITERATURE REVIEW**

Remedial Education Teachers are important in educating students with special needs. The Malaysian Education Development Plan 2013–2025 stipulates that students with special needs have the right to participate in the teaching and learning process in schools close to them.

### **2.1. The Level of Knowledge of Remedial Teachers Towards Special Needs Pupils**

The study depends on the level of knowledge of Remedial Education teachers towards pupils with special needs. A study conducted by Rathaneswaary found that Remedial teachers knowledge towards special need pupils are at a high level. Researchers can clearly show that teachers of Remedial Education understand well about pupils with special needs. The level of knowledge, the level of teacher acceptance, the level of teacher readiness and the teacher's teaching practices each achieved a very high, according to the study data. Although the overall mean for all four aspects studied was high, Remedial Teachers still showed interest and willingness to improve their knowledge by attending courses or workshops if they have been given the opportunity. (Rathaneswaary, 2022).

In addition, there are also researches conducted to determine the level of interest and knowledge of teachers of Remedial Education on how to implement the teaching and learning process. Based on the results of the study, the vast majority of Remedial Education teachers agree (64.97%) that they have the knowledge and skills to conduct teaching and learning in schools. Although the percentage is modest, they require knowledge and skills to handle PdPc for students with special needs especially in the areas of effective teaching and learning, teaching and building, and computer-assisted teaching and learning. (Abdul Rahim Hamdan 2020).

Norazizah Mohamed Norok's 2022 study of teachers' readiness to use play methods while teaching for pupils with special learning needs supports both of these findings. Teachers of Remedial Education know about their pupils who have special needs, so they can use a variety of approaches to make teaching and learning interesting so that pupils do not get bored. The results of this study can show that the knowledge and readiness of the teacher is very high. In addition, the results of the study showed that there was a significant relationship between the level of knowledge of students and the level of willingness of teachers to use play techniques while learning for pupils with special learning needs. This suggests that when teachers have high knowledge, they are also more willing to adopt a play-while learning approach. Generally, a good knowledge of students with special needs can help teachers of Remedial Education choose the appropriate method to implement in their lessons to attract the students towards learning. (Norazizah Mohamed Norok, 2022).

Previous studies have found that teachers of Remedial Education have a good knowledge of students with special needs. This can help them plan lessons and learning that impact students. In total, all of the above studies were conducted to determine the level of knowledge of Remedial

Teachers about students with special needs. Fewer studies have been conducted on the level of knowledge of teachers about students with Autism. This study was conducted to learn more about the Remedial Education teacher's knowledge of pupils with Autism.

### **3. METHODS**

The design of descriptive cross-sectional studies is used to study knowledge related to Autism. This study adapts Hasnah Toran, Mohd. Hanafi Mohd. Yasin, Mohd. Mokhtar Tahar & Norani Salleh (2010) questionnaire to identify the level of knowledge of teachers on Autism.

The instrument of the study is divided into two parts. Section A contains 4 questions related to the respondent's demographics such as gender, age, teaching experience and educational status. Section B contains 9 statements on knowledge of Autism covering the meaning, causes, occurrences, signs and symptoms, treatment and management of Autism. Respondents need to choose a scale of one to five according to their own knowledge. According to Harrison et al. (2016) states the most widely used measure of Autism is the Autism Knowledge Survey (AKS, Stone 1987). This is a likert-style questionnaire consisting of Autism facts used to test the respondent's level of knowledge.

Based on the report and statistics of the June 2023 primary school list, there are 89 Remedial Education teachers in Petaling Perdana district who were involved in this study that can be made into a population. To identify the appropriate amount, the use of sample size as presented by Krejcie and Morgan (1970). According to the flaws set by them, the sample for a study was set according to the total population found in the study. According to Krejcie and Morgan if the population of a study is 89 as in this study, then the sample to be collected is at least of 50 respondents.

Thus, this questionnaire was answered by 50 teachers of Special Remedial Education based on observations on Autism pupils. Random sampling designs are easily suitable for use when population characteristics have high uniformity. Therefore, respondents are selected using simple random sampling. The sample consisted of Remedial Education teachers who taught in the primary schools of Petaling Perdana district from 50 randomly selected primary schools. Statistical Packages for The Social Sciences SPSS (Version 27) was used to analyze the data obtained through the questionnaire. The analyzed data is subsequently displayed in the form of a table. This will make it easier for readers to refer and understand the findings of the study. The data analysis applied in this study is a descriptive analysis used to identify the level of knowledge of teachers of Remedial Education on Autism pupils in Petaling Perdana district in the form of total frequency, percentage and mean.

### **4. RESULTS**

#### **4.1. Study Background**

Table 1 shows the four demographic data that were tested in this study. The demographic data that have been tested are Gender, Age, Highest Academic Graduation and Teaching Experience.

Table 1: Respondent Distribution

Features	Category	Frequency	Percent (%)
<b>Gender</b>	Men	7	14.0
	Woman	43	86.0
<b>Age</b>	21-30 Years	13	26.0
	31-40 Years	16	32.0
	41-50 Years	18	36.0
	More than 50 years	3	6.0
<b>Highest Academic Approval</b>	SPM	2	4.0
	Diploma	2	4.0
	Bachelor	41	82.0
	Master	5	10.0
<b>Teaching Experience</b>	Under 5 years old	12	24.0
	6-10 Years	16	32.0
	Over 10 Years	22	44.0

The study was conducted with 50 respondents. Researcher selected 50 teachers of Remedial Education at random to answer questionnaires provided in the form of goggle forms. Demographic data is divided into four sections, gender, age, highest academic graduation and teaching experience. In the respondents who answered this questionnaire, 14% of the teachers of Remedial Education were male and 86% of the teachers of Remedial Education were female. While the age limit is divided into four parts. Researchers have selected respondents of all age categories. There were 26% of respondents from the 21-30 year category, 32% of respondents from the 31-40 year category, 36% of respondents from the 41-50 year category and 6% of respondents from the category over 50 years. In addition, the highest academic qualifications are also divided into four sections, namely SPM, Diploma, Bachelor's Degree and Bachelor. There were 4% of respondents with SPM, Diploma as the highest academic qualification is also 4% , 82% of respondents with a Bachelor's Degree as the highest academic graduation and 10% of respondents with a Bachelor's degree as the highest academic qualification. The end of the section is teaching experience. It is also divided into three parts. Among them teachers under 5 years of teaching experience is 24%, teaching experience ranging from 6 to 10 years with 32% of respondents and more than 10 years of teaching experience with 44% respondents.

#### 4.2. Remedial Education Teachers' Knowledge Stages About Autism Pupils

This section involves nine items on the characteristics of Autism pupils. The findings for the level of knowledge of teachers of Remedial Education on Autism pupils showed that the respondents had a low level of knowledge in all the characteristics of Autism. While the overall data exhibits a low level of knowledge of teachers of Remedial Education on Autism pupils there are a handful of Remedial Education teachers who have knowledge of Autism pupils.

The study showed that most of the respondents had the right knowledge in B1, which is "children with a diagnosis of Autism must exhibit social interaction problems". A total of 66% of respondents agreed to the above statement. They knew that Autism pupils would experience social

interaction problems. This finding can be supported by the findings of a study conducted by Azima Ab Aziz (2023) entitled Level of Preschool Teachers' Knowledge on Autism. She pointed out that there are 37% of preschool teachers who agree that Autism pupils will have problems with social interaction. She also submitted that Autism pupils would not have the self-confidence to get along with others. They are always going to isolate themselves.

Table 2: Feedback For The Level Of Knowledge Of Teachers Of Remedial Education About Autism Pupils

Was	Item	SCALE LIKERT				
		STS 1	TS 2	TP 3	S 4	SS 5
B1	Children whose diagnosis of Autism must exhibit problems of social interaction	1 2%	4 8%	12 24%	21 42%	12 24%
B2	Children whose diagnosis of Autism must exhibit self-harm behavior	12 24%	9 18%	13 26%	12 24%	4 8%
B3	Children whose diagnosis of Autism must exhibit stereotypical behaviors and interests over and over again	2 4%	3 6%	16 32%	21 42%	8 16%
B4	Children whose diagnosis of Autism must exhibit communication problems	0 0%	7 14%	15 30%	19 38%	9 18%
B5	I feel proud when the students only speak English and smile	11 22%	10 20%	15 30%	10 20%	4 8%
B6	Autism child exhibits over-sensitivity and under-sensitivity to pain	2 4%	4 8%	16 32%	18 36%	10 20%
B7	More boys diagnosed with Autism than girls	4 8%	4 8%	21 42%	17 34%	4 8%
B8	Some Autism children exhibit unequal gross motor and fine motor skills	1 2%	4 8%	14 28%	26 52%	5 10%
B9	Autism children never make eye-contact	2 4%	4 8%	16 32%	17 34%	11 22%
<b>Overall Min</b>		<b>3.391</b>				
<b>Standard Deviation</b>		<b>.6626</b>				
<b>Min Score Interpretation</b>		<b>Low</b>				



In addition, the study also showed that respondents had the correct knowledge in B4 which stated that children with Autism had communication problems. A total of 38% of teachers of Remedial Education agreed with the above statement. They learned that Autism pupils had communication problems. The above statement can be supported by the findings of the study presented by Yeanny Suryadi and Dian Armanto (2023) entitled Analysis of the Clap Method as an Recognition Strategy Mathematics Numeration in Autism Students at Special Needs School. In this study researchers used the applause method to educate Autism pupils on the topic of numbers. Pupils were given training for 18 to 24 weeks with the same method. At the end of the study researchers were able to prove that Autism pupils can be taught using the patting technique. Pupils are able to identify numbers and be able to tell numbers in the correct order. This technique can also help pupils to build self-confidence and communicate with others.

In addition, the study also showed respondents had the correct knowledge in B6 which stated that some Autism pupils exhibited over-sensitivity and under-sensitivity to pain. The above statement can be supported by the findings of a study conducted by Azima Ab Aziz (2023) entitled Level of Preschool Teachers' Knowledge on Autism. In the findings the researchers were able to prove that there are 47 percent of preschool teachers agreeing with the fact that children with Autism exhibit over-sensitivity and under-sensitivity to pain with a mean value of = 3.57, SP = 1.020.

In total only two items have the lowest mean value. Among them is item B2 which states that pupils who are diagnosed with Autism must exhibit self-harm behaviors that have a mean value = 2.74, SP = 1.291 and item B5 which states I feel proud when the pupil only speaks English and smiles with a mean value of = 2.72, SP = 1.246.

The mean score for teachers of Remedial Education on Autism pupils is 3.39. This mean score of not more than 50 percent based on the Kok Wan Sia criteria (2023) showed that the survey respondents lacked knowledge of children with autism. With reference to the rubric of the score, the level of knowledge of teachers of Remedial Education on children with Autism is at a low level.

In short, teachers of Remedial Education have a low level of knowledge towards pupils with an overall mean of = 3.391, SP = 0.663. Only a handful of Remedial Education teachers have knowledge of Autism pupils. They alone can accurately identify the characteristics of Autism pupils. Other teachers of Remedial Education were unable to identify the characteristics of Autism pupils correctly and accurately. This makes it impossible for them to accept such pupils during the teaching and learning process (Iryna Demchenko, 2023). They fear that the planned teaching process will be disrupted and do not manage to run it smoothly. Because they do not have knowledge of the Autism pupils, teachers of Remedial Education can't choose the appropriate method for educating Autism pupils. At the end of learning the specified objectives can't be fully achieved (Nur Faizahton Saidin, 2023).

#### **4. DISCUSSION**

Overall, the findings of this study can prove that teachers of Remedial Education have a low level of knowledge towards Autism pupils with a mean value of = 3.3911, SP = 0.66259. Based on the rubric of the teacher's knowledge score of Remedial Education on Autism Pupils the overall mean level is at a low level. Using the findings of this study researchers were able to conclude that only a handful of teachers of Remedial Education had a level of knowledge about Autism pupils. They were able to identify the characteristics of Autism pupils quickly and accurately. Other Remedial Education teachers still have confusion in identifying the characteristics of Autism pupils.

Although in Malaysia knowledge of teachers of Remedial Education are in a lower level, in abroad teachers of Remedial Education have a high level of knowledge of Autism pupils. In Western countries the government has designed a different curriculum according to the level of mastery of Autism pupils. Based on the guidance, teachers of Remedial Education will plan their teaching and learning process. Teachers of Remedial Education have also been given training and courses on the teaching and learning process. This can help teachers to conduct their learning sessions (Root & Jenny R., 2021). Due to the fact that teachers of Remedial Education have a high level of knowledge, they are able to analyse the learning problems faced by the students and plan the learning according to the level of mastery of the pupils. This is what causes teachers to achieve their planned objectives easily and quickly.

In addition, according to the study of Elena Vasilyevna Reznikova (2022) the government has also given exposure of Autism pupils to all teachers. So the teachers are willing to accept those students in their classroom. With the knowledge gained from the courses and training given, teachers can provide effective teaching and learning processes to the students. They are able to plan objectives that are appropriate to the learning problems faced by the students. The objectives have also been planned according to the level of weakness and strength of the Autism pupils. This causes the students to focus on the learning sessions conducted by the teacher in the classroom.

Besides that, teachers are always going to use peer teaching for Autism pupils. They will train one of the friends to help the pupils. This will make it easier for the students to discuss and do the activities given by the teacher. The teammates will monitor and guide the students to perform the work given in the classroom. Autism pupils will also not feel themselves marginalised by other peers. They are able to communicate with other friends without limitation. This can increase the level of self-confidence of Autism pupils to attend school. By using peer teaching in the classroom teachers can improve the communication skills of the students (Kelsey J. Trausch, 2021).

After that, the teachers have also used various types of methods in their classes. The method that teachers often use is the ICT method. Teachers have been given exposure to create teaching aids that are suitable for Autism students. With the knowledge and training gained they can provide various teaching aids in ICT. Pupils always feel good when this method is used in the classroom. This can make it easier for teachers to attract students with ease and speed towards learning. The students also feel good while in the classroom. They constantly engage in activities carried out in the classroom (Thomas-Hutton, 2020).



Although in Malaysia, teachers of Special Remedial Education have a low level of knowledge of Autism students there are also a handful of teachers who have the skills and knowledge to educate the students. They are able to identify the learning problems faced by the students quickly. As a measure to strengthen the level of knowledge of teachers of Remedial Education in the presence of Autism students teachers should be guided to identify the learning problems faced by Autism students in the classroom. They need to be given exposure to conduct special tests related to Autism. This can help them to quickly identify the problems faced by pupils and plan appropriate interventions (Susan Bruck, 2021).

Other than that, teachers should also be given training, courses and workshops on teaching and learning sessions for Autism students. By doing this, teachers of Remedial Education will have knowledge on the selection of suitable methods for Autism pupils. They are also able to plan a teaching and learning process that is compatible with the learning problems faced by Autism pupils. Training, courses and workshops held for teachers of Remedial Education can increase their level of self-confidence to educate Autism pupils. Teachers will begin to accept the attendance of such students in the classroom (Caroline Mills, 2018).

The Ministry of Education Malaysia should provide exposure and train trainee teachers studying at the Malaysian Institute of Teachers on Autism students. They should be given awareness of the importance of educating the students. Trainee teachers need to be educated with the methods and strategies that need to be applied to Autism pupils. They also need to be given guidance to build an Individual Education Plan that suits the students. Every Remedial teacher should have the knowledge of building an Individual Education Plan for Autism pupils. This can help trainee teachers to identify students in depth and educate them according to their level of weakness (Fitriatul Masitoh, 2022).

Finally, the school should accept the attendance of Autism students to their school with an open heart. They also have their own advantages. If guided by the right strategies and methods, they can also succeed in life. Not only teachers of Remedial Education, all the teachers also need to be concerned about the pupils. Teachers need to plan the appropriate teaching and learning process for the students. Teachers always need to encourage peer teaching in the classroom. This can increase the motivation level of a student in the classroom. Autism pupils should also be given the opportunity to answer in the classroom. This will result in the students not feeling inferior and themselves to be marginalised. Overall it can increase their interest in attending school. With this, teachers can avoid dropout problems between Special Needs students (Melqi Okta Kisti, 2023).

## **6. CONCLUSION**

The teacher plays an important role in the process of teaching and learning conducted in the classroom. All teachers should have the knowledge to identify Autism pupils at an early stage so that the school does not miss the opportunity to assist and guide them according to the correct and appropriate methods and approaches to the problem. This study demonstrates the need to focus on programmes and training for teachers of Remedial Education which emphasises on effective and evidence-based teaching methods of Autism pupils to meet the growing educational needs of Autism students. The Ministry of Education Malaysia and the Selangor State Education

Department should organize various courses and trainings that are suitable for teachers of Remedial Education towards Autism students. This can help teachers of Remedial Education to strengthen their level of knowledge towards Autism students.

On the other hand, teachers of Remedial Education do not have awareness and knowledge of Autism pupils. They were also given no exposure or training on Autism pupils. In the district of Petaling Perdana teachers of Remedial Education have a desire to explore something new. They believe that the behaviour of Autism pupils can be improved if accepted early intervention. Teachers of Remedial Education were unable to provide such interventions because they did not have basic knowledge of Autism pupils. Therefore, the school should take the initiative for various courses or trainings related to Autism students. This can help teachers of Remedial Education to increase their level of self-confidence while teaching the pupils. After that, collaboration between teachers of Remedial Education and Special Education Teachers plays an important role. With this, teachers of Remedial Education can be guided and encouraged to understand the needs of Autism pupils in the classroom.

In summary, it can be formulated that every school should have a Remedial Education teacher who is knowledgeable about Autism so that pupils can be screened early so as not to experience dropouts. Therefore, with this study, it is hoped that it will be helped to raise awareness to teachers of Remedial Education on the importance of their knowledge and readiness when discovering Autism pupils so that they can get an education that is suitable for their abilities, strengths and weaknesses to reduce problems in the future of the students. With the availability of Remedial Education teachers who are knowledgeable about Autism in each school the school can accept Autism pupils into the school without limitation.

In conclusion, this study can show that creating awareness of Autism students among the Malaysian community. The findings of this study can prove that teachers of Remedial Education need to be given exposure, training and workshops on Autism pupils so that it can assist them in planning an effective teaching and learning process for Autism pupils.

## REFERENCE

- Abdul Rahim Hamdan, Ahmad Johari Sihes, Jamaluddin Ramli & Musa Ismail. 2020. Tahap Minat, Pengetahuan Dan Kemahiran, Latihan Guru Dan Beban Tugas Guru Program Pemulihan Khas Sekolah Kebangsaan Daerah Pontian, Johor. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*. 7(5): 122-134
- Anis Shahirah Zulkifli & Suziyani Mohamed. 2019. Tahap Pengetahuan Guru dalam Mengurus Tingkah Laku Murid Berkeperluan Khas (MBK). *Jurnal Wacana Sarjana*. 3(4): 1-7.
- Anis Shahirah Zulkifli & Suziyani Mohamed. 2019. Tahap Pengetahuan Guru dalam Mengurus Tingkah Laku Murid Berkeperluan Khas (MBK). *Jurnal Wacana Sarjana*. 3(4): 1-7.
- Azima Ab Aziz & Suziyani Mohammad. 2023. Tahap Pengetahuan Guru Prasekolah Mengenai Autisme. *Jurnal Dunia Pendidikan*. 5(2): 236-250.
- Azima Ab Aziz, Suziyani Mohammad. 2023. Tahap Pengetahuan Guru Prasekolah Mengenai Autisme. *Jurnal Dunia Pendidikan*. 5(2): 236-250.

- Caroline Mills, Christine Chapparo. 2018. Listening To Teachers: Views On Delivery Of A Classroom Based Sensory Intervention For Students With Autism. *Journal of Intellectual Disabilities*. 62 (4): 107–115.
- Chua Yan Piaw. 2018. *Kaedah Statistik Penyelidikan (buku 2). Asas Statistik Penyelidikan*. McGraw Hill (Malaysia) Sdn. Bhd.
- Daisykavani Raja Mohan & Rosadah Abd Majid. 2020. Pengetahuan Guru Dalam Mengawal Tingkah Laku Distraktif Murid Berkeperluan Khas. *Jurnal Dunia Pendidikan*. 2(1): 234-245.
- Elena Vasilyevna Reznikova, Elena Anatolievna Ekzhanova, Ekaterina Sergeevna Budnikova, Victoria Sergeevna Vasilyeva & Ulyana Viktorovna Kolotilova. 2022. *Journal of Autism and Developmental Disorders*. 73 (11): 812–826.
- Fauziah Ani, Rosman Md. Yusoff, Zahrul Akmal Damin & Riki Rahman. 2021. *Reka Bentuk Penyelidikan Sains Sosial: Penerbit Universiti Tun Hussein Onn Malaysia*
- Fitriatul Masitoh, F. M. (2022). Teaching Vocabulary to a Student with High Functioning Autism in an Inclusive School. *Elite Journal*, 4(1), 63-82. Retrieved from <http://elitejournal.org/index.php/ELITE/article/view/81>.
- Harrison, A. J., Bradshaw, L. P., Naqvi, N. C., Paff, M. L. & Campbell, J. M. (2017). Development and Psychometric Evaluation of the Autism Stigma and Knowledge Questionnaire (ASK-Q). *Journal of Autism and Developmental Disorders*, 47(10), 3281- 3295.
- Iryna Demchenko & Valentyna Bilan. 2023. Specific Features Of Psychological And Pedagogical Assistance For Younger School Students With Autistic Spectrum Disorders In An Inclusive Educational Space. *Journal Of Věda A Perspektivy*. 9(28): 88-96.
- Kamarul Shukri Mat Teh. 2015. Reka Bentuk Kajian: <https://www.slideshare.net/wmkfirdaus/reka-bentuk-kajian-dr-kamarul>.
- Kelsey J. Trausch, Matthew E. Brock & Eric J. Anderson. 2021. Efficacy of Paraeducators Facilitating Peer Support Arrangements for Elementary Students With Multiple Disabilities. *The Journal of Special Education*. 43(6): 221–232.
- Kementerian Pendidikan Malaysia. 2013. *Pelan Pembangunan Pendidikan Malaysia 2013-2025*. Pusat Pentadbiran Kerajaan Persekutuan: Kementerian Pendidikan Malaysia.
- Kok Wan Sia. 2023. Perbezaan Pengetahuan Guru Tentang Kanak-kanak Autisme Berdasarkan Faktor Demografi. *Jurnal Dunia Pendidikan*. 5(1): 778-792.
- Lee Keok Cheong, Zakri Abdullah & Chua Lay Nee. 2018. *Siri Pendidikan Guru (Penyelidikan Dalam Pendidikan)*: Oxford Fajar Sdn. Bhd.
- Mazarul Hasan Mohamad Hanapi, Norazimah Zakaria1, Norida Basran & Kama Shaffei. 2022. Tahap Pengetahuan Guru Aliran Perdana dalam Pelaksanaan Program Pendidikan Inklusif Sekolah Rendah di Sabak Bernam. *Jurnal Dunia Pendidikan*. 4(1): 512-518.
- Melqi Okta Kisti & Febrina Dafit. 2023. Upaya Guru dalam Mengatasi Kesulitan Belajar Siswa Autis. *Jurnal Pendidikan Anak Usia Dini*, 4(2), 454-463.
- Mohammad Ziyad Majani. 2021. Kesediaan Guru Pendidikan Khas Dalam Pelaksanaan Pembelajaran Abad Ke 21. *Jurnal Dunia Pendidikan*. 3(4): 163-173.
- Mohd Najib Ghafar, 2020. Bias Pengajaran Guru Dalam Pelajaran Khas Dan Pelajaran Normal. *Jurnal Dunia Pendidikan*. 5(1): 246-261.

- Noor Diyana Yaacob. 2021. Tahap Penerimaan Guru-Guru Tadika Swasta Terhadap Murid Berkeperluan Khas (MBK) Di Negeri Melaka. *Jurnal Dunia Pendidikan*. 3(4): 265-275.
- Norakyairee Mohd Raus.2019. Kurikulum Kafa Khas (Oku): Satu Tinjauan. *The 6th International Conference on Quran as Foundation of Civilisation*.14(1): 470-479.
- Norazizah Mohamed Norok & Khairul Farhah Khairuddin. 2022. Tahap Kesediaan Guru Terhadap Penggunaan Kaedah Bermain Sambil Belajar Bagi Murid Berkeperluan Khas Pembelajaran. *Malaysian Journal of Social Sciences and Humanities(MJSSH)*. 7(1): 132-144.
- Norazizah Mohamed Norok. 2022. Tahap Kesediaan Guru Terhadap Penggunaan Kaedah Bermain Sambil Belajar Bagi Murid Berkeperluan Khas Pembelajaran. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*. 7(1): 132-144.
- Norhisham Shamsudin, Muhammad Faizal A. Ghani & Norfariza Mohd Radzi. 2023. Sorotan Kajian Kepimpinan Inovatif Tempatan: Satu Kajian Meta-Analisis. *Jurnal Kepimpinan Pendidikan*. 10(2): 57-68.
- Nur Faizahton Saidin & Nur Azimah Mohd Bukhari. 2023. Faktor Keciciran Murid-Murid Program Pemulihan Khas Sekolah Rendah Di Malaysia. *Jurnal Pengajian Melayu – JOMAS*. 34(1): 26-48.
- Nusaibah Wan Fatul. 2020. Pengetahuan Guru Prasekolah Mengenai Ciri-Ciri Murid Masalah Pembelajaran. *JQSS –Journal of Quran Sunnah Education and Special Needs*. 4(2): 45-53.
- Pau Swee Lin. 2021. Pengetahuan Dan Sikap Guru Aliran Perdana Terhadap Program Pendidikan Inklusif Di Daerah Sibu. *Jurnal Dunia Pendidikan*. 3(1): 515-529.
- Pusat Pembangunan Akademik Institut Pendidikan Guru Malaysia. 2018. *Buku Panduan Penyelidikan Tinjauan*: Institut Pendidikan Guru Malaysia.
- Root, Jenny R.; Ingelin, Bonnie; Cox, Sarah K. 2021. Teaching Mathematical Word Problem Solving to Students with Autism Spectrum Disorder: A Best-Evidence Synthesis. *Journal Of Education and Training in Autism and Developmental Disabilities*. 56(4): 420–436.
- Ruwaida Rosli. 2020. Pengetahuan Guru Pra Sekolah terhadap Ciri-Ciri Murid Berkeperluan Khas. *JQSS –Journal of Quran Sunnah Education and Special Needs*. 4(2): 92-100.
- Sasalia, Abidin & Mailizar.2020. Senior High Schools Teachers And Students’ Needs For The E- Learning In A Remedial Program Of Mathematics. *Journal of Physics: Conference Series*. 1521 (1): 1-6.
- Suhartika Kasimun & Rosadah Bt Abdul Majid. 2019. Tahap Pengetahuan Dan Kemahiran, Dan Tahap Latihan Guru Pendidikan Khas Dalam Pengajaran Pendidikan Khas. *Persidangan Antarabangsa Sains Sosial dan Kemanusiaan ke-5 (PASAK5 2020)*.4(2): 402-414.
- Susan Bruck, Ainslie Robinson & Emma Gallagher.2021. A Model of Practice for Improving Autism Knowledge in Teachers of Mainstream Students on the Autism Spectrum in Australia. *Australasian Journal of Special and Inclusive Education*. 45(2): 221 – 236.

- Yeanny Suryadi & Dian Armanto. 2023. Analysis Of The Clap Method As An Recognition Strategy Mathematics Numeration In Autism Students At Special Needs School. *Jurnal Ilmiah Pendidikan*. 4(2): 855-867.
- Zulazhar Tahir, Sridevi Thambapillay, Jal Zabdi Mohd Yusoff & Ahmad Saufi Abdul Rahman. 2015. Undang-Undang Berkenaan Orang Kurang Upaya: Satu Analisis Perkembangan Perundangan Di Malaysia. *The Malaysian Journal of Social Administration*. 14(1): 96-114.