Vol 11, Issue 12, (2021) E-ISSN: 2222-6990

# The Perception of Special Education Teachers towards the Involvement of Audiologist in Special Education Classroom

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**To Link this Article:** http://dx.doi.org/10.6007/IJARBSS/v11-i12/11765 DOI:10.6007/IJARBSS/v11-i12/11765

Published Date: 21 December 2021

#### **Abstract**

Audiologist plays vital roles work in supporting the individual with deaf and hearing impairment. In the school setting, an audiologist is one of the members involved in planning interventions for children. This research was conducted to study the perception of the special education teachers on the involvement of audiologists in special education schools. In this research, quantitative data which is a questionnaire is used as the research instrument. The data obtained were analyzed using Microsoft Excel XLstat. A total of 165 teachers are included in this research through snow-balling sampling. Results have shown that 149 (90.8%) of the teachers agreed that the role of audiologists is vital to improving the special education quality in Malaysia. In general, the teachers have a high viewpoint of the common function of the audiologists but a very worrying understanding of their specific role. It is proven when special education teachers are unsure about whether audiologists only work in hospitals (56 teachers (33.9%)), involved in balance problems (65 teachers (39.4%)) and vestibular problems (88 teachers (53.3%)). The research has shown that having an audiologist helps to reduce the impact of hearing loss for the deaf students when 152 (83.8%) special education teachers agreed that the involvement of audiologists in the education system benefits many teachers and students thus prepares a better and more conducive environment for them.

Keywords: Audiologist, School Audiologist, Special Education Teacher, Perception

## Introduction

Audiologist work closely with individual with deaf and hearing impairment (DHI). There is two categories of audiologist namely clinical audiologist and educational audiologist (Meyer, 2020; Richburg & Knickelbein, 2011). Each categories of audiologist carry different responsibility with same objective which is to improve the quality of life of the individual with DHI. Clinical audiologists focused on childhood care and also provides lifelong services for the

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survival of individual with DHI. Clinical audiologist work in hospital and responsible to diagnose and detect the degree of hearing loss, set the programme of the hearing aids and evaluate individual's ear health (Meyer 2019). Usually, individual with DHI have an appointment with clinical audiologist at least once a year.

On other hand, educational audiologist responsible to provide audiologist services and hearing screening for student with DHI (Meyer, 2019; Richburg & Smiley, 2012; Johnson, 1999). Educational audiologist conducted hearing screening with big number of students in one time. Educational audiologist work at school and involve in proving maximal conducive environment to ease hearing problems (DeConde et al., 2021). In order to provide maximal conducive environment, direct involvement of educational audiologist is a must. They involve in helping to put up and prepare tools in classes, share the correct way of using the hearing tools and advise teachers on any improvement needed to reduce environment noises (Guardino & Antia, 2012; Muhammad, 2007).

In general, audiologists are responsible in identification an individual's hearing level and assisting in providing better quality lifestyle opportunities (Azizan, 2019; Johnson, 1999). Collaboration between both group of audiologists give hopes for life and better education for individual with DHI. They plays an important role in set-up and providing quality education for individual with DHI (Meyer, 2020; Van Dijk, 2005). In Malaysia, educational audiologists are still not well known yet their duty indirectly implanted by teachers (Zetty, 2018; Miles et al., 2018). In international level, there is a job introduced as an educational audiologist where it is a unique position in assisting the educational management of individual with DHI. They specifically provide a conducive classroom environment for individual with DHI (Page et. al., 2018; Johnson, 1999). Other than identifying the degree of hearing loss, educational audiologists impose a knowledge and skills about the impact of hearing loss in education, relevant educational goals and experience with strategies and technologies that support students and teachers in the classroom (Van Dijk, 2005).

In Malaysia, the involvement of audiologists in school is still not considered as an important job and the task is still held by special education teachers (Miles et al., 2018; Hanapi et. al., 2018; Sharene & Manisah, 2012). According to Richburg and Knickelbein (2011), many schools in almost 50 different counties in Indiana PA provide educational audiologist services. However, in Malaysia, special education teacher is responsible to teach, to be a counsellor, caregiver and facilitator which the preparation of conducive environment for individual with DHI (Zetty, 2018; Miles, Khairuddin & McCracken, 2018). Therefore, this research aims to examine the perception of Malaysian teachers on the involvement of audiologist in special education classroom. The objectives of this research are:

- a) To identify the perception of special education teachers regarding the important of the involvement of audiologists in schools.
- b) To determine special education teachers understanding of the role of audiologist in schools.
- c) To examine special education teachers knowledge of the role of audiologist in schools.

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#### Law Enforcement

The implementation of educational audiology is enforced by law. In United State, Individual with Disabilities Education Act (IDEA) state that special services such as audiology services must be provided to support individual with DHI (Meyer, 2019). The following sub-topic discusses further the section in IDEA that related to educational audiology services.

## Section 300.34 (Related services)

Related services such as the transportation and development of services, corrections and support needed to help individual with hearing problems. The services include the services of occupational therapists, limb therapist, speech therapists, audiology services and more. If an individual with hearing problems requires related services to access the Free Appropriate Public Education (FAPE) curriculum, the school must list the services required by the individual. Even though the act covers all types of disabilities, audiology involvement also covers the services mentioned above.

## Section 300.5 (Assistive technology)

Assistive technology is any equipment or product to improve the function of the individual with hearing problems. This act is also open to all types of disabilities. For the individual with hearing problems, FM systems and microphones are hearing aid technology (HAT) that are often used to help smooth the learning process. Audiology is the only profession that has the right to make decisions, choose hearing aid technology (HAT), and choosing suitable teaching aids because it fits their working scope. Teachers and speech therapists are not taught to do such things in their studies. Collaboration is the key to provide quality education. Collaboration between educational audiologists, special education teachers, and speech therapists is important to ensure an individual with DHI gets a quality education. Even though there is some overlap between their works, each profession has a specific job. If the cooperation is not so good, even the existing technological advances are not very helpful to students in education. For example, even if a student has modern hearing aids, the learning process will not effective if the teacher uses inappropriate teaching aids.

## Section 300.113 (Routine inspection)

Research conducted in schools showed on every school day, half of the hearing-impaired students who use hearing aids have a device that does not work well. Therefore, routine inspections have been included in the IDEA regulations and these routine inspections need to be performed to ensure that hearing aids and external components of medical devices implanted are in good condition and functioning. When hearing aids work well, DHI students can access learning much easier. Anyone with knowledge of how to inspect hearing aids can make these routine inspections including teachers as well as educational audiologists. Permanent hearing-impaired students who are not eligible for educational services under IDEA will not be ignored and can still receive educational audiology services and hearing aid technology (HAT) through plan 504. In periodic monitoring, educational audiology can support residential facilities including the use of assistive technology.

## Methodology

Participants and Procedure

The participants in this study consisted of 165 special education teachers in Malaysia. Purposive sampling technique were used in data collection process. The criteria for sample

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selection has been set, which is participant must have experience in dealing and teaching students with hearing problems regardless age or location. Besides purposive sampling technique, the snow-ball sampling technique have been used where the researcher communicates with a representative who have contacts that meet the criteria the researcher has set.

#### Measures

In this research, questionnaire is used as research instrument. The questionnaire is divided into three section. The first section is to gather the demography information of the participant. Their demography information were collected to ensure they have experience in teaching and dealing with students with DHI. The second section is to measure the level of understanding of the participant about the role of educational audiology in schools and to identify the level of knowledge of the participant about the impact of hearing loss with the environment. In this section, other than questions about the actual roles of educational audiologist, several questions about the impact of hearing loss with the environment are also included. Section three to evaluate the perception of participant on the importance of educational audiology involvement in schools. In this section, questions on teachers' opinions if the educational audiologist services introduced and held in Malaysia are asked to find out teachers' perceptions about the involvement of educational audiology in schools. In line with the objectives of the research, the questionnaire was divided by three sections to achieve each of the objectives namely to identify special education teachers' perceptions of the importance of audiologists' involvement in schools, measuring their understanding of the role of the audiologists in schools and knowing their knowledge of the impact of hearing loss with the school environment.

## Data Collection and Analysis

The questionnaire handed to participant by researcher. They were given times for two weeks to fill up the questionnaire. The questionnaire were collected after the given time. Data were analyse based on the feedback that has been provided by the participant. Since the data obtained are data in form of variety of answers, data analyse using descriptive statistics. The findings will presented in frequency and percentage.

## Results

Special Education Teachers' Perception on the Importance of the Involvement of Audiologists in Schools

In line with the main objectives of the research, special education teachers' perceptions of the importance of audiologist involvement in schools were obtained in the second section of the questionnaire. Teachers' perceptions were assessed using the Likert Scale. Table 1 shows participant's responses to the questions in this section. Data analysis found that most participants were aware of the role of audiologists, in general, this can be seen when 142 (86%) participants agreed and strongly agreed that an audiologist is an individual who diagnoses a person's hearing loss. In addition, 149 (90.8%) respondents agreed and strongly agreed that audiologists assist in the selection, use, and care of hearing aids.

Based on table 1, although 111 (68.1%) respondents stated that they know who an audiologist is, they are still unsure about the role of an audiologist in particular. Based on table 1, 88 (53.3%) respondents were unsure about the role of audiology covering vestibular problems

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and 65 (39.4%) balance problems. 56 (33.9%) respondents were not sure whether audiologists only work in hospitals while 55 (33.3%) respondents were unsure about audiology services whether they only focus on hearing or vice versa. This proves that the exact role of the audiologist is still unclear to the respondents. Respondents 'understanding of the audiologist's actual perceptions will to some extent influence respondents' perceptions of the importance of audiologist involvement in school.

In conclusion, most respondents welcomed the involvement of audiologists in the school. Table 1 shows that a total of 71 (43%) respondents strongly agreed and 57 (34.5%) participants agreed that the services of audiologists are needed in schools. 77 (46.7%) strongly agreed and 63 (37.6%) agreed that the expertise of audiologists is needed in educating individuals with hearing problems. The services of audiologists needed in various walks of life were agreed upon and strongly agreed upon by 149 (90.8%) participants.

Table 1: Special Education Teacher Perception

Items	Strongly	Disagree	Not sure	Agree	Strongly
	disagree				agree
I know exactly who the	0	8	44	69	42
audiologist is	(0%)	(4.9%)	(27%)	(42.3%)	(25.8%)
Audiologists only work in	30	34	56	33	12
hospitals	(18.2%)	(20.6%)	(33.9%)	(20%)	(7.3%)
An audiologist will diagnose a	0	2	21	71	71
person's hearing loss	(0%)	(1.2%)	(12.7%)	(43%)	(43%)
An audiologist will help reduce	0	14	39	61	50
the impact of a person's hearing loss	(0%)	(8.5%)	(23.8%)	(37.2%)	(30.5%)
Audiologists assist in the	0	1	14	66	83
selection, use and care of hearing aids	(0%)	(0.6%)	(8.5%)	(40.2%)	(50.6%)
An audiologist will eliminate a	42	50	49	17	7
person's hearing problems	(25.5%)	(30.3%)	(29.7%)	(10.3%)	(4.2%)
Individuals who do not have	14	13	47	53	38
hearing problems can seek the services of an audiologist	(8.5%)	(7.9%)	(28.5%)	(32.1%)	(23%)
The expertise of audiologists	20	36	65	27	17
does not cover balance problems	(12.1%)	(21.8%)	(39.4%)	(16.4%)	(10.3%)

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The audiologist's expertise	3	6	88	45	23
covers vestibular problems	(1.8%)	(3.6%)	(53.3%)	(27.3%)	(13.9%)
The expertise of an audiologist	7	16	39	69	34
depends on the advancement of the instruments used	(4.2%)	(9.7%)	(23.6%)	(41.8%)	(20.6%)
Audiologists' expertise includes	0	1	24	76	64
providing rehabilitation training for individuals wearing hearing aids	(0%)	(0.6%)	(14.5%)	(46.1%)	(38.8%)
The expertise of an audiologist	1	3	22	62	77
is needed in educating individuals with hearing problems	(0.6%)	(1.8%)	(13.3%)	(37.6%)	(46.7%)
The audiologist's expertise	0	0	30	62	73
includes coordinators in infant hearing screening programs	(0%)	(0%)	(18.2%)	(37.6%)	(44.2%)
The services of an audiologist	1	4	32	57	71
are needed in schools	(0.6%)	(2.4%)	(19.4%)	(34.5%)	(43%)
Audiology services focus on	7	26	55	53	24
hearing only	(4.2%)	(15.8%)	(33.3%)	(32.1%)	(14.5%)
The services of audiologists are	0	1	15	72	77
needed in various walks of life	(0%)	(0.6%)	(9.1%)	(43.6%)	(46.7%)

Special Education Teachers' Understanding of the Role of Audiologist in Schools

An understanding of the actual role of an audiologist is close to the authenticity of individual's perception about how important the involvement of audiologist in schools. The level of understanding of the participant about the roles of audiologists in school had been study in the second section of the questionnaire. Table 2 shows the understanding of special

education teachers about the roles of audiologists in schools.

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Table 2: Special Education Teachers' Understanding

Items	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Hearing loss have significant impact to student's achievement	1 (0.6%)	4 (2.4%)	10 (6.1%)	42 (25.5%)	108 (65.5%)
Hearing loss have significant impact to student's level of social and communication	1	0	9	48	107
	(0.6%)	(0%)	(5.5%)	(29.1%)	(64.8%)
Hearing loss make impact in the arrangement of the classroom	1	4	18	52	90
	(0.6%)	(2.4%)	(10.9%)	(31.5%)	(54.5%)
Hearing loss make impact in choosing teaching aids	1	2	7	53	101
	(0.6%)	(1.2%)	(4.3%)	(32.3%)	(61.6%)
Hearing loss make impact for a special education teacher	5	7	18	54	81
	(3%)	(4.2%)	(10.9%)	(32.7%)	(49.1%)
The use of soft things such as curtain and carpet help reduce the impact of hearing loss faced by the student	3	15	59	50	38
	(1.8%)	(9.1%)	(35.8%)	(30.3%)	(23%)
Student's arrangement in the classroom based on the level of student's hearing loss help reduce the impact of hearing loss faced by the student	2	5	21	73	64
	(1.2%)	(3%)	(12.7%)	(44.2%)	(38.8%)
Excessive lighting exposure are helpful for learning process for the student with hearing loss	13	32	64	36	18
	(8%)	(19.6%)	(39%)	(22.1%)	(11%)
Wider classrooms are helpful for learning process for the student with hearing loss	18	36	54	37	18
	(11%)	(22.1%)	(33.1%)	(22.7%)	(11%)
The impact of hearing loss in school environment can be control	0	13	60	66	25
	(0%)	(7.9%)	(36.6%)	(40.2%)	(15.2%)

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Reduce the impact of the	63	37	29	26	10
hearing loss in school environment are teacher's responsibility only	(38.2%)	(22.4%)	(17.6%)	(15.8%)	(6.1%)
I know about FM System	24	35	59	30	15
	(14.7%)	(21.5%)	(36.2%)	(18.4%)	(9.2%)
FM System have been used in my school	No -73.2	2%	Maybe -16.5	5% Y€	es -10.4%
Hearing aids help student to focus during classes	0	4	15	65	79
	(0%)	(2.5%)	(9.2%)	(39.9%)	(48.5%)
I know how to maintain hearing aids	51	37	48	15	13
	(31.1%)	(22.6%)	(29.3%)	(9.1%)	(7.9%)
I will check my student's hearing aids before the class started	27	34	46	37	21
	(16.4%)	(20.6%)	(27.9%)	(22.4%)	(12.7%)

Based on table 2, research tells most of the participants to have a high understanding of the roles of audiologists in school. 63 (38.2%) participants strongly disagree and 37 (22.4%) participants disagree that reducing the hearing loss impact in the school environment is the teacher's responsibility only. Other than that, only 28 (17%) participants agree and strongly agree that they know how to maintain hearing aids. It shows that the roles of the audiologist in school are needed.

The roles of an audiologist in school are important when most participants are not sure about certain statements. Based on table 2, 59 (35.8%) participants are not sure that the use of soft things such as curtains and carpet help reduce the impact of hearing loss faced by the student. Other than that, 64 (39%) participants not sure about excessive lighting exposure are helpful for learning process for the student with hearing loss and 54 (33.1%) participants are not sure about the statement wider classroom are helpful for learning process for the student with hearing loss. The selection of soft things, the selection of suitable lighting exposure, and the selection of the suitable size of the classroom are audiologists' specialties. So, it shows that the involvement of audiologists in school is very important to help special education teachers in providing the best medium for students with hearing loss in study.

In a conclusion, the roles of audiologists in school are very important because 59 (36.2%) participants are not sure about the FM system. FM system is one of the hearing aids technology that helps students with hearing loss to study in class. Due to 73.2% of participants are not using the FM system in school, the roles of the audiologist in school are very important to help special education teachers to use the FM system which is very useful for students with hearing loss. Even though 144 (82.4%) participants agree and strongly agree that hearing aids helps a student with hearing loss more focus when teachers teaching but only 58 (35.1%)

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participant that will check the hearing aids of the students before teaching. It shows that the roles of the audiologist in school are very important to help special education teachers.

Special Education Teachers' Knowledge about the Impact of Hearing loss with School Environment

Every hearing loss will give impacts towards an individual. The impact of hearing loss related with school environment. The school environment gives huge impact of learning process for student with hearing loss. The result of the research can be seen in Table 3.

Table 3: Special Education Teachers' knowledge

Items	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
Hearing loss makes difficult for students with hearing problems to learn	8	4	16	49	87
	(4.9%)	(2.45)	(9.8%)	(29.9%)	(53%)
Teachers need to be creative in engaging students with hearing problems in learning sessions	1	0	6	49	108
	(0.6%)	(0%)	(3.7%)	(29.9%)	(65.9%)
Teachers need the expertise of audiologists as a reference for students' hearing conditions	1	1	8	54	99
	(0.6%)	(0.6%)	(4.9%)	(33.1%)	(60.7%)
The use of aids such as FM systems, hearing aids and loudspeakers help make learning process easier	1	1	15	61	86
	(0.6%)	(0.6%)	(9.1%)	(37.2%)	(52.4%)
The involvement of audiologists in the education system provides many benefits for teachers and students	1	1	8	48	105
	(0.6%)	(0.6%)	(4.9%)	(29.4%)	(64.4%)
The involvement of audiologists in special education schools are needed in selecting suitable teaching aids for student with hearing problems	1	1	15	44	104
	(0.6%)	(0.6%)	(9.1%)	(26.7%)	(63%)
The involvement of audiologists in special education schools are important in helping special education teachers to ensure students' hearing aids in good condition	1	2	13	41	108
	(0.6%)	(1.2%)	(7.9%)	(24.8%)	(65.5%)

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The involvement of audiologists in special education schools will delay learning process	34	51	22	15	42
	(20.7%)	(31.1%)	(13.4%)	(9.1%)	(25.6%)
The involvement of audiologists in special education schools are needed to reduce the impact of hearing loss with school environment	2	6	31	58	67
	(1.2%)	(3.7%)	(18.9%)	(35.4%)	(40.9%)
The involvement of audiologists in special education schools will increase the burden of teachers	38	59	27	18	23
	(23%)	(35.8%)	(16.4%)	(10.9%)	(13.9%)
The involvement of audiologists in special education schools save the teachers' time to refer audiologist	2	3	25	53	81
	(1.2%)	(1.8%)	(15.2%)	(32.2%)	(49.4%)
The involvement of audiologists in special education schools are consuming a lot of expense	13	19	72	26	35
	(7.9%)	(11.5%)	(43.6%)	(15.8%)	(21.2%)
The involvement of audiologists in special education schools helps increase the quality of special education in Malaysia	1	2	12	55	94
	(0.6%)	(1.2%)	(7.3%)	(33.5%)	(57.3%)
The involvement of audiologists in special education schools ease students to directly refer to the audiologists	1	1	16	55	92
	(0.6%)	(0.6%)	(9.7%)	(33.3%)	(55.8%)
The involvement of audiologists in special education schools helps in maintaining hearing aids technology such as FM System and speaker	1	2	24	58	79
	(0.6%)	(1.2%)	(14.6%)	(35.4%)	(48.2%)
The scheduled involvement of audiologists in special education schools (weekly/monthly) are more suitable than the daily involvement.	2	3	17	53	87
	(1.2%)	(1.9%)	(32.7%)	(32.7%)	(53.7%)

The research has shown 125 (76.9%) participants agree and strongly agree that the involvement of audiologists in special education is needed to reduce the impact of hearing loss on the school environment. It is also proved when 153 (93.8%) participants agree and strongly agree that teachers need the expertise of audiologists as a reference of students' hearing condition. Based on Table 3, 157 (95.8%) participants agree that teachers need to be

Vol. 11, No. 12, 2021, E-ISSN: 2222-6990 © 2021

creative in engaging students with hearing problems in the learning process. However, the need for the involvement of audiologists in special education schools in choosing suitable learning aids for students with hearing problems was agreed upon by 148 (89.7%) participants. 85 (58.8%) participants strongly disagree and disagree that the involvement of audiologists in special education will delay the learning process. 152 (83.8%) participants agree and strongly agree that the involvement of audiologists in special education school gives many benefits for students and teachers.

In conclusion, the involvement of audiologists in special education schools eases students with hearing problems to refer to audiologists are agreed by 147 (89.1%) participants. 149 (90.8%) participants agree and strongly agree that the involvement of audiologists in special education schools helps increase the quality of special education in Malaysia. However, 140 (86.4%) participants agree and strongly agree if the involvement of audiologists in special education schools is done weekly or monthly then is done daily because 72 (43.6%) participants are not sure about the involvement of audiologists in special education schools are consuming high cost.

#### **Discussion**

In Malaysia, the roles of audiologists in special education schools are not well known yet. It shows that the awareness of the importance of the involvement of audiologists in special education schools is still low. The roles that should audiologists are included in teachers' job scope which burden teachers with multiple works and mix of job scope (Zetty, 2018; Yasin et. al., 2013; Razhiyah, 2005). Other than that, less skilled teachers in managing and maintaining hearing aids are one of the factors the involvement of audiologists in special education schools needed to be emphasized. Hearing aids are important to a student with hearing problems. If the exposure, awareness, and skilled teachers are still low, students with hearing problems will have discomfort which causes the school environment not conducive for them to learn (Miles, Khairuddin & McCraken, 2018; Simkiss, 2013; Richburg & Goldberg, 2005). This research is one of the efforts to identify the perception of special education teachers about the importance of the involvement of audiologists in special education schools. In this research, 165 special education teachers are the participants. The perception of special education teachers towards educational audiologists is very important to evaluate because special education teachers are one of the members that are closely involved with educational audiologists (Allen & Mayo, 2020; Mastura & Rabiu, 2019).

The research shows even most special education teachers only understand the role of the audiologist in general but most of the teachers agreed that audiologists have their roles in schools. The involvement of audiologists not only can reduce special education teachers' work but also helps in increasing the quality of the special education system in Malaysia. The specific roles of audiologists are still not clear for special education teachers (Miles, Khairuddin & McCracken, 2018; Sharene & Manisah, 2017; Ng, 2013). Most of the teachers are not sure about the involvement of audiologists' expertise such as balancing and vestibular problems. It shows that the exposure of audiologists' specific roles among special education teachers is still low. Low exposure of audiologists' specific roles among special education teachers will cause the importance of audiologists' involvement in special education schools not too clear for special education teachers.

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The research shows that most special education teachers have a high understanding of the roles of audiologists in school. Educational audiologists not only need to help in the maintenance of hearing aids but also the individual that need to ensure that classroom's condition is suitable and conducive for students with hearing problems to study (Johnson & Chmela, 2018; Objakor & Bakken, 2015). Make sure that the class has suitable lighting, the correct use of the FM System and evaluate the suitable learning aids are educational audiologists' expertise which is needed in school. So, the roles of audiologists in schools help teachers in preparing and providing a conducive classroom that is suitable for students with hearing problems (Allen & Mayo, 2020; Alpiner & McCarthy, 2000).

The research shows that special education teachers strongly agree that the involvement of audiologists in special education schools is needed to reduce the impact of hearing loss on the school environment. The involvement of audiologists eases special education teachers to get a reference about the suitable environment for students with hearing problems. Special education teachers that can't see the involvement of audiologists in school will delay the learning process yet give many benefits for special education teachers and students with hearing problems. The impact of hearing loss necessarily exists among students with hearing problems (Vannete & Krosnick, 2018; Abuor, Oracha & Odeck, 2015). So, audiologists' expertise is needed to minimalize the impact to provide a conducive environment for a student with hearing problems.

Based on the research, it can be concluded that less skill in reducing the impact of hearing loss in school is one of the factors why special education teachers agreed that the involvement of audiologists in schools is important. It is shown when most special education teachers do not know how to do maintenance of hearing aids even though hearing aids are one of the main mediums for students with hearing problems to communicate with teachers. Other than that, most special education teachers do not know that the use of oft things such as curtains and carpets can absorb sound and minimize echo in the classroom. So, students with hearing problems can hear the teacher's voice clearly. Less exposure to the roles of audiologists in special education schools can be detected in this research which most special education teachers are not sure whether audiologists work only at the hospital. Like overseas, the exposure of audiologists' involvement in special education schools is widely known. So, they more understand that the services of audiologists not only at hospitals but also in special education schools.

#### Conclusion

The research shows special education teachers agree that the involvement of audiologists in special education schools is very important and can help reduce teachers' workload. The exposure of audiologists' roles in special education schools to special education teachers is very important to be enhanced because this research shows that audiologists give many benefits for teachers and students with hearing problems. It is undeniable that special education teachers do have their expertise in providing the best education for students with hearing problems, but schools also need the expertise of audiologists in providing a comfortable and conducive environment for students with hearing problems. Good collaboration between various parties will create good awareness towards the community. So, special education teachers, special education schools, audiologists, and government need to make a good collaboration to increase awareness so that the importance of audiologists'

Vol. 11, No. 12, 2021, E-ISSN: 2222-6990 © 2021

involvement in special education schools can be seen clearly. The government needs to provide a medium for audiologists to give services in special education schools while schools need to welcoming audiologists' services in the schools. Special education teachers need to cooperate with audiologists to give the best environment for a student with hearing problems to learn. The involvement of audiologists in special education schools not only can act as a reference for special education teachers in choosing suitable learning aids for students with hearing loss but also act as one of the services that help in increasing the quality of special education in Malaysia.

## References

- Abuor, N. J., Oracha, A. P., & Odeck, A. (2015). Existence Of Learners With Hearing Impairment Who Can Benefit From Audiological Rehabilitation For Improvement Of Oral/Aural Communication In Primary Schools For The Deaf In Western Region Of Kenya. *International Journal of Information Research and Review*, 2(11), 1397-1403. https://www.ijirr.com
- Allen, S., & Mayo R. (2020). Speech-Language Pathologists' Perceptions of School-Based Services for Children With Hearing Loss . *Language, Speech and Hearing Services in School*, 51(2), 469-478. https://doi.org/10.1044/2019\_LSHSS-19-00040
- Alpiner, J. G., & McCarthy, P. A. (2000). *Rehabilitative Audiology: Children and Adults Third Edition*. United State of America: Lippincott Williams & Wilkins
- Azizan, C. R. (2019). Hubungan Keselarasan Individu- Persekitaran dengan Penyesuaian, Kepuasan dan Pencapaian Akademik Pelajar Kurang Upaya Pendengaran di Politeknik . Serdang: Universiti Putra Malaysia
- DeConde, J. C., & Seaton, J. B. (2021). *Educational Audiology Handbook* . 3<sup>rd</sup> edition. Amerika Syarikat: Plural Publishing Inc.
- Guardino, C., & Antia, S. D. (2012). Modifying the Classroom Environment to Increase Engagement and Decrease Disruption with Students Who Are Deaf or Hard of Hearing, *The Journal of Deaf Studies and Deaf Education*, 17(4), 518–533. https://doi.org/10.1093/deafed/ens026
- Hanapi, Z., Yong, S. S., Safiee, Z., & Tee, T. K. (2018). Tinjauan awal keperluan kajian kebolehpasaran graduan OKU bermasalah pendengaran. *Online Journal for TVET Practitioners*, 3(2), 1-8. https://publisher.uthm.edu.my/ojs/index.php/oj-tp/article/view/4849
- Johnson, C. E. (1999). Dimensions of multiskilling: Considerations for educational audiology. *Language, speech, and hearing services in schools*, 30(1), 4-10. https://doi.org/10.1044/0161-1461.3001.04
- Johnson, L., & Chmela, K. (2018). How Can We Overcome the Challenges of Providing School-Based Fluency Services? . *Seminars in Speech and Language*, 39(4), 371–381. https://doi.org/10.1055/s-0038-1667165
- Mastura, B., & Rabiu, G. I. (2019). Parenting Children with Hearing Impairment: The Milieu of Parents' Practices and Experiences . *Intellectual Discourse, Special Issue*, 27, 899–921. https://journals.iium.edu.my/intdiscourse/index.php/id/article/view/1467
- Meyer, K. (2019). How to Advocate for Educational Audiology. Audiology Online. https://www.audiologyonline.com/articles/to-advocate-for-educational-audiology-26090

Vol. 11, No. 12, 2021, E-ISSN: 2222-6990 © 2021

- Meyer, K. (2020). Children with Hearing Loss Need an Educational Audiologist on their Education Team How to Advocate for Educational Audiology. Wrightslaw. https://www.wrightslaw.com/info/rel.svcs.ed.aud.meyer.htm
- Miles, S., Khairuddin, K. K., & McCracken, W. Y. (2018). Deaf learners' experiences in Malaysian schools: access, equality and communication. *Social Inclusion*, 6(2), 46-55. https://doi.org/10.17645/si.v6i2.1345
- Yasin, M. H., Toran, H., Tahar, M. M., Bari, S., Ibrahim, S. N. N., & Zaharudin, R. (2013). Bilik Darjah Pendidikan Khas Pada Masa Kini Dan Kekangannya Terhadap Proses Pengajaran . *Asia Pacific Journal of Educators and Education*, 28, 1–9. http://www.myjurnal.my/public/issue-view.php?id=4627&journal\_id=213
- Muhammad, J. K. A. (2007). Special Education For Special Children: Panduan Pendidikan Khusus Anak-anak Dengan Ketunaan dan Learning Disabilities. Jakarta: Penerbit Hikmah (PT Mizan Publika).
- Ng, S. L. (2013). Theory and Research in Audiology Education: Understanding and Representing Complexity through Informed Methodological Decisions, 24(5), 344-353. https://doi.org/10.3766/jaaa.24.5.2
- Obiakor, F. E., & Bakken, J. P. (2015). *Interdisciplinary Connections to Special Education: Key related professionals involved*. United Kingdom: Emerald Group Publishing Limited.
- Page, T. A., Harrison, M., Moeller, M. P., Oleson, J., Arenas, R. M., & Spartford, M. (2018). Service Provision for Children Who Are Hard of Hearing at Preschool and Elementary School Ages. *Language Speech and Hearing Services in Schools*, 1-17. https://dx.doi.org/10.1044%2F2018\_LSHSS-17-0145
- Razhiyah, K. A. (2005). *Menjadi Guru Pendidikan Khas* . Kuala Lumpur : PTS Professional Publishing Sdn Bhd .
- Richburg, C. M., & Goldberg, L. R. (2005). Teachers' Perceptions About Minimal Hearing Loss. *Communication Disorders Quarterly*, 27(1), 4—
  19. https://doi.org/10.1177%2F15257401050270010301
- Richburg, C. M., & Knickelbein, B. A. (2011). Educational Audiologists: Their Access, Benefit, and Collaborative Assistance to Speech-Language Pathologists in Schools. *Language Speech and Hearing Services in Schools*, 42(4), 444-460. https://doi.org/10.1044/0161-1461(2011/10-0011)
- Richburg, M. C., & Smiley, D. F. (2012). *School-Based Audiology* . Amerika Syarikat : Plural Publishing Inc.
- Sharene, T. A. H., & Manisah, M. A. (2017). Mental Health among Students with Hearing Impairment in a Malaysian Secondary School. *Jurnal Penelitian Dan Pengembangan Pendidikan Luar Biasa*, 4(1), 45-48. http://journal2.um.ac.id
- Simkiss, D. (2013). Education of children with hearing impairment. *Paediatrics and Child Health*, 23(10), 434–437. https://doi.org/10.1016/j.paed.2013.04.011
- Van Dijk, C. A. (2005). An Educational Audiology Service Delivery Model: Needs Of Teachers Of Children With Hearing Loss. Doctoral dissertation. University of Pretoria. https://repository.up.ac.za/handle/2263/25274
- Vannette, D. L., & Krosnick, J. A. 2018 . *The Palgrave Handbook of Survey Research* . Switzerland: Springer International Publishing AG
- Zetty, N. R. (2018). Peranan Dan Cabaran Guru-Guru Pendidikan Khas Membentuk Kemenjadian Murid-Murid Masalah Pendengaran Dalam Abad Ke 21. *Journal of Quran Sunnah Education and Special Needs*, 1(1), 1-8. http://ddms.usim.edu.my/jspui/handle/123456789/16255