

# The Practices of Special Education Teachers in Improving the Reading Skill of Students with Autism

Ong Ei Ling & Hasnah Toran

Faculty of Education, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor, Malaysia  
Corresponding Author Email: p111204@siswa.ukm.edu.my & hasnahto@ukm.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v12-i2/17077>

DOI:10.6007/IJARPED/v12-i2/17077

*Published Online:* 11 May 2023

## Abstract

Reading proficiency is important to help students become better learners and improve their self-esteem. This research investigated the strategies utilized by teachers in the Integrated Special Education Programme (ISEP) in teaching reading skills to students with autism. Specifically, the objectives of this study are to identify teacher's knowledge, practices, and constraints in teaching reading skills to these students. This quantitative study involved a total of 132 teachers working in the Integrated Special Education Programme in a district in the state of Selangor, Malaysia. They answered a questionnaire which had been adapted from two existing instruments. The data obtained were analyzed descriptively. The results show that the level of knowledge of these teachers in teaching reading to students with autism is at a moderate level (mean 3.05), teacher's teaching practices at a moderate level (mean 3.04), and teacher's constraints at a moderate level (mean 2.69). These findings showed that teachers need ongoing training to improve this specific teaching skill. Further research is also needed to investigate the impact of these teachers' moderate level of teaching skills on the children with autism in their classes.

**Keywords:** Special Education, Reading Skill, Student with Autism, Teacher's Practices

## Introduction

The ability to read helps students in acquiring knowledge and leads them towards self-development as learners. In Malaysia, students are taught to read using the Malay Language Curriculum Standard (Malaysian Ministry of Education, 2017). One of the emphases made by the Malaysian Ministry of Education to improve students' reading skill is for teachers to focus on the reading process during lessons. Reading and writing skills are important for students, especially from the academic aspect in school. Reading skills can help children to speak and read books well.

However, reading skill is not something that is easily mastered by all students. Based on the National Assessment of Educational Progress in America, it has been reported that only 37 percent of elementary school students and 36 percent of high school students can read well (U.S. Department of Education, 2017). According to Yılmaz (2019), reading difficulty is when a student's reading ability is below average despite having a normal or higher

intelligence level, appropriate teaching environments, a stable socioeconomic status, and no physical disabilities like vision or hearing. Mistakes in reading that are made by students with reading difficulties can be seen through word-by-word reading, murmuring, repeating, pausing, mispronouncing, adding, skipping and too much or too little use of gestures and mimics excessively or inadequately.

There is a large proportion of students with autism who experience reading problems significantly compared to their typical peers (Henderson et al., 2014). Students with autism are a group of students who face a complex neurological developmental disorder, which negatively impacts their social communication and social interaction skills which bring about limitations when doing activities (American Psychiatric Association, 2013). Based on research, students with autism have diverse reading skills. The reason for the mastery of various reading skills among them is related to oral language skills, non-verbal cognitive skills, or the severity of autism characteristics (McIntyre et al., 2017). Past studies prove that some students with autism have mastered word identification but have problems in terms of the comprehension (Lin, 2014; Brown et al., 2013). Meanwhile, research has also identified that a number of students with autism failed in terms of word decoding skills but were able to master word identification skills (Nation et al., 2006).

In a study by Ostrolenk et al (2018), it was found that 42.5 percent of children with autism with the average age of 46.29 months were more interested in written materials compared to only 20.51 percent of typical children. Although some students with autism have mastered basic reading skill, most of them still show constraints in the aspects of high-level reading skill and comprehensive language skills such as having difficulty in repeating reading narratively and making inferences (McIntyre et al., 2017). Zhang and Joshi (2019) proved that phonological awareness is related to comprehensive oral skills, but not decoding skills. The findings of this study are in line with the poor oral language skills among more than half of the students with autism. This study can explain why specific research studying intervention and support in improving the reading comprehension skills of students with autism has emerged in the last decade. In addition, studies also show that students with autism are less oriented towards reading books compared to students with language development problems and typically developing students. The result of the findings may be due to the short attention span of students with autism (Bean et al., 2020).

Early word reading is based on the early development of phonological awareness, which is the ability to manipulate sounds and syllables in spoken words. Typical students as young as 3 years old have been proven to be competent in metalinguistics and have abilities in phonological awareness skills (Kenner et. al., 2017). However, it is still unclear whether students with autism use the same phonological awareness skills and alphabetic knowledge as typical students to read or use a distinctive alternative way.

The problem of reading skill faced by students with autism has hindered the learning process across various curriculum such as English, Mathematics, and Science. Therefore, teachers play an important role in improving the reading skill of students with autism by applying effective teaching practices in order students with autism can learn effectively in class (Accardo et al., 2017). However, there is a lack of studies regarding the teaching strategies of teachers in adapting the learning of reading skill to students with autism (Brock et al., 2014). This is because students with autism rarely respond to traditional teaching strategies. In fact, teachers need to make modifications to the teaching method of reading skill to fulfill the needs of students with autism. The question raised is how ISEP teachers teach in class? Several survey studies have examined the appropriateness of using teaching

practices to teach reading skill to students with autism (Accardo & Finnegan, 2019; Brock et al., 2014). A study from Accardo & Finnegan (2019) proves that only 5 percent of teachers tend to teach reading skills based on evidence-based teaching practices. On the contrary, most teachers in the study of Brock et al (2014) are not confident to apply 24 types of reading teaching methods even though it has been proven through research. Therefore, previous studies have shown a gap between research and teaching practice.

### **Literature Review**

Most researchers found that students with autism are having trouble in coding and comprehensive skills (Haslina & Noor, 2019; Erin et al., 2017; Chang et al., 2020). Some findings show the similar statement where students with special needs such as students with dyslexia and intellectual disability have constraints in spelling, mistaken recognition of letters, not sounding out words correctly and accurately as well as reading fluency problems (Haslina & Noor, 2019; Yuzaila et al., 2018; Lau & Mohd, 2021; Abdul Aziz, 2021; Chang et al., 2020). Whalon and Hart's (2011) study proved that students with autism had difficulty in interpreting texts and tended to translate the meaning of words literally. However, Chang et al (2020) have different statements where some students with special needs, especially students with autism acquire good coding skills and are even able to read fluently, but are weak in comprehensive reading. In addition, he also agreed that weak central coherence would cause the inability of students with autism to form continuity from various information. Their problem in mastering reading skill will have a negative influence on writing skills because these two skills are related (Halizah & Zaidatun, 2019; Graham et al., 2017). Furthermore, reading difficulty will affect students in mastering other subjects negatively (Yuzaila et al., 2018; Abdul et al., 2021) as well as being stuck in school achievement. This also causes students with autism to be less actively involved in the home, community, work and subsequently affects the overall quality of life (Kemal, 2018). Difficulty in reading skills have caused students with autism to be unable to master the tasks that have been given despite doing it earnestly. Therefore, proper reading skills need to be taught to help students with special education in improving achievement from an academic aspect (Haslina, 2019).

Next, research on effective ways to teach students with reading problems is emerging. Therefore, trained veteran teachers may not have the updated knowledge to implement teaching methods effectively (Connor et al., 2014). Teacher's knowledge is the basis to provide structured instruction in improving the reading skill of students with special education needs at school (Hochberg & Desimone, 2010). The findings by Carol et al (2020) showed that the improvement of trainee teacher's basic knowledge in phonics, word structure, and phonological awareness will provide a positive influence in terms of phonics intervention for students who face reading problems. The improvement of recognizing words, consonant classification, and solving problems that require analytical skills among students with special education needs is related to teacher's knowledge and teaching methods. However, many teachers do not master reading skill in depth. A study conducted by Rebecca et al (2017) showed that the reading knowledge of two groups of teachers who have and have not followed the code-based reading program is at a weak level. In addition, teachers who teach students with reading problems still have not mastered the phonics' reading skill teaching method. However, there is still a lack of research related to the topic of ISEP teacher's knowledge level in teaching students with autism.

The use of appropriate and effective teaching techniques and methods can help students who experience various problems and improve students' achievement in special

education classes. Researchers agree that students with autism have different levels of ability and their respective strengths and weaknesses. Therefore, teachers should play a role in meeting the needs of each student with autism (Lau & Mohd, 2021; Abdul et al., 2021; Halizah & Zaidatun, 2019; Chang et al., 2020). Washburn et al (2017) stated that school is the first environment where students may face reading difficulty. Researchers suggest that teachers not only need extensive knowledge about teaching techniques for reading skill but need a scientific understanding of the nature of reading problems. In addition, ISEP teachers also need to identify the learning method of students with autism whether they are more inclined to visual or tactile learning methods. This helps students with autism to organize, understand and give meaning to the reading words. Although some of the students with autism face verbal problems, they may also think associatively like typical students (Sala & Valios, 2019).

The difficulty of students with autism to master pre-reading can influence their ability in reading skill. Therefore, teacher's teaching methods play a role in providing appropriate teaching progress based on the various disabilities of students with special education needs. Researchers have proposed various teaching strategies in improving the reading skill of students with autism. Among the strategies are interactive reading (Haslina & Noor, 2019), repetitive reading (Yuzaila et al., 2018), using the online application as a teaching aid (Halizah & Zaidatun, 2019), scaffolding reading with a companion (Yuzaila et al., 2018; Carol et al., 2020) and multicomponent intervention reading (Kemal et al., 2018). All the implemented teaching strategies share the same idea where the uniqueness and diversity of students with autism are taken into account to improve their reading skill effectively. The selection of appropriate strategies that focus on the main problems of students is an effective step to help students with special education needs to overcome the problem (Chang et al., 2020). Teacher's teaching method refers to a series of systematic actions that aimed to achieve teaching objectives (Shahabuddin et al., 2007). It is an overall effort consisting of structured procedures based on selected approaches such as theories, models, or principles. The study of Haslina & Noor (2019); Yuzaila et al (2018); Kemal et al (2018); Graham et al (2017); Chang et al (2020) shows the same result where teachers identified problems first before making a teaching plan. Researchers believe that teachers should carry out hands-on interventions and always identify the most suitable teaching strategy for students with special education needs (Kemal, 2018). The strategy carried out is followed by an assessment, an analysis of the effectiveness of the strategy, and making a conclusion. Besides, the reading skill of students with special educational needs can be improved through the changes of the perception by teachers on students with special educational needs, teacher's readiness, and knowledge on teaching reading skill (Carol, 2020; Erin, 2017). Competency of a teacher able to motivate students with autism to continue learning and complete all the tasks given. Meanwhile, Lau & Mohd (2021); Halizah & Zaidatun (2019) are more likely to refer to an existing model or an approach while planning a teaching strategy about reading skill. Abdul (2021) also supports that teachers are the driving force in helping students with autism in terms of reading skill.

Therefore, this study focuses on the practice of Integrated Special Education Program (ISEP) teachers in improving the reading skill of students with autism. Here are the three research objectives:

1. To identify the level of knowledge of ISEP teachers in teaching reading skills to students with autism.
2. To identify the teaching practices of ISEP teachers in the reading skill of students with autism.

3. To identify the constraints of ISEP teachers when teaching reading skills to students with autism.

### Methodology

This study utilizes a quantitative approach to answer the research questions. Respondents were invited to answer an online questionnaire.

### Population and Sampling

This research aimed to investigate ISEP teachers' level of knowledge, teaching practices, and teacher constraints in teaching reading skill to students with autism in the district of Petaling Perdana, Selangor. The total population of ISEP primary school teachers in the district of Petaling Perdana, Selangor was 208 which consists of 26 primary schools which have a Special Education Integrated Programme. A simple random sampling technique was used in this study to ensure all the samples in this population get the same opportunity to be selected as a sample. This study obtained a total of 143 respondents from teachers. The Kreicie and Morgan (1970) Formula is used to calculate the sample size which fits the population. Therefore, a total of 132 respondents were selected randomly in this study.

### Research Instrument

The survey is the primary method to conduct this study to collect research data. The questionnaire used in this study was adapted from the Planning and Evaluation Tool for Effective Schoolwide Reading Programs (2003) and PIRLS Teacher Questionnaire (2001). The questionnaire consists of 28 questions and is divided into 4 sections which comprise of socio-demographic data (Section A), teachers' knowledge about reading skill of students with autism (Section B), teaching practices towards reading skill of students with autism (Section C), and the constraints in teaching reading skill to students with autism (Section D). Table 1 shows four levels of mean scores which are less relevant, low, average, and high.

Table 1  
*Range and Interpretation of The Mean Score*

Interpretation	Range of Mean Score
High	3.51 to 4.00
Moderate	2.51 to 3.50
Low	1.51 to 2.50
Less Relevant	1.00 to 1.50

Source: Riduwan (2012)

For the face validity of the instrument, the questionnaire was reviewed and examined by 6 ISEP teachers who have the same characteristic as this study sample. All the 6 teachers agreed that the questionnaire is easy to read and understand. To strengthen the constructed questionnaire instrument, face validity was followed by content validity which consists of 3 experts, which is a Special Education lecturer from the Institute of Teacher Education, a ISEP senior assistant and a teacher who has served for 15 years. After the instrument underwent validation and refinement, a pilot study was carried out to test the effectiveness and reliability of the questionnaire via Google Form. Cronbach's Alpha value is shown in Table 2. Cronbach's Alpha for all of the 3 constructs is 0.83. As the value of Cronbach's Alpha has to be above 0.7, all of the items are accepted for the research purposes.

Table 2

*Cronbach's Alpha value for 3 constructs*

Constructs	Number of items	Cronbach's Alpha Value	Interpretation
The level of knowledge of ISEP teachers about teaching reading skill to students with autism	7	0.75	Accepted
The teaching practices of ISEP teachers in the reading skill of students with autism	10	0.78	Accepted
The constraints of ISEP teachers when teaching reading skill to students with autism	12	0.70	Accepted
Overall		0.83	Good

### Data Collection and Analysis Method

Questionnaires in Google Form were distributed to the respondents from 22 schools in the district of Petaling Perdana in Selangor through mobile application Telegram. The data was analyzed using Statistical Package System Software 26.0 (SPSS 26.0) based on percentage, frequency and mean scores.

### Results

#### Demographic Analysis

In this study, it has been shown that the percentage of female ISEP teachers is higher than male ISEP teachers, where the respondents of male ISEP teachers are only 25 people (18.9%) while female ISEP teachers are 107 people (81.1%). In terms of age, a total of 9 ISEP teachers (6.8%) are under the age of 25, 33 ISEP teachers (25%) are between 25 to 29 years old, 40 ISEP teachers (30.3%) are 30 to 39 years old, 40 ISEP teachers (34.1%) are 40 to 49 years old, and only 5 ISEP teachers (3.8%) are 50 to 59 years old. No ISEP teachers who were aged 60 and above were involved in this study. The largest age group in this study is 40 to 49 years old, while the least age group is 50 to 59 years old. Next, a total of 115 ISEP teachers (87.1%) are Special Education options, 12 ISEP teachers (9.1%) are not from the option of Special Education and 5 ISEP teachers (3.8%) are under the option of Special Education Intervention Program (PITO). Next, only 14 teachers (10.6%) have taught at ISEP for less than 2 years. A total of 37 teachers (28%) served in ISEP for 3 to 5 years, they are also the group most involved in this study. A total of 34 teachers (25.8%) have taught at ISEP for 6 to 10 years. While 32 teachers (24.2%) teach at ISEP for 11 to 15 years, and only 15 people (11.4%) have served more than 15 years. Table 3 shows the demographic distribution of this study.



Table 3

*Demographic Distribution Among ISEP Teachers*

Demographic		Frequency	Percentage (%)
Gender	Male	25	18.9
	Female	107	81.1
Age	Under 25 years old	9	6.8
	25 – 29	33	25.0
	30 – 39	40	30.3
	40 – 49	45	34.1
	50 – 59	5	3.8
Races	Malay	81	61.4
	Chinese	39	29.5
	Indian	12	9.1
	Others	0	0
Academic Qualification	SPM/STPM/Equivalent certificate	0	0
	Diploma	2	1.5
	Bachelor's Degree	103	78.0
	Master's Degree	27	20.5
	Doctor of Philosophy (PhD)	0	0
Major	Special Education	115	87.1
	Non-Special Education	17	12.9
Primary School Teaching Experience (Years)	Less than 2 years	8	6.1
	3 – 5	38	28.8
	6 – 10	23	17.4
	11 – 15	40	30.3
	More than 15 years	23	17.4
ISEP Teaching Experience (Years)	Less than 2 years	14	10.6
	3 – 5	37	28.0
	6 – 10	34	25.8
	11 – 15	32	24.2
	More than 15 years	15	11.4
Position at School	Headmaster	0	0
	School Senior Assistant	2	1.5
	ISEP Senior Assistant	16	12.1
	ISEP Teachers	114	86.4
School Area	City	127	96.2
	Outside Urban	3	2.3
	Rural	2	1.5

**The Level of Knowledge of ISEP Teachers in Teaching Reading skill To Student with Autism**

Table 4 shows the responses of each item in the questionnaire in this section. Findings show that most ISEP teachers have a moderate level of knowledge about methods in teaching reading skill to students with autism (mean = 3.05, SD = 0.582). The researcher found that all

the items measured in this construct were at a high level of agreement except for the sixth and seventh items. The first item has the highest mean value, proving that ISEP teachers conducted a screening test of reading skill before teaching students with autism (mean = 3.50, SD = 0.568). However, two items show a relatively low level of agreement which are the sixth and seventh items. ISEP teachers disagree that they receive sufficient training on the reading skill of students with autism at university or the Institute of Teacher Education (mean = 2.22, SD = 0.797). In addition, ISEP teachers read fewer books or journal articles related to the practice of teaching reading skill to students with autism (mean = 2.50, SD = 0.627). However, the findings of this study prove that the level of knowledge of ISEP teachers in teaching reading skills to students with autism is only moderate.

Table 4

*Responses on the level of knowledge of ISEP teachers in teaching reading skill to students with autism*

No.	Items	Mean	Standard Deviation (SD)	Interpretation
1.	I conduct a reading skill screening test before teaching students with autism.	3.50	0.568	High
2.	I understand that one of the ways for students with autism to learn is to start from phonetics in stages. (Example: Scaffolding is done in stages)	3.44	0.564	Moderate
3.	I can apply at least 2 out of the following 4 methods of teaching reading skill: i. Phonics method ii. Picture cue method iii. Rearrange syllables iv. Read after the teacher	3.26	0.553	Moderate
4.	I can identify the learning style of my student with autism. (Examples: visual, audio, tactile, kinesthetics)	3.19	0.556	Moderate
5.	I can use different teaching resources based on the level of mastery of reading skill of students with autism. (Examples: books, websites)	3.21	0.409	Moderate
6.	I received a lot of training related to the practice of teaching reading skills of	2.22	0.797	Low



students with autism at the university or Institute of Teacher Education.

7.	I read books or journal articles related to the practice of teaching reading skills to students with autism.	2.50	0.627	Low
Overall score		3.05	0.582	Moderate

### The Teaching Practices of ISEP Teachers in The Reading skill of Student with Autism

Referring to Table 5, the overall findings of this construct are at a moderate level with a mean score of 3.04 and a standard deviation of 0.574. The highest mean value on the first item shows that ISEP teachers strongly agree to teach reading skill individually (mean = 3.70, SD = 0.518). This is because there are different levels of mastery among students with autism in a class. Nevertheless, the lowest mean score value is the sixth item, which is that ISEP teachers do not agree that the practice of giving tasks related to reading skill to students with autism everyday (mean = 2.38, SD = 0.554). The overall score for this section is 3.04, which is moderate. Therefore, it is safe to conclude that teachers' practices in teaching reading to students with autism need to be improved.

Table 5

*Responses on the teaching practices of ISEP teachers in the reading skill of student with autism*

No.	Items	Mean	Standard Deviation (SD)	Interpretation
1.	I teach reading skills individually.	3.70	0.518	High
2.	I teach reading skills as a group.	2.78	0.745	Moderate
3.	I form groups based on the level of mastery of students with autism while teaching. (Examples: read syllables, words, sentences, passages)	2.78	0.558	Moderate
4.	I teach reading skills across the curriculum.	3.05	0.653	Moderate
5.	I teach reading skills to students with autism 3 days a week.	2.78	0.621	Moderate
6.	I assigned reading assignments every day.	2.38	0.554	Low
7.	I use a variety of resources when teaching reading skills.	3.17	0.475	Moderate

(Examples: textbooks, worksheets, magazines, children's story books, and websites)

8.	I monitor the development of reading skills of students with autism.	3.24	0.517	Moderate
9.	I analyze the assessment of the reading skill of students with autism based on my professional views.	3.45	0.499	Moderate
10.	I collect all the results of student assignments related to reading skill as evidenced in the assessment. (Example: video, audio)	3.10	0.597	Moderate
Overall score		3.04	0.574	Moderate

### The Constraints of ISEP Teachers When Teaching Reading skill To Student with Autism

The constraints of ISEP teachers' when teaching reading skill to students with autism needs to be taken into account in this study. The challenges faced by ISEP teachers will directly affect the level of knowledge and teaching practices of ISEP teachers. Based on Table 6, findings show the overall mean score is 2.69 and the standard deviation is 0.583. The highest mean value on the fourth item (mean = 3.54, SD = 0.602) proves that ISEP teachers need more time and human resources to teach reading skills to students with autism compared to students of different categories. The eighth item has the lowest mean score value which is that ISEP teachers disagree that their school has provided a lot of professional development training for ISEP teachers to teach reading skill to students with autism (mean = 1.87, SD = 0.584). In addition, the ninth item shows that ISEP teachers disagree on where the Malaysian Ministry of Education (MOE) or non-governmental organization have provided professional development training for ISEP teachers to teach reading skills to students with autism (mean = 2.04, SD = 0.473). This clearly shows that ISEP teachers receive less training or additional input either from the school or MOE.

Table 6

*Responses on the constraints of ISEP teachers when teaching reading skill to student with autism*

No	Items	Mean	Standard Deviation (SD)	Interpretation
1.	I have enough time to teach reading skills to students with autism.	2.64	0.717	Moderate
2.	Teacher Aides/ Special Needs Teacher Assistants are always together with students with autism to guide them in reading activities.	2.73	0.743	Moderate
3.	I can document the development of reading skills of students with autism.	2.90	0.636	Moderate
4.	I need more time and human resources to teach reading skills to students with autism compared to students of other categories.	3.54	0.602	High
5.	I have enough time to plan reading activities for students with autism.	2.31	0.608	Low
6.	I have enough time to prepare teaching aids for the reading activities of students with autism.	2.12	0.550	Low
7.	I can obtain teaching aids related to reading skills that are sufficient and suitable for the learning level of students with autism.	2.76	0.569	Moderate
8.	The school has provided a lot of professional development training for ISEP teachers to teach reading skills to students with autism.	1.87	0.584	Low
9.	The Malaysian Ministry of Education (MOE)/ non-governmental organization has provided professional development training for ISEP teachers to teach reading skills to students with autism.	2.04	0.473	Low
10.	I am willing to exchange ideas and information with colleagues about the	3.31	0.549	Moderate

approaches to teaching reading skill to students with autism.

11.	I often discuss with parents the development of children's reading skills.	3.12	0.575	Moderate
12.	I always share the teaching method for reading with parents.	2.98	0.384	Moderate
Overall score		2.69	0.583	Moderate

## Discussion

### The Level of Knowledge of ISEP Teachers in Teaching Reading skill to Student with Autism

The level of teacher knowledge is one of the important aspects in the field of education so that the process of imparting knowledge can be carried out smoothly. The analysis of findings found that the level of knowledge of ISEP teachers in teaching reading skill to students with autism is at a moderate level with a mean score of 3.05. The researcher found that ISEP teachers conducted a reading assessment before teaching. This is aligned with the study from Arnold and Reed's (2016) where special education teachers in the United Kingdom carried out reading assessment for students with autism using various instruments such as the Salford Reading Test, Neale's Analysis of Reading Ability, National Foundation of Educational Research, Wechsler Individual Achievement Test and so on. However, the instrument used by ISEP teachers in Malaysia is the Special Education Literacy and Numeracy (LINUS) Screening Instrument where only one part is related to the domain of language and communication in this instrument. This is quite different from countries such as the United Kingdom that have a variety of screening test instruments that are equipped with clear and complete items. The reading assessment is important to identify the student's level of mastery (Thomas & Verghis, 2018). The findings from Kristi et al (2022) prove that special education teachers focus more on the students' reading skill background and readiness level. This is also closely related to the results of the fourth item in which ISEP teachers can identify the learning methods of students with autism. It is difficult for the teacher to determine the learning objectives and teaching steps that are appropriate to the student's level of development and the student's way of learning if the reading assessment is not conducted (Afflerbach, 2016). Therefore, most ISEP teachers in this study have conducted reading assessments for students with autism.

The No Child Left Behind Act of 2001 explains that reading skills include 5 basic components which are phonetic awareness, phonics knowledge, reading fluency, vocabulary, and comprehension. This study found that ISEP teachers understood how students of autism learn in stages starting from phonetics until able to apply at least 2 of the 4 teaching methods of reading skill such as the phonics method, the picture cue method, rearrange syllables and read aloud the certain words. The findings are similar to the findings from Braun and Hughes (2020) where special education teachers are knowledgeable about the practice of teaching reading skill which is proven through research. In addition, the findings of the study also support that special education teachers in primary school are found to be more knowledgeable in terms of decoding skills and fluency compared to secondary school special education teachers (Erin et al., 2017). On the other hand, the level of knowledge of special

education teachers about reading skill in Saudi Arabia is at a low level where most of them are not clear about the 5 important components in reading skill as presented in the No Child Left Behind Act of 2001. However, the findings of this study are different from the results of Van den Hurk et al (2017); Washburn et al (2011) where the level of knowledge of special education teachers in the Netherlands is at a low level in the field of decoding skills, reading fluency and vocabulary knowledge. Although this study did not conduct an analysis in terms of the relationship between the level of knowledge of ISEP teachers and the effectiveness of teaching practice, there are studies proving that the level of teacher knowledge has a significant effect on the effectiveness of the teaching and learning process (Williams & Dikes 2015). Teachers need to be good at using teaching resources that are appropriate to the level of mastery of students with autism as evidenced in the findings of the study. Therefore, teachers need to wisely apply the knowledge gained and carry out teaching strategies that are appropriate to the mastery level of students reading skill (Stark et al., 2016).

The sad result of the study is that teachers receive less training on the reading skill of students with autism at university or at the Institute of Teacher Education. The findings are aligned with the study of Loi and Yasin (2017) where special education teachers in Malaysia do not receive special training or courses in the field of autism, as well as the reading skill of students with autism. This is supported by Johan and Alias (2021) where special education teachers believe that it is necessary to increase training, courses or workshops related to autism to improve knowledge and skills to implement teaching practices effectively. In addition, the findings of Hasnah et al (2010) prove that special education teachers in Malaysia do not receive comprehensive training in recognizing the characteristics of autism and teaching methods specifically for students with autism. Special education teachers in the United States are equipped with various training, workshops, and courses provided at university and workplace to improve knowledge and the quality of their teaching (Duke et al., 2011) but not specifically for students with autism. Furthermore, ISEP teachers in this study also read fewer books or journal articles related to the practice of teaching reading skill to students with autism. This is supported by the study of Kretlow and Blatz (2011) as well as Mazzotti et al (2012) who also stated that special education teachers lack the time and initiative to explore the teaching practices studied through research. Teacher's ability may motivate students to continue learning and complete all assignments given. The lack of knowledge and understanding can cause the knowledge conveyed to be ineffective. Content knowledge covers the teacher's knowledge of the core or content that needs to be taught to meet the needs of students in terms of knowledge, skills, and values (Abdul, 2019). If ISEP teachers do not take the initiative to improve their competence in the field of education, the problems such as complaints from students, failure of teachers to deliver lessons clearly, and poor class management as evidenced in Lee and Shafli's study 2017. This problem needs to be overcome by adding a course specifically about autism starting from the Institute of Teacher Education so that the competence of novice special education teachers can be improved and apply the correct and effective teaching strategies when teaching students with autism.

### **The Teaching Practices of ISEP Teachers in The Reading skill of Student with Autism**

The aspect that is the focus in the analysis of the findings about the teacher's teaching practice in reading skill students with autism is the individual teaching of reading skill. The findings of the study show that ISEP teachers are more inclined to teach students with autism individually compared to teaching in groups. The diversity of characteristics among students with autism

has caused special education teachers to use an individual teaching approach based on the needs of each student to achieve the academic goals set including reading skill (Mayton et al., 2010). Each student in ISEP has a variety of disabilities and different development in terms of intellect, interest, competence, creativity, and so on. Therefore, individual teaching can make a difference in achievement and the level of individual mastery (Alsagoff, 1981). This is supported by the results of a study from Bratsch-Hines, Vernon-Feagans, Varghese and Garwood (2017) where the use of individual teaching techniques shows positive effects in improving reading skill, especially for students with reading problems. In addition, some studies found that the teaching of reading skill can be carried out more effectively if the number of students is in small group size (Ankrum, Genest Belcastro, 2014). Competent teachers will make decisions immediately to provide scaffolding to students with reading problems to ensure that no student with autism is neglected during individual teaching.

Special education teachers should diversify teaching methods so that the learning process becomes more creative and attracts students' attention to learning. Besides, ISEP teachers agree that they often use various resources when teaching reading skills such as textbooks, children's story books, and certified websites. The findings of the study are supported by Capay and Capayova (2019) where special education teachers use various teaching aids other than textbooks such as sand, sticks, water as well as technological tools such as tablets, computers, and interactive boards. In addition, resources such as visual and audio are effective in helping students with autism in terms of phonics (Delzell, Browder & Wood, 2014). Since some students with autism have problems in recognizing syllables and forming them into a word, this affects fluency when reading (Sandi & Wahyu, 2019). Therefore, the use of various colourful teaching aids allows students with autism to remember and focus during learning (Alloway & Lepere, 2019). In addition, the findings show that ISEP teachers monitored and observed the development of students with autism in reading skill and analyzed the reading assessment based on their professional views. Just as stated by Simonsen et al (2010), special education teachers need to be encouraged as initiators of ideas so that special education teachers are able to use a variety of research-based teaching practices. This is aligned with The Individuals with Disabilities Education Act (IDEA) in 2004 where the act emphasizes that the use of effective teaching practices that have been proven through research should be used by special education teachers. Primary School Alternative Assessment (PSAA) is a central assessment used for year 6's special needs students who are not following the mainstream curriculum and assessment. Among the constructs in PSAA are reading skills that can assess the level of mastery of students with autism analytically and holistically (Saripah, 2019). However, PSAA has been completely abolished in the year 2021. Besides, ISEP teachers in this study also agreed that the results of student assignments related to reading skill will be collected as evidence. This is in line with the study of Hager et al (2020) where the learning process or performance of students will be recorded through video or audio recording to make it easier for teachers to assess students regardless of time and place. Not only that, but teachers are also able to repeat the video and audio recordings to get more accurate student achievement data.

### **The Constraints of ISEP Teachers When Teaching Reading skill To Student with Autism**

ISEP teachers are among the groups that need to be held accountable for teaching special needs students who experience learning, physical, emotional, and behavioral problems. To meet the diversity of abilities among special needs students at ISEP, ISEP teachers need to develop appropriate strategies based on their respective special needs students' mastery



levels. Various categories of special needs students in ISEP such as students with autism, down syndrome, intellectual disability, global development delay (GDD), attention deficit hyperactivity disorder (ADHD), speech delay, and dyslexia. However, the diversity of student categories in the class is the main factor that causes difficulties for teachers to teach simultaneously. Therefore, the ISEP teachers in this study did not have enough time to teach the reading skill of students with autism and needed more time to plan and prepare teaching aids. This is supported by Syed et al (2017) teachers are often given tasks that are not related to the main duties of teachers. Teachers may lose focus on work because many tasks need to be completed at one time. The increasingly complicated and challenging tasks of teachers cause teachers to feel that a task that was originally a form of responsibility has turned into a form of burden (Dzulkifli, 2018). The findings of Robabeh & Sadraddin (2020) proved that there is a significant negative correlation between time management and the level of work stress among teachers. Although the study shows that teachers' time management skills are at a moderate level, the level of teacher work stress is more than the mean score value. This gives bad implications for teachers in terms of motivation and efficiency in carrying out tasks. In addition, it also affects the learning process of students with autism directly.

In addition, ISEP teachers agree that the teacher aides or special needs teacher assistants are always together to guide students with autism during reading activities. This is supported by studies in Australia and Scotland where teacher aides are responsible for guiding low-level special needs students so that activities such as group reading or individual reading can be carried out successfully (Harris & Aprile, 2015; Warhurst et al, 2014). However, the study of Radford et al (2015) stated that teacher aides or special needs teacher assistants do not know the correct method to guide students with autism during reading activities due to the lack of training and related courses given. teacher aides and special needs teacher assistants are important human resources in improving the reading skill of students with autism, so ISEP teachers should work with teacher aides and special needs teacher assistants in order the needs of special needs students are always met and ensure that the learning process is carried out effectively (Mohamed & Khairuddin, 2022). Next, one of the ways to improve teachers' skills in a certain field is to involve themselves in the training and courses provided (Mufidah, 2022). However, the sad results of the study are that teachers who attend courses or workshops that provide training on teaching the reading skill of students with autism display a relatively low mean score. ISEP teachers also agreed that schools and the Malaysian Ministry of Education (MOE) or non-governmental organization rarely provide professionalism development training for ISEP teachers in an effort to teach reading skills to students with autism. This statement is supported by Nelson et al (2019) where teachers are unable to apply teaching strategies effectively if they are not given the basic training and resources. The teacher's competence will motivate students to continue learning and complete all the assignments given. Lack of knowledge and understanding can cause the knowledge conveyed to be ineffective. The main domain in shaping one's actions is knowledge (Muhammad, 2010). Content knowledge covers the teacher's knowledge of the core or content that needs to be taught to meet the needs of students in terms of knowledge, skills and values (Abdul Halim, 2014).

## **Conclusion**

In general, the level of knowledge of ISEP teachers in primary schools and teacher teaching practices in reading skill for students with autism is at a moderate level. This is due to the lack of courses and training on reading skills provided to ISEP teachers. In addition, most of the

teachers do not continue learning to a higher level of education. Teacher training should be held frequently to improve knowledge and strategies for teaching reading skills more professionally and effectively. This effort is not only to improve the expertise of teachers, but can also help special education students such as autism, Down Syndrome and Dyslexia in overcoming reading problems. Teachers should take the initiative and commitment to increase the level of professionalism. In addition, the level of teacher constraints in teaching reading skills of students with autism is relatively high. This is because the diversity of students with autism's abilities at ISEP has increased the difficulty of teachers in providing teaching aids and developing strategies for teaching reading skill. The teaching objectives that have been set are difficult to achieve if the teacher only uses one method or material to deliver lessons in teaching reading skill. Therefore, teachers must always be creative and competent to build various strategies and provide teaching aids that are appropriate to the level of mastery of the student with autism without neglecting any student with special education needed in the class. The results of this study can provide benefits to teachers, especially educators who teach students with autism at ISEP. Through the studies that have been carried out, the teacher's knowledge influences the skills and level of competence of the teacher to teach students to improve their reading skill. Although some students with autism can read fluently, yet they cannot express the meaning or content of what they have read. Teaching reading methods that benefit children should be delivered through a safe learning environment and engaging in fun, creative and meaningful activities. This study can be expanded by using a larger number of samples to increase the validity of the study. Due to time and convenience factors, this study was only conducted in one district with the involvement of only 132 teachers as a study sample. Therefore, this study is not generalized to all schools in the state. Therefore, the researchers suggest that this study be expanded to more schools with a larger number of respondents. Although teachers have various strategies for improving the reading skill of students with autism, this study suggests strengthening the findings by taking into account the views of students as well as their parents because they are the group involved in learning to read directly and indirectly in further studies. The research findings are significant in the context of special education as they contribute to the development of evidence-based teaching practices for students with autism. The study highlights the importance of individualized instruction and teachers' knowledge in teaching reading skills to students with autism. These findings have important implications for special education teachers, educators, and policymakers who are involved in improving the quality of education for students with autism. Moreover, the research also contributes to the broader field of autism research, as it provides insights into the specific challenges faced by students with autism in developing reading skills. This study can inform the development of more targeted interventions to support the learning needs of students with autism, particularly in the area of reading.

## References

- Abdul, H. M., Nur, E. A., & Nur, A. S. Z. (2019). Pengetahuan Pengajaran Dalam Kalangan Guru Prasekolah. *Jurnal pendidikan awal kanak-kanak kebangsaan*, 8, 33-41.
- Accardo, A. L., Finnegan, E. G., Gulkus, S. P., & Papay, C. K. (2017). Teaching reading comprehension to learners with autism spectrum disorder: Predictors of teacher self-efficacy and outcome expectancy. *Psychology in the Schools*, 54(3), 309-323.
- Afacan, K., Wilkerson, K. L., & Ruppard, A. L. (2017). Multicomponent Reading Interventions for Students with Intellectual Disability. *Remedial and Special Education*, 39(4), 229-242.

- Afflerbach, P. (2016). Reading Assessment. *The reading teacher*, 69 (4), 413-419.
- Alsagoff, S. A. (1981). Pengenalan Pengajaran Individu dengan Tumpuan Khas kepada Modul Pengajaran dan Modul Pembelajaran. *Pendidik dan pendidikan*, 3(1), 46-57.
- Alloway, T., & Lepere, A. (2019). Sustained Attention and Working Memory in Children with Autism Spectrum Disorder. *International Journal of Disability, Development and Education*, 1-10.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders. 5th ed.* American Psychiatric Publishing.
- Ankrum, J. W., Genest, M. T., & Belcastro, E. G. (2014). The power of verbal scaffolding: "Showing" beginning readers how to use reading strategies. *Early Childhood Education Journal* 42: 39-47.
- Arnold, S., & Reed, P. (2016). Reading assessments for students with ASD: a survey of summative reading assessments used in special educational schools in the UK. *Journal of Special Education*, 43 (2), 122-141.
- Bratsch-Hines, M. E., Vernon-Feagans, L., Varghese, C., & Garwood, J. (2017). Child Skills and Teacher Qualifications: Associations with Elementary Classroom Teachers' Reading Instruction for Struggling Readers. *Learning Disabilities Research & Practice*, 32(4), 270-283.
- Braun, G., & Hughes, M. T. (2020). Examining teachers practice: enhancing reading comprehension for students with autism spectrum disorder. *Journal of Teacher Education and Educators*, 9(3), 287-307.
- Brock, M. E., Huber, H. B., Carter, E. W., Juarez, A. P., & Warren, Z. E. (2014). Statewide assessment of professional development needs related to educating students with autism spectrum disorder. *Focus on Autism and Other Developmental Disabilities*, 29(2), 67-79.
- Brown, H. M., Oram-Cardy, J., & Johnson, A. (2013). A meta-analysis of the reading comprehension skills of individuals on the autism spectrum. *Journal of Autism and Developmental Disorders*, 43(4), 932-955.
- Bean, A. F., Perez, B. I., Dynia, J. M., Kaderavek, J. N., & Justice, L. M. (2020). Book-Reading Engagement in Children with Autism and Language Impairment: Associations with Emergent-Literacy Skills. *Journal of Autism and Developmental Disorders*, 50(3), 1018-1030.
- Capay, M., & Capayova, J. (2019). Teaching Writing and Reading to Children with Autism. *IEEE Global Engineering Education Conference (EDUCON)*, 1250 - 1254.
- Chang, Y. C., Holly, M., Menzies., & Osipova, A. (2020). Reading Comprehension Instruction for Students with Autism Spectrum Disorder. *International Literacy Association*, 1-10.
- Cohen, R. A., Mather, N., Schneider, D. A., & White, J. M. (2017). A comparison of schools: teacher knowledge of explicit code-based reading instruction. *Reading and Writing*, 30, 653-690.
- Connor, C. M., Alberto, P. A., Compton, D. L., & O'Connor, R. E. (2014). *Improving reading outcomes for students with or at risk for reading disabilities: A synthesis of the contributions from the institute of education sciences research centers.* Washington, DC. National Center for Special Education Research, Institute Education Science, U.S. Department of Education.
- Delzell, L. A., Browder, D., & Wood, L. (2014). Effects of Systematic Instruction and an Augmentative Communication Device on Phonic Skills Acquisition for Students with

- Moderate Intellectual Disability Who are Nonverbal. *Education and Training in Autism and Developmental Disabilities*, 49 (4), 517 – 532.
- Duke, N., Pearson, D., Strachan, S., & Billman, A. (2011). Essential elements of fostering and teaching reading comprehension. In A. Farstrup & J. Samuels (Eds.), *What research has to say about reading instruction* (4th ed., pp. 51–93). International Reading Association.
- Dzulkifli, D. N. A. K. (2018). Pengaruh Beban Tugas dan Motivasi Terhadap Keefisienan Kerja Guru Sekolah Menengah di Sabah. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 3(2), 77-84.
- Englert, C. S., Mariage, T. V., Truckenmiller, A. J., Brehmer, J., Hicks, K., & Chamberlain, C. (2020). Preparing special education preservice teachers to teach phonics to struggling readers: Reducing the gap between expert and novice performance. *Teacher Education and Special Education*, 43(3), 235–256.
- Graham, S., Harris, K. R., Kiuahara, S. A., & Fishman, E. J. (2017). The Relationship among Strategic Writing Behavior, Writing Motivation, and Writing Performance with Young, Developing Writers. *The Elementary School Journal*, 118(1), 82- 104.
- Hafizati, H. I., & Suziyani, M. (2021). Kompetensi guru-guru bukan opsyen dalam pengajaran dan pembelajaran pendidikan prasekolah. *Jurnal Dunia Pendidikan*, 3(2), 377-385.
- Hager, K. D., Fiechtl, B. J., Gunn, S. (2020). Assessing Student Performance Using Video Recordings in Field- Based Experiences. *Journal on Empowering Teaching Excellence*, 4 (2), 7-13.
- Halizah, A., & Zaidatun, T. (2019). Kesan Penggunaan Aplikasi Mobil Terhadap Kemahiran Literasi Bahasa Melayu Pelajar Pendidikan Khas Bermasalah Pembelajaran. *Innovative Teaching and Learning Journal*, 2(2), 1–16.
- Hasbrouck, J. E., & Denton, C. A. (2005). *The Reading Coach: A How-To Manual for Success*. Longmont, CO: Sopris West Education Services.
- Harris, L. R., & Aprile, K. T. (2015). 'I can sort of slot into many different roles: examining teacher aide roles and their implications for practice'. *School Leadership & Management*, 35(2), 140 -162.
- Henderson, L. M., Clarke, P. J., & Snowling, M. J. (2014). Reading comprehension impairments in Autism Spectrum Disorders. *L'Année Psychologique*, 114(4), 779–797.
- Hochberg, E. D., & Desimone, L. M. (2010). Professional development in the accountability context: Building capacity to achieve standards. *Educational Psychologist* 45, 89-106.
- Kemal, A., Wilkerson, K. L., & Ruppard, A. L. (2017). Multicomponent Reading Interventions for Students with Intellectual Disability. *Remedial and Special Education*, 39(4), 229–242.
- Kementerian Pendidikan Malaysia (Malaysian Ministry of Education). (2017). *Dokumen standard kurikulum dan pentaksiran: Asas 3M*. Bahagian Pembangunan Kurikulum Kementerian Pendidikan Malaysia.
- Kenner, B. B., Terry, N. P., Friehling, A. H., & Namy, L. L. (2017). Phonemic awareness development in 2.5- and 3.5-year-old children: An examination of emergent, receptive, knowledge and skills. *Reading and Writing*, 30 (7), 1575–1594.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607 -610.
- Kretlow, A. G., & Blatz, S. L. (2011). The ABCs of evidence-based practice for teachers. *TEACHING Exceptional Children*, 43(5), 8–19.
- Kristi, J., Piret, S., & Mikko, A. (2022). General and special education teachers' knowledge about reading comprehension processes and instructional practices. *Reading and Writing*, 35, 2229 – 2256.

- Lau, S. C., & Tahar, M. M. (2021). Penggunaan Peralatan Multisensori Buku Audio Dalam Meningkatkan Minat Murid-murid Masalah Pembelajaran Terhadap Membaca. *Jurnal Dunia Pendidikan*, 3 (1), 530-536.
- Lin, C. S. (2014). Early language learning profiles of young children with autism: Hyperlexia and its subtypes. *Research in Autism Spectrum Disorders*, 8(3), 168–177.
- Loi, S. W., & Mohd-Yasin, M. H. (2017). Teacher Training to Increase Teacher's Competency in Teaching Autism Child. *Journal of ICSAR*, 1(1), 1-5.
- Makin, L., & Whitehead, M. (2004). *How to develop children's early literacy*. Paul Chapman Publishing.
- Mayton, M. R., Wheeler, J. J., Menendez, A. L., & Zhang, J. (2010). An analysis of evidence-based practices in the education and treatment of learners with autism spectrum disorders. *Education and Training in Autism and Developmental Disabilities*, 45(4), 539–551.
- Mazzotti, V. L., Rowe, D. R., & Test, D. W. (2012). Navigating the evidence-based practice maze: resources for teachers of secondary learners with disabilities. *Intervention in School and Clinic*, 48(3), 159–166.
- McIntyre, N. S., Solari, E. J., Grimm, R. P., Lerro, E., Gonzales, J. E., & Mundy, P. C. (2017). A comprehensive examination of reading heterogeneity in students with high functioning autism: Distinct reading profiles and their relation to autism symptom severity. *Journal of Autism and Developmental Disorders*, 47(4), 1086–1101.
- McIntyre, N. S., Solari, E. J., Gonzales, J. E., Solomon, M., Lerro, L. E., Novotny, S., Oswald, T., & Mundy, P. C. (2017). The scope and nature of reading comprehension impairments in school-aged children with higher-functioning autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 47(9), 2838–2860.
- Mohd, J. A. R., & Alias, A. (2021). Kesedaran guru pendidikan khas terhadap latihan berkaitan autisme. *Jurnal Dunia Pendidikan*, 3 (2), 113-118.
- Mohamed, N. N., & Khairuddin, K. K. (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.
- Mufidah, D. M. (2022). Tahap penggunaan multimedia bagi pdpc kemahiran membaca dalam kalangan guru pemulihan khas. *Akademika*, 92 (1), 45 – 57.
- Nation, K., Clarke, P., Wright, B., & Williams, C. (2006). Patterns of reading ability in children with autism spectrum disorder. *Journal of Autism and Developmental Disorder*, 36(7), 911– 999.
- Nelson, M. J., Voithofer, R., & Cheng, S. L. (2019). Mediating factors that influence the technology integration practices of teacher educators. *Computers and Education*, 128, 330-344.
- Ostrolenk, A., Forgeot d'Arc, B., & Mottron, L. (2018). *Autistic children at the age of diagnosis are more interested in letters than typical children*. The 17th International Society for Autism Research Conference. Rotterdam, Netherlands.
- Radford, J., Bosanquet, P., Webster, R., Blatchford, P. (2015). Scaffolding learning for independence: Clarifying teacher and teaching assistant roles for children with special educational needs. *Learning and Instruction*, 36, 1–10
- Riduwan. (2012). *Skala Pengukuran Variable-variable: Penelitian*. Alfabeta.
- Robabeh, A., & Sadraddin, S. (2020). Relationship between Teachers' Time Management Skills and Job Stress in Girls' Schools in Ardabil City. *Teacher Professional Development*, 5(1), 87-102.



- Sala, R. T., & Valios, V. C. (2019). Children with autism and picture books: extending the reading experiences of autistic learners of primary age. *Literacy UKLA*, 00(0), 1- 7.
- Sandi, M., & Wahyu, K. (2019). Pengaruh Penerapan Metode VAKT (Visual, Auditory, Kinesthetic, Tactile) Terhadap Peningkatan Kemampuan Membaca Permulaan Pada Siswa Kelas I Sekolah Dasar. *Anfusina: Journal of Psychology*, 2 (1), 61-78.
- Saripah, G. H. (2019). Pentaksiran alternatif sekolah rendah(pasr) membantu kemenjadian murid pendidikan khas sekolah rendah. *International Conference On Special Education In Southeast Asia Region*, 566- 575.
- Stark, H. L., Snow, P. C., Eadie, P. A., & Goldfeld, S. R. (2016). Language and reading instruction in early years' classrooms: The knowledge and self-rated ability of Australian teachers. *Annals of Dyslexia*, 66(1), 28-54.
- Syed, K. S. A., Mohd, F. H. H., & Habib, M. S. (2017). Tekanan dan Kepuasan Kerja dalam Kalangan Guru Pendidikan Jasmani. *Journal of Global Business and Social Entrepreneurship (Gbse)*, 1(1), 122-135.
- The Government of the United States of America. (2002). *No Child Left Behind Act of 2001*. (P.L. 107-110).
- Thomas, S., & Verghis, L. (2018). Reading assessment. *IJRAR* 5 (4), 48- 54.
- Toran, H., Mohd, H. M. Y., Mohd, M. T., & Norani, S. (2010). Tahap latihan, pengetahuan dan keyakinan guru-guru pendidikan khas tentang autisme (special educators' level of training, knowledge and confidence of autism). *Jurnal Pendidikan Malaysia*, 35 (1), 19-26.
- Toran, H., Westover, J. M., Kamaralzaman, S., Mohamed, S., & Mohd-Yasin, M. H. (2016). The preparation, knowledge and self-reported competency of special education teachers regarding students with autism. *Pertanika J. Soc. Sci. & Hum*, 24 (1), 185-196.
- U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. (2017). National Assessment of Educational Progress Reading Report Card. [https://www.nationsreportcard.gov/read-ing\\_2017/#/nation/scores?grade=4](https://www.nationsreportcard.gov/read-ing_2017/#/nation/scores?grade=4).
- Van den Hurk, H. T. G., Houtveen, A. A. M., & Van de Grift, W. J. C. M. (2017). Does teachers' pedagogical content knowledge affect their fluency instruction? *Reading and Writing*, 30, 1231– 1249.
- Warhurst, C., Nickson, D., Commander, J., & Gilbert, K. (2014). 'Role stretch': Assessing the blurring of teaching and non-teaching in the classroom assistant role in Scotland. *British Educational Research Journal*, 40(1), 170–186.
- Washburn, K. E., Mulcahy, C. A., & Musante, G. (2017). Novice teachers' knowledge of reading-related disabilities and dyslexia. *Learning Disabilities: A Contemporary Journal*, 15(2), 169-191.
- Washburn, K. E., Joshi, R. M., & Binks-Cantrell, E. S. (2011). *Teacher knowledge of basic language concepts and dyslexia*. *Dyslexia*, 17(2), 165–183.
- Whalon, K. J., & Hart, J. E. (2011). Children with autism spectrum disorder and literacy instruction: an exploratory study of elementary inclusive settings. *Remedial and Special Education*, 32 (3), 243–255.
- Williams, J., & Dikes, C. (2015). The implications of demographic variables as related to burnout among a sample of special education teachers. *Education*, 135(3), 337-345.
- Yilmaz, M. (2019). *Okuma güçlüğü ve tedavisi*. Gece Akademi.
- Yusuf, Y., Tahar, M. M., & Nashoba, M. H. M. (2018). Keberkesanan Intervensi Membaca Secara Berulang Bersama Rakan Pembaca terhadap Kefasihan Membaca Murid Bermasalah Pembelajaran ,4 (1), 52-58.



- Yuzaila, B. Y., Mohd, M. B. T., & Mohd, H. B. M. N. (2018). Keberkesanan Intervensi Membaca Secara Berulang Bersama Rakan Pembaca terhadap Kefasihan Membaca Murid Bermasalah Pembelajaran. *Jurnal Ortopedagogia*, 4(1), 52-58.
- Zamri, M., Nik, M. R. N. Y., & Juliawati, I. (2009). Perbandingan gaya pengajaran guru Bahasa Melayu dan guru Bahasa Inggeris. *Jurnal Pendidikan Malaysia*, 34(1), 67–92.
- Zhang, S., & Joshi, R. M. (2019). Profile of hyperlexia: Reconciling conflicts through a systematic review and meta-analysis. *Journal of Neurolinguistics*, 49, 1–28.