

The Readiness Level of Special Education Teachers in Learning Strategies of Students with Hearing Disability

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Abstract: This study aims to identify special education teachers' readiness in teaching strategies used during the teaching and learning of students with hearing disability. There were three constructs examined in this study which are teachers' knowledge on hearing disability, teachers' knowledge on the use of hearing aids and teachers' mastery in the use of sign language. Teachers' knowledge and mastery on these three constructs are very crucial to ensure the teaching and learning process are carried out effectively. Quantitative approach was employed to collect the data in this study, and a survey research design and questionnaires were used to collect data. The questionnaires consist of three parts, (a) demographic information, (b) knowledge level, and (c) skill level. The data were analysed with SPSS and descriptive analysis was utilized. The findings showed that the overall mean of teachers' knowledge on hearing disability is high whereas the overall mean on teachers' skills are of medium level. Teachers need to understand the needs of students in order for teaching strategies to be effective. Teachers' level of readiness depends on the knowledge and skills of teachers to manage the teaching process of students with hearing disabilities.

Keywords: readiness in teaching strategies, special education teachers, hearing disability

The special education programme in Malaysia flourished under the management of the Ministry of Education Malaysia (MOE) since the year 1957 (Special Education Sector 2016). A special unit known as the Special Education Unit was formed in 1964 and regulated under the school department of MOE. In 1995, the Special Education Unit was upgraded and replaced with the Special Education Department. With the Special Education Department in the Ministry of Education, the State Education Department formed a Special Education Unit in their respective departments. In 2008, the MOE was restructured and the Special Education Department was replaced with Special Education Division.

The service on hearing impaired education in Malaysia started in the year 1954 when the Federation of Malaya School for the Deaf was formed. In 1962, teacher's training school of special education known as *Maktab Perguruan Ilmu Khas* trained teachers specifically on hearing disability education (Bari, 2007). According to Bari (2007), since the formal commencement of children with hearing disability, various communication methods were used in which the changes were in line with the developments abroad that began with reading lips, finger spelling and sign language. Special education in Malaysia commenced in the 1920s among volunteers involved in the opening of schools for the sight and hearing impaired. Federation

school for the deaf in Penang was opened in 1954 (Thirugnana, 2007).

The loss of hearing is measured in decibel (dB) which is the measurement of the strength of sound. The measurement on the hearing loss levels are different depending on phonetic sounds used (William 1991 cited in (Bari, 2007). (Thirugnana, 2007) stated that children with hearing disability needs to undergo audiometric testing to know their decibel reading. Decibel reading is categorised into four categories according to the levels of hearing loss, which are 20dB until 35dB (low), 36dB to 60dB (medium), 61dB until 90 dB (bad), 91 dB and above (very bad). In order to help students with hearing disability, hearing aids can be used. Hearing aids are electronic devices that function to increase the sounds heard. These devices are able to help the wearer to hear their surroundings. It is important to help hearing impaired children to expand and increase their potential in learning to speak, academic achievement and social skills (Bari, 2007).

The speaking ability and language of a hearing impaired student does not develop naturally like other typical students (Noreha, 2008). This corresponds with Lew *et al.* (2004) which states that hearing impaired students face difficulties to understand other people's speech. This causes the hearing impaired students to learn how to listen and speak through planned activities according to their capabilities. These planned

activities are in collaboration with parents, teachers and professionals like speech therapists and audiologists. Other than parents, teachers play an important role to help hearing impaired students in their daily lives especially in providing the best guidance in daily life management. Therefore, interaction quality between teachers and students have a big impact in their daily lives, especially in the teaching and learning process. Teacher readiness in knowledge and skills on hearing disability plays an important role to ensure the implementation of effective teaching strategy.

Hearing disability is a disability that is given special attention in Special Education. Hearing impaired students are individuals with hearing sensory problems of interrupted or obstructed from receiving sounds, speech or whispers from other people (Asiaah, 2012). Special Education under Malaysia's Ministry of Education implemented through placing Special Education students in three preschool programmes specifically, Special Education School Programme which is in Special Education School, Integrated Special Education Programme, and Inclusive Education Programme. Nowadays, hearing impaired students are not only placed in Special Education School Programme, they are also placed in Integrated Special Education Programme.

Integrated Special Education Programme under the administration of State Education Department places students with difficulties in learning, sight and hearing ensures that special education students attain education in a conducive and optimum environment Lew *et al.* (2004). Furthermore, the Special Education School Programme is one of the school programmes that allocates a category for disabled and special needs children either with hearing disability or sight disability (Wong, 2013). This shows that special education teachers' readiness in the teaching process of special needs students is a priority.

The teaching process requires a specific means of delivery to hearing impaired students like using sign language to impart and deliver knowledge. There are many other aspects that gives attention to students such as the hearing aids. This device helps to ensure knowledge imparted is well received by the students. This study aims to identify special education teachers' level of readiness in teaching strategies used on students with hearing disability. The objectives of this study is to identify (a) Special Education teachers' level of readiness on hearing disability and (b) skill level of Special Education teachers on hearing disability.

METHOD

This study is a survey research design and the data collected are quantitative. A questionnaire was designed on the teachers' readiness level in teaching strategies

of hearing impaired students. The questionnaires were constructed by the researchers based on literature review conducted. The questionnaires were divided into three parts, Part A: Demographic Information, Part B: Teachers' Knowledge and Part C: Teachers' Skills. Part A comprised of 7 items, specifically, gender, age, race, academic qualifications, and teachers' academic and teaching experience. Part B includes 11 items related to teachers' knowledge on hearing disability. Part C encompasses 10 questions related to teachers' skills in encountering hearing impaired students. Likert scale scores of 1-5 (not knowledgeable - very knowledgeable). This scale is chosen because it is consistent and can be measured accurately and easily processed using statistical analysis.

The samples in this study were selected using purposive sampling. This method needs the researcher to set certain criteria the process of sample selection (Noraini, 2013). The samples of this study are teachers from Special Education Schools and PPKI in primary schools. The samples consist of a teacher from Special Education School (hearing) and 34 PPKI teachers of hearing impaired students. The selected samples are the acquired population representative of the target population of Special Education teachers in Malaysia. The questionnaire data was collected using an online application, "survey monkey." Access to the questionnaire was granted to the selected teachers with directions to answer the questions. The raw data collected was recorded and analysed using Statistical Package for Social Sciences (SPSS).

FINDINGS AND DISCUSSION

Findings

By employing Statistical Package for Social Sciences (SPSS) for analyzing data, the study show as fallow.

The interpretation of mean scores on teachers' level of knowledge and skills on hearing disability in table 1 is based on mean score scale used by Lubis *et al.* (2014) with the total mean score =1.00 until 1.80 is very low, mean =1.81 until 2.60 is low, mean 2.61 until 3.40 is average, mean 3.41 until 4.20 is high and mean 4.21 until 5.00 is very high. The data was analysed descriptively to show information in tables using mean and standard deviation. The interpreted data is presented in table 1.

Overall, 35 respondents participated in this study. From that amount, one respondent represents 2.86% Special Education School teachers (hearing) and 34 respondents (97.14%) are Integrated Special Education Programme teachers of hearing impaired students. There were 100 % feedback of questionnaires distributed via "survey monkey" application.

Table 1. Classifications of Level og Knowledge and Skills Mean Score

Total Item Score	Level of Knowledge and Skills
1.00 until 1.80	Very Low
1.81 until 2.60	Low
2.61 until 3.40	Average
3.41 until 4.20	High
4.21 until 5.00	Very High

Source: Lubis *et al.* (2014)

Tabel 2. Demographic Information

Item	n	f(%)
Gender		
Male	12	34.29
Female	23	65.71
Age		
< 30 years old	21	60.00
31-40 years old	11	31.43
41-50 years old	2	5.71
>50 years old	1	2.86
Race		
Malay	33	94.29
Chinese	0	0.00
Indian	2	5.71
Others	0	0.00
Academic Qualifications		
SPM	5	14.29
STPM	1	2.86
Diploma	0	0.00
Undergraduate	27	77.14
Master	2	5.71
Others	0	0.00
Professional Qualifications		
Kirby/Brihsford	0	0.00
Teaching Certificate	2	5.71
Teaching Diploma	9	25.71
Bachelor in Education	24	68.57
Teaching Experience		
<5 years	23	65.71
6-10 years	6	17.14
11- 15 years	3	8.57
16- 20 years	2	5.71
21- 25 years	0	0.00
26-30 years	0	0.00
> 30 years	1	2.86
Specialisation Major / Minor		
Special Education (Hearing)	14	40.00
Special Education (Sight)	2	5.71
Special Education (Learning)	13	37.14
Others	6	17.14
School Type		
Special Education School	1	2.86
Integrated Special Education Programme	34	97.14
Number of Students		
<2 students	15	46.88
<5 students	2	6.25
<10 students	4	12.50
>11 students	11	34.38

Number of Classes

1 class	17	56.67
2 classes	4	13.33
< 4 classes	4	13.33
> 5 classes	5	16.67

Based on the respondents of this study, the findings show that 34.29% respondents were men and 65.71% were women. As for the race of the respondents, 94.29% were Malay and 5.71% were Indian. The descriptive analysis for age showed that 60% respondents were below 30 years old, 31.43% were 31 to 40 years old, 5.71% were 41 until 50 and 2.86% were above 50 years old. Highest academic qualification indicated that 77.14% respondents were undergraduates, 14.29% had SPM, 5.71% had Master qualification and 2.86% obtained STPM qualification.

As for the Professional qualification category, 68.57% respondents were shown to be graduates in Bachelor of Education, 25.71% had teaching diploma and 5.71% were with teaching certificates. The findings on teaching experience showed that 65.71% respondents taught less than 5 years, 17.14% taught 6 until 10 years, 8.57% which are 3 respondents taught 11 until 15 years, 5.71% taught 16-20 years and only 2.86% had experience teaching more than 30 years. Respondents who specialized in special education (hearing) were 40% respondents, followed with 37.14% in special education (learning), 17.14% in other fields and 5.71% specialized in special education (sight).

The findings on types of school indicated that 97.14% respondents were from PPKI and only 2.86% were from Special Education School. As for the number of hearing disabled students, 46.88% respondents had less than two students, 34.38% with 11 students, 12.50% had six until ten students and 6.25% had three to five students. Findings for the numbers of classes specified that 56.67% respondents had one class, five 16.67% had five classes, 4 13.33% had two classes and 13.33% at item <4 classes.

Discussion*Teacher's Knowledge on Hearing Disability*

Table 3 shows mean of teachers' knowledge on teaching strategies of hearing disabled students. It was found that the overall mean is 3.60 which is at high level. Studies shown that special education teachers possess high knowledge on hearing disability based on the questionnaires distributed. The item "Special Education School Programme (Hearing) is a programme that has one category of special needs students which are hearing disability" scored the highest mean score of 4.20. However the item, "Hearing aids battery provides 1.3 to 1.5 volt power" scored the lowest mean score of 3.14.

Table 3. Level of Teachers' knowledge on hearing disability

No	Item Teachers' Knowledge on Hearing Disability	Mean	Interpretation
1.	Students with hearing disability has medium level hearing 36 dB until 60 dB.	3.51	High
2.	Special Education School Programme (Hearing) is a programme that has one category of special needs students which are hearing disability.	4.20	High
3.	Hearing level: 20 until 35 dB(low), 36 until 60 dB(medium), 61 until 90 dB(bad), above 91 dB(very bad)	3.71	High
4.	The basic components of the hearing aids consist of microphone, amplifier, receiver, sound controls, switch and battery.	3.71	High
5.	The microphone component of the hearing aids functions to detect sounds and convert to electrical signal (analogue)	3.37	Average
6.	Amplifier on the hearing aids functions to increase electrical signals.	3.26	Average
7.	The hearing aids receiver functions to convert processed signals to sound/acoustic signals.	3.84	High
8.	The sound controls on the hearing aids function to control sound by the wearer.	3.74	High
9.	Hearing aids battery provides 1.3 to 1.5 volt power.	3.14	Average
10.	On/off/telecoil button is present on the hearing aids switch.	3.49	Tinggi

Table 4. Level of teachers' skills on hearing disability

No	Items on Teachers' Skills on Hearing Disability	Mean	Interpretation
1.	Communication using Malaysian Sign Language.	2.97	Average
2.	Communication using Malaysian Hand Code (KTBM).	3.03	Average
3.	Communication using English Hand Code (KTBI).	2.51	Low
4.	Control students in and out of the classroom.	3.71	High
5.	Handling basic controls of hearing aids in case of microphone problems	2.74	Average
6.	Handling basic controls of hearing aids in case of amplifier problems	2.57	Low
7.	Handling the hearing aids in case it makes noise	2.83	Average
8.	Handling the hearing aids in case of battery problems	2.97	Average
9.	Handling the hearing aids in case of sound control problems	2.89	Average
10.	Handling the hearing aids in using the on/off button.	3.34	Average

This was proven in a study that found less than 50% of schools checks hearing aids consistently and systematically (Reichman and Healey 1989 cited in (Noreha, 2008). Teachers would be more knowledgeable on hearing aids if consistent and systematic inspections were done. Noor (2010) stated that effective teaching and learning practices can be done if teachers understand the needs of each student in the classroom.

According to Md Nazri (2015) teachers need high level of readiness during the teaching and learning process in order to impart quality and meaningful knowledge to students. The Malaysian Teacher Standard (MTS) has two components and three categories that includes teaching and learning skills. The standard focuses on teacher's ability in planning, implementation and evaluation of teaching and learning in academic and co-curriculum (Junaidy, 2015). Teaching and learning skills should be within all special education teachers of hearing disabled to have an effective teaching and learning process especially communicating in sign language. Every teacher should have the designated skills to have a smooth teaching and learning process. Furthermore, a smooth teaching

and learning process will ensure an enjoyable learning experience for the students.

Teachers' Skills on Hearing Disability

Table 4 shows the mean for teachers' skills level on teaching strategies of hearing disabled students. The overall mean on teachers' skills on hearing disability is 2.96 which is on the average level. It shows that teachers' skills on hearing disability is average. The highest mean score of 3.71 attained on item "Student control in and out of the classroom". This is consistent with Saayah (2009) that the control on discipline in the classroom is important for teachers to understand the students and always be considerate in taking actions involving their behaviour. The lowest mean of 2.51 relates to item "Communication using English Hand Code (KTBI)". Table 4 shows teachers' skills on hearing disability and 10 items were distributed in order to find out the level of teachers' skills on hearing disability.

Teachers need to realize that hearing disabled students generally need suitable hearing aids to help them hear surrounding sounds and increase their skills and communication in accordance to their hearing level and capability (Noreha, 2008). If courses related to hearing disability were exposed to teachers, it will

provide a positive impact to teaching strategies on hearing disabled students.

CONCLUSION AND SUGGESTION

This study aims to discover the implementation of the teaching process on hearing disabled students of Special Education teachers in Malaysia based on teacher readiness. It was found that Special Education teachers need exposure and information on hearing disabled students especially on teaching strategies. The level of Special Education teachers' readiness affects teaching strategies on hearing disabled students.

The recommendation of this study is on in-service training which exposes teachers from time to time on skills and knowledge especially to teachers with no basic knowledge on hearing disability. This course can provide motivation and benefit hearing disabled students by offering them an effective learning process.

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