ORIGINAL ARTICLE

Knowledge of Special Education Teachers' on Learning Disabilities

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Abstract:

Learning disability is commonly related to reading disability, mathematical disability, writing disability, sensory disability and problems with visual-spatial, intuitive, organizational, evaluative and holistic processing functions. Special education teachers need to do effective, efficient and quality screening and assessment services for identification of children with learning disabilities. T There is a lack of information about the knowledge among special education teachers on learning disabilities .Aim of this study is to identify the level of knowledge on learning disabilities among special education teachers. This was a cross-sectional study, 94 participants in integrated primary schools in Petaling Perdana District, Selangor were participated in this study. The questionnaire consists of socio-demographics items and Knowledge Questionnaire on Learning Disabilities. The results shows 76 participants (80.9%) showed that majority of the special education teachers are in the average level of knowledge on learning disabilities. There are no significant differences in the level of knowledge on learning disabilities with all socio-demographic data.

Keywords: *Knowledge, Learning disabilities, Socio-demographic, Special education teachers*

1. INTRODUCTION

There has been a consistent increase in the awareness of learning disability in this new era [1]. Learning disability is an "umbrella" term describing more specific learning disabilities such as reading disability (Dyslexia), mathematical disability (Dyscalculia), writing disability (Dysgraphia), sensory disability (Auditory and Visual Processing Disorder) and problems with visual-spatial, intuitive, organizational, evaluative and holistic processing functions (Nonverbal Learning Disabilities) [2]. Due to the increased number of children with learning disabilities, a multidisciplinary team including teachers need to do effective, efficient and quality screening and assessment services for identification of children with learning disabilities[3]. However, Malaysian mainstream teachers' and special education teachers' knowledge about children with specific learning disabilities was low and limited [4]. The factors that influence teachers' knowledge of learning disabilities are lack of time for professional development on learning disabilities, poor training, the overload of work, insufficient preparation of special education teachers and teachers' misunderstanding of special education terms [5].

Besides, there is no specific formal definition for specific learning disabilities [6]. In Malaysia, there are two different approaches for defining learning disabilities which are the definition used in the medical field and the definition used by another field such as educational and social services [3]. This lack of a standard definition of learning disabilities may be a contributing factor to teachers' confusion and knowledge of learning disabilities [5].

Teachers' lack of knowledge often leads to the students' poor performance and low motivation in school [7]. If teachers' knowledge is low and limited, they will not be able to accommodate students with learning disabilities [8]. Professionals involved should prepare themselves with the most recent knowledge and information on specific learning disabilities so that appropriate counseling and support can be given to persons with specific learning disabilities and their families [9]. To date, there is lack of information about the knowledge among special education teachers on learning disabilities. Hence, there is a need for the study to be conducted.

2. METHODOLOGY

This study is a cross-sectional study with convenience sampling which is used to identify the level of knowledge on learning disabilities among special education teachers. The population of this were calculated using the Roasoft sample size calculation software. The commonly accepted value is 124 respondents. The questionnaires have been distributed to 6 integrated primary schools in Petaling Perdana District, Selangor but only 94 respondents completely answered the questionnaire. The questionnaire has been distributed in paper pencil method.

The questionnaire consists of two-part which are demographic questions and Knowledge Questionnaire on Learning Disabilities. Part I of the questionnaire consists of demographic information about participants. Demographic data contains the question about gender, age, number of years of working experience, educational qualification, marital status, and duration of special education courses.

For Part II, the Knowledge Questionnaire on Learning Disabilities questionnaire consists of 40 items proposed by Padmavathy and Lalitha in 2009. The tool contains 40 multiple choice questions with only 1 correct answer for each. Each participant gets one mark (1) for correct response and zero (0) mark for wrong response. The maximum score is 40 and the minimum score is zero (0). The questionnaire has 7 dimensions which are concept and definition, incidence and prevalence, causes and classification, clinical manifestations, investigations, treatment, and outcome. The tool was validated (content validation by experts) and adequate reliability was also established (0.74 - Guttmann split-half method) [10].

3. RESULT AND DISCUSSION

3.1. Descriptive statistics of socio-demographic variables for special education teachers.

As seen in Table 1, the majority of the respondents are 36-50 years of age. 50.0 % (47) of the respondents are 36-50 years of age, 39.4% (37) of respondents are 20-35 years of age and 10.6% (10) of the respondents are 51-65 years of age. Besides, majority of the respondents are married which is comprised of 80.9% (76) among the respondents. 9.6% (9) of the respondents are single while only 5.3% (5) and 4.3% (4) are divorced and widowed. For the educational level, the majority of the respondents have a Bachelor's Degree or its equivalent, which is comprised of 84.0% (79) among the respondents. 11.7% (11) of the respondents have a Diploma or its equivalent, and only 4.3% (4) of the respondents have a Master's degree. Other than that, years of teaching experiences of the respondents were categories into four categories, above 1 year to 5 years, 6 years to 10 years, 11 years to 15 years, and above 15 years. Majority of the respondents has 6 to 10 years of teaching experiences. 41.5 % (39) of the respondents have 6 to 10 years of teaching experiences, 18.1% (17) of respondents has 1 to 5 years of teaching experiences, 20.2% (19) has 11 years to 15 years of teaching experiences and 20.2% (19) of the respondents has above 15 years of teaching experiences. For the duration of attending special education courses, the majority of the respondents have been attending to the special education courses for above 1 year which is comprised of 66.0% (62) among the respondents. 21.3% (20) of the respondents have been attending to the special education courses for below than 6 months while 12.8% (12) of the respondents have been attending to the special education courses for 7 months to one year.

Table 1. Descriptive statistics of socio-demographic variables for special education teachers.

Variables	Frequency (n=94)	Percent %	Median(IQR)
Gender			
Male	8	8.5	2.00(0)
Female	86	91.5	2.00(0)
Age			
20-35	37	39.4	2.00(0)
36-50	47	50.0	2.00(0)
51-65	10	10.6	2.00(0)
Marital Status			
Single	9	9.6	2.00(1)
Married	76	80.9	2.00(0)
Divorced	5	5.3	2.00(1)
Widowed	4	4.3	2.00(1)
Level of Education			
Diploma	11	11.7	2.00(0)
Bachelor Degree	79	84.0	2.00(0)
Master Degree	4	4.3	2.50(1)
Years of Experience			
≥1-5	17	18.1	2.00(0)
6-10	39	41.5	2.00(0)
11-15	19	20.2	2.00(0)
>15	19	20.2	2.00(1)
Duration of Special Education Courses			
≤ 6 months	20	21.3	2.00(0)
7 – 12 months	12	12.8	2.00(0)
>1 year	62	66.0	2.00(0)

3.2. Level of knowledge on learning disabilities among special education teachers.

The Knowledge Questionnaire on Learning Disabilities is a measurement tool that is used to identify the knowledge of primary school teachers in identifying children with learning disabilities. The interpretation of the score was subgrouped into 3 categories for analysis and categorized as ‘good': score >75%, ‘average': score 50-75% and ‘poor': score <50%. Frequencies analysis was carried out to check frequency level of knowledge on learning disabilities among special education teachers and descriptive analysis data showed that mean and standard deviation of level of knowledge on learning disabilities among special education teachers mean (SD) 2.13 (0.42).

Overall, 76 special education teachers (80.9%) showed that the majority of the special education teachers are in the category of the average level of knowledge on learning disabilities. 15 (16.0%) had poor level of knowledge on learning disabilities and only 3 special education teachers (3.2%) showed good level of knowledge on learning disabilities as shown in Table 2.

In line with this, according to the results found in a few

Indian studies, the teachers had a moderate level of knowledge about specific learning disabilities, irrespective of their gender and teaching experience.[1,11] Besides, a found that Kuwait teachers' knowledge of LD also was limited and low [12].

Table 2. Level of knowledge on learning disabilities among special education teachers.

Level of knowledge on learning disabilities	Frequency (n=94)	Percent %
>75% (Good)	3	3.2
50 – 75 (Average)	76	80.9
<50% (Poor)	15	16.0

3.3. Level of knowledge on learning disabilities among special education teachers with socio-demographic data.

Gender

As the data is not normally distributed, then the data need to be analyzed by using the Mann-Whitney test. The final result for the level of knowledge on learning disabilities among special education teachers based on the gender of the teachers is median (IQR) of male teachers, 2.00 (0) and median (IQR) of female teachers, 2.00 (0). Result of Mann-Whitney test = -0.05 (p-value = 0.96). Based on the results, the null hypothesis should not be rejected since p-value more than the significance value, 0.05. Therefore, there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on the gender of the teachers. Table 3 shows the result of the level of knowledge on learning disabilities among special education teachers based on the gender of the teachers.

There are few previous studies that emphasis on knowledge of learning disabilities based on the gender of the teachers. A study revealed that the gender of the teachers has significant differences in the level of knowledge about specific learning disabilities [1]. Besides, there also a study conducted in identifying Estonian teachers' knowledge about learning disabilities revealed that female teachers have better knowledge compared to male teachers [13]. Other than that, a study found that the teacher's gender has its role in the effectiveness of the teachers [14]. However, the finding of this study is contradictory to the findings of many other studies. This study reveals that the special education teacher's gender has no role in the knowledge on learning disabilities.

Table 3. Level of knowledge on learning disabilities among special education teachers with the gender of the teachers.

Variables	Male (n=8) Median (IQR)	Female (n=86) Median (IQR)	Z statistic[a]	**P value[a]**
Level of knowledge	2.00 (0)	2.00 (0)	-0.05	**0.96**

aMann-Whitney test

Age

Kruskal-Wallis test was conducted to identify any significant differences in the level of knowledge on learning disabilities among special education teachers as the data is not normally distributed. The final result is median (IQR) of age 25-35, 2.00 (0), median (IQR) of age 36-50, 2.00 (0) and median (IQR) of age 51-65, 2.00(0). Result of Kruskal-Wallis test = 2.25(2) (p-value = 0.32). Based on the results, the null hypothesis should be accepted since p-value more than the significance value, 0.05. Therefore, there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on the age of the teachers. Table 4 shows the result of the level of knowledge on learning disabilities among special education teachers based on the age of the teachers.

There are few previous studies that are consistent with the finding of this study which emphasis on knowledge of learning disabilities among teachers based on the age of the teachers. A study analyzed that school environment factors and personal characteristic factors of the teachers which are the age of the teachers and teaching experience have no statistically significant relationship towards the awareness of learning disabilities [15]. In addition, there is also a study revealed that there was no association between level of knowledge with the age of the teachers and teaching experience [16].

Table 4. Level of knowledge on learning disabilities among special education teachers based on the age of the teachers.

Variables	25-35 n=37	36-50 n=47	51-65 n=10	X2 statistic (df)[a]	**P value[a]**
	Median (IQR)				
Level of knowledge	2.00 (0)	2.00 (0)	2.00 (0)	2.25 (2)	**0.32**

aKruskal-Wallis test

Years of experiences

The final result for level of knowledge on learning disabilities among special education teachers based on years of experiences of the teachers is median (IQR) of ⩾1-5 years, 2.00 (0), median (IQR) of 6 -10 years, 2.00 (0), median (IQR) of 11-15 years, 2.00(0) and median (IQR) of >15 years, 2.00(1) . Result of Kruskal-Wallis test = 0.57(3) (p-value = 0.90). Therefore, there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on years of experiences of the teachers. Table 5 shows the result of the level of knowledge on learning disabilities among special education teachers based on years of experiences of the teachers.

A study mentioned that the number of years of teaching experience in primary school did not show any statistically significant association with the fund of knowledge on specific learning disabilities [11]. Thus, the finding of this study also reveals that there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on years of experiences of the teachers. However, there are few previous

study emphasis that length of experience with disabled children influenced the teachers' knowledge [13]. Teachers who have been working for more than 20 years had better knowledge than the teachers who had less working experiences [12].

Table 5. Level of knowledge on learning disabilities among special education teachers based on the age of the teachers.

Variables	≥1-5 n=17	6 -10 n=39	11-15 n=19	>15 n=19	X2 statistic (df)[a]	**P value[a]**
	Median (IQR)					
Level of knowledge	2.00 (0)	2.00 (0)	2.00 (0)	2.00 (1)	0.57 (3)	**0.90**

aKruskal-Wallis test

Marital status

The final result is median (IQR) of single, 2.00 (1), median (IQR) of married, 2.00 (0), median (IQR) of divorced, 2.00(1) and median (IQR) of widowed, 2.00(1) . Result of Kruskal-Wallis test = 3.42(3) (p-value = 0.33). Based on the results, the null hypothesis should be accepted since p-value more than the significance value, 0.05. Therefore, there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on the marital status of the teachers. Table 6 shows the result of the level of knowledge on learning disabilities among special education teachers based on the marital status of the teachers.

A study mentioned that the influence of marital status between the married and unmarried teachers influenced the teachers' effectiveness in their teaching profession [17]. This is because 75% of married teachers experiencing more work-family conflict than single, divorced and separated teachers [18]. However, the finding of this study is contradictory to the other studies which are there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on the marital status of the teachers. There is also a study revealed that married and unmarried teachers are found to have no significant difference in terms of the amount of responsibility and overload of work [19].

Table 6. Level of knowledge on learning disabilities among special education teachers based on the marital status of the teachers.

Variables	Single n=9	Married n=76	Divorced n=5	Widowed n=4	X2 statistic (df)[a]	**P value[a]**
	Median (IQR)					
Level of knowledge	2.00 (1)	2.00 (0)	2.00 (1)	2.00 (1)	3.42 (3)	**0.33**

aKruskal-Wallis test

Educational qualification

The final result is median (IQR) of diploma, 2.00 (0), median (IQR) of bachelor degree, 2.00 (0) and median (IQR) of master degree, 2.50(1). Result of Kruskal-Wallis test = 3.42(2) (p-value = 0.18). Based on the results, the null hypothesis should not be rejected since p-value more than the significance value, 0.05. Therefore, there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on education qualification of the teachers. Table 7 shows the result of the level of knowledge on learning disabilities among special education teachers based on education qualification of the teachers.

In line with this result, there is also a study stated that educational qualification has no significant mean differences in primary school teachers' knowledge of the early signs of dyslexia [12]. However, there also study emphasis that teachers who had a bachelor's degree in education had better knowledge than the other teachers [10]. Besides, a study stated that educational qualifications of teachers in special schools may influence the level of knowledge on learning disabilities and there are only 26% of teachers in special schools who had an undergraduate or graduate degree in education [20].

Table 7. Level of knowledge on learning disabilities among special education teachers based on education qualification of the teachers.

Variables	Diploma n=11	Bachelor Degree n=79	Master Degree n=4	X2 statistic (df)[a]	**P value[a]**
	Median (IQR)				
Level of knowledge	2.00 (0)	2.00 (0)	2.50 (1)	3.42 (2)	**0.18**

aKruskal-Wallis test

Duration of special education courses

The final result is median (IQR) of ≤ 6 months, 2.00 (0), median (IQR) of 7 – 12 months, 2.00 (0) and median (IQR) of > 1year, 2.00(0). Result of Kruskal-Wallis test = 0.86(2) (p-value = 0.65). Thus, there is no significant difference between the level of knowledge on learning disabilities among special education teachers based on the duration of special education courses. Table 8 shows the result of the level of knowledge on learning disabilities among special education teachers based on the duration of special education courses.

A study revealed that there is no evidence that either undergraduate training or the scholastic aptitude of teachers influence their ability to increase student achievement [21]. However, the quality of teacher education, experience, interest, special training and child's gender are several factors that can influence teachers' knowledge [13]. The performance of students with special needs will be affected if the teachers are not adequately trained and prepared to teach the students [20].

Table 8. Level of knowledge on learning disabilities among special education teachers based on the duration of special education courses.

Variables	≤ 6 months n=20	7 – 12 months n=12	> 1year n=62	X2 statistic (df)[a]	**P value[a]**
	Median (IQR)				
Level of knowledge	2.00 (0)	2.00 (0)	2.00 (0)	0.86 (2)	**0.65**

aKruskal-Wallis test

4. CONCLUSION

Majority of the special education teachers are in the category of the average level of knowledge on learning disabilities. All of the demographic data have no role in the level of knowledge on learning disabilities among special education teachers.

From the finding of the study, the limitation of this study is this study only focuses on the overall total score and it does not explain the level of knowledge on learning disabilities for each of the dimensions in the questionnaire such as concept and definition, incidence and prevalence, causes and classification, clinical manifestations, approaches to assessment, interventions, and outcome.

The recommendations for further research is the comparison between the level of knowledge on learning disabilities among special education teachers in rural areas and urban areas. The socio-demographic factors can be used in further research as the variables in order to explore the impact of different socio-demographic factors in rural areas and urban areas on the level of understanding about learning disabilities.

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REFERENCES

[1] Kamala, R., & Ramganesh, E. (2013). Knowledge of specific learning disabilities among teacher educators in Puducherry, Union Territory in India. *International Review of Social Sciences and Humanities*, *6*(1), 168-175.

[2] Shilpa. (2000, January 20). Detect Learning Disabilities in Children. Retrieved from http://www.indiaparenting.com/childs-healthcare/36_240/detect-learning-disabilities-inchildren.html

[3] Dzalani, H., & Shamsuddin, K. (2014). A Review of Definitions and Identifications of Specific Learning Disabilities in Malaysia and Challenges in Provision of Services. *Pertanika Journal of Social Sciences & Humanities*, *22*(1).

[4] Saad, S., Ibrahim, H., & Nayan, N. (2013). Towards holistic inclusion in Malaysia: knowledge of special education needs among in-service distant.

[5] Kocsis, J. (2016). *Primary teachers' knowledge about learning disabilities* (Doctoral dissertation, Nipissing University (Canada)).

[6] Gomez, C. (2004). Dyslexia in Malaysia. *International book of dyslexia: A guide to practice and resources*, 158-163.

[7] Woodcock, S., & Jiang, H. (2013). Teachers' causal attributional responses of students with learning disabilities in China. *Learning and Individual Differences*, *25*, 163–170. doi:10.1016/j.lindif.2013.01.016.

[8] Kirby, A., Davies, R., & Bryant, A. (2005). Do teachers know more about specific learning difficulties than general practitioners? *British Journal of Special Education*, *32*(3), 122–126. doi:10.1111/j.0952-3383.2005.00384.x

[9] Chan, C. W. (2008). Special issue on SLD. *Brainchild*, *9*(2).

[10] Moothedath, S., & Vranda, M. N. (2015). Knowledge of primary school teachers in identifying children with learning disabilities. *Disability, CBR and Inclusive Development*, *26*(3), 68-76.

[11] Lingeswaran, A. (2013). Assessing knowledge of primary school teachers on specific learning disabilities in two schools in India. *Journal of education and health promotion*, *2*.

[12] Aladwani, A. M., & Al Shaye, S.S. (2012). Primary school teachers' knowledge and awareness of dyslexia in Kuwaiti students. *Education*, *132*(3), 499–516.

[13] Õim, A. (2004). *Teachers' knowledge and misconceptions concerning attention-deficit/hyperactivity disorder, learning disabilities and childhood depression* (Doctoral dissertation).

[14] Alufohai, P. J., & Ibhafidon, H. E. (2015). Influence of teachers' age, marital status and gender on students' academic achievement. *Asian Journal of Educational Research Vol*, *3*(4).

[15] Gandhimathi, U., & Eljo, J. O. (2010). Awareness about learning disabilities among the primary school teachers. *Cauvery Research Journal*, *3*(1), 71-78.

[16] Alahmadi, N. A., & El Keshky, M. E. (2019). Assessing Primary School Teachers's Knowledge of Specific Learning Disabilities in the Kingdom of Saudi Arabia. *Journal of Educational and Developmental Psychology*, *9*(1), 9-22. doi:10.5539/jedp.v9n1p9

[17] Islahi, F., & Nasreen, N. (2013). Who Make Effective Teachers, Men or Women? An Indian Perspective. *Universal Journal of Educational Research*, *1*(4), 285-293.

[18] Nginah, M. N. (2012). Influence of work-family conflicts on secondary school teachers' level of job satisfaction in Machakos District, Kenya. *Unpublished Thesis. Department of Educational Administration, University of Nairobi*.

[19] Azim, M. T., Haque, M. M., & Chowdhury, R. A. (2013). Gender, marital status and job satisfaction an empirical study. International Review of Management and Business Research, 2(2), 488.

[20] Saravanabhavan, S., & Saravanabhavan, R. C. (2010). Knowledge of learning disability among pre-and in-service teachers in India. *International Journal of Special Education*, *25*(3), 132-138.

[21] Rahman, F., Jumani, N. B., Akhter, Y., Chisthi, S. U. H., & Ajmal, M. (2011). Relationship between training of teachers and effectiveness teaching. International Journal of Business and Social Science, 2(4).