

Implementation of Adaptive Physical Education for Hearing Impaired Students in Kuala Lumpur

Amirudin Abdul Kassim¹, Mohd Norazmi Nordin²

Faculty of Education, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia

Corresponding Author Email : amirudinkassim91@gmail.com

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v14-i8/22343>

DOI:10.6007/IJARBSS/v14-i8/22343

Published Date: 01 August 2024

Abstract

Physical Education is the only field of education that emphasizes physical taxonomy related to four important taxonomies of education which are physical, emotional, spiritual and intellectual. This study aims to explore implementation methods, problems that occur and suggestions for improvement in the teaching of Adaptive Physical Education (APE) for hearing impaired students. This qualitative study is case study design uses interview and observation methods to obtain research data. The selection of respondents used a purposive sampling technique. All respondents are APE teachers in primary special schools in Kuala Lumpur. The findings of the study were analyzed using Grounded Theory. The findings of the study stated that the respondents used mainstream Physical Education textbooks and teaching methods using sign language. The problems that occur are difficult for teachers to adapt teaching based on mainstream Physical Education textbooks, there are none-option teachers who teach at special schools, there is no specific guide for APE subject and there is no APE teaching reinforcement course. The suggestions for improvements obtained are creating an APE teaching module specifically for hearing impaired students, implementing an APE teaching course for special education teachers, placing a Physical Education teacher to teach APE subjects and placing more Teaching Assistants (TAs) during Physical Education teaching. The impact of this study is expected to provide information for the Malaysian Ministry of Education to empower the subjects of APE for hearing impaired students.

Keywords: Implementation of Physical Education, Adapted Physical Education, Hearing Impaired Students, Special Education School,

Introduction

Education is a lifelong process that leads to the advancement of a person. This gives the implication that education always happens anytime and anywhere, whether formal or informal (UNESCO, 1990). Therefore, the education act was introduced in Malaysia to show the importance of education and its implementation to the whole community. In 2013, the Akta Pendidikan 1996 was reviewed and introduced as the Peraturan-Peraturan Pendidikan (Pendidikan Khas) 2013. These Peraturan-Peraturan Pendidikan (Pendidikan Khas) 2013 also

become a reference and core to the special education regulations and programs implemented until today.

Physical Education is one of the important subjects in the formal education curriculum in the education system in Malaysia. Although the subject of Physical Education is unlisted in public examinations in Malaysia, this subject is significant because it is the only field of education that emphasizes the physical taxonomy that is not touched by other subjects in relation to the four important taxonomies of education which are physical, emotional, spiritual and intellectual (Safani & Hamdan, 2011). The Kurikulum Standard Sekolah Rendah Pendidikan Khas (KSSRPK) for Physical Education is built in line with the Falsafah Pendidikan Kebangsaan based on the principles of an integrated approach, comprehensive individual development, equal educational opportunities and quality education for all students and lifelong education. The KSSRPK for Physical Education is more focused on the mastery of skills to meet individual needs, not emphasizing academics and not burdening students (Bahagian Perkembangan Kurikulum, 2010). According to the Akta Pendidikan 1996 section 312, children are defined to have special needs if they have problems in the aspects of learning. The problems in the aspects of learning are: (1) have learning problems compared to typical children of the same age; (2) has a disability that prevents him from using educational facilities used by children his age; (3) is under compulsory school age and is in category (2) above.

Martin (2014) stated that most teachers find that including special education needs (SEN) students in Physical Education classes is quite difficult because it requires them to change activities and adapt SEN students to class activities and ensure the implementation of teaching and learning runs smoothly. The mastery of physical skills in the subject of Physical Education is part of the skills that are important in children's motor movements and their daily lives. A lot of obstacles faced by hearing impaired students to engage in Physical Education activities involve typical students and one of these obstacles are communication problems in addition to physical, nerve and muscle problems that cause their body posture and movements to be different from other typical students. The obstacles faced by hearing impaired students will cause them to feel shy and excluded from other typical students because they do not understand quickly enough to do activities during the Physical Education class. The problem that occurs will limit their physical, mental and social development and further cause hearing impaired students' achievement in the academic field to be affected. Furthermore, the lack of previous research related to APE for hearing impaired students make it difficult for researchers to get references that match the topic research.

Hence the study related to the implementation of APE for hearing impaired students needs to be conducted to recommend a solution to the problems that occurred subsequently and became a catalyst for studies related to APE for hearing impaired students in the future. Therefore, the objective of this study is to explore implementation methods, problems that occur and improvement methods the implementation of APE at the special needs school in Kuala Lumpur.

Literature Review

Concept of Hearing Impaired Students

According to the World Health Organization (2021) someone who cannot hear like a person with normal hearing which is at a hearing threshold value of 20 dB in both ears is said to

experience hearing loss. Hearing loss may be mild, moderate, severe or profound. It can affect one ear or both ears, and lead to difficulty hearing conversational speech or sounds. According to Nik Hassan et al. (2016) hearing impaired students refers to students who are still studying in a special needs school. According to the Warta Kerajaan Persekutuan (2013) stated that special needs students with hearing disabilities are certified students by a medical practitioner, optician, audiologist or psychologist, according to any concern, whether in government service or not, as students have a hearing disability (Warta Kerajaan Persekutuan, 2013). Hearing disability is one of the six categories of Persons with Disabilities (PwD) specified by the Jabatan Kebajikan Masyarakat (JKM) in Malaysia. The details of the number of MBPK in the KPM data are as follows the following table 2.1:

Table 2.1

Number of Students with Special Needs by Program and Category

CATEGO RY OF DISABILI TIES	SPK				PPKI				PPI (MAINSTREAM)				TOTA L
	PR E	PRI	SEC	TOT	PRE	PRI	SEC	TOT	PR E	PRI	SEC	TOT	
1 Visual disability	9	155	111	275	9	283	382	674	13	638	959	1,610	2,559
2 Hearing disability	45	568	169	782	32	649	1,026	1,707	14	553	657	1,224	3,713
3 Speech disability	0	13	5	18	8	441	238	687	5	120	89	214	919
4 Physical disability	2	11	14	27	40	1,341	1,001	2,382	83	2,041	2,404	4,528	6,937
5 Learning disability	99	666	707	1,472	1,075	43,956	31,905	76,936	84	5,130	4,496	9,710	88,118
6 Multiple disability	16	94	26	136	75	1,741	1,160	2,976	20	225	182	427	3,539
TOTAL	171	1,507	1,032	2,710	1,239	48,411	35,712	85,362	219	8,707	8,787	17,713	105,785

Source : Buku Data Pendidikan Khas 2022

The World Health Organization (2023) states that more than 5% of the world's population – or 430 million people – need rehabilitation to address their hearing impairment (432 million adults and 34 million children). Estimated by 2050 more than 700 million people – or 1 in every 10 people – will experience loss or disability hearing. Hearing impairment refers to hearing loss over more than 35 decibels (dB) in the better hearing ear. Almost 80% of people with hearing loss live in low- and middle-income countries. The prevalence of hearing loss increases with age, among those who are over 60 years old which is more than 25% affected by hearing disability. The No Child Left Behind Act (Akta, 2001) has sparked attention and

provisions that are increasing worldwide for children with disabilities, including those who have hearing problems (Jernice and Nonis, 2017).

Adapted Physical Education for students with Special Educational Needs

The Physical Education curriculum is enacted based on Content Standards and Learning Standards that need to be achieved and mastered by students. The Physical Education Curriculum emphasizes basic skills in movement that allows students to do various physical activities for health and practice an active lifestyle. Adaptation in this component of physical education means one program involving physical and motor fitness, basic motor skills, skills in aquatics and dance, games and individual and team sports designed to meet unique individual needs so that students with disabilities can do educational activities safely and achieve self-satisfaction (Kementerian Pendidikan Malaysia, 2018).

According to Wilkins (2016) the objective of a successful adaptive physical education class is for students to participate in physical education activities that all students can learn and succeed. Adaptations and modifications make these goals attainable. Qualified teachers know the correct teaching strategies and modifications equipment is required in their class. Individuals with sensory issues and disabilities prevent them from participating in physical activity and cause levels their physique, muscle strength, cardiovascular endurance, balance and sports performance will decrease (Akinoglu and Kose, 2018). However, sports activities can help improve the physical fitness and psychomotor ability of this individual at once enabling them to acquire daily life skills, orientation and movement (Yildirim et al., 2013). A systematic APE session can help SEN students to increase their running speed, stamina and body coordination (Sydoruk et al., 2021).

According to the study conducted by Akinoglu and Kocahan (2018) related to the comparison of muscle strength and balance of visually impaired and hearing impaired athletes explains the importance of the basic teaching of Adaptive Physical Education at the level of producing competitive athletes in the future. Muscle strength is very important in physical fitness because it is very necessary for athletes in sports competitions to overcome other competitors (Clark and Mesch, 2016). Teasdale and Simoneau (2001) also stated that sight and hearing are considered very important stimuli in helping the process of maintaining postural control. Physical activity has a positive role in reducing some psychological stress such as depression, hyperactivity and disorder, and aggressive behavior towards hearing impaired students (Heddal and Khodja, 2018). This statement is also supported by Stefano (2011) who states that disabled people who are active in sports can form their own identity. The implementation of physical activity can also help improve positive behavior such as responding to instructions and being able to do well-planned activities.

Adaptive Physical Education involves the process by which a professional helps other individuals, parents and community members to work more successfully with students with disabilities in the school environment. Physical training aimed at the development of muscle control and balance responses in Physical Education sessions can significantly accelerate children's motor development and the acquisition of basic motor skills (Lavrin et al., 2019). Physical Education is also one of the important parts of children's experience because they learn how to express themselves through movement, gaining knowledge, understanding about the principles, practices and values of physical expression through physical activity. Sports activities also could improve self-perception of the abilities and skills in various aspects such as social, emotional and also the disability aspects (Khumalo et al., 2013). This statement is supported by Chen et al., (2018) stated that Physical Education is a very important discipline

because it helps in the development of students' cognitive abilities and motor skills, also influencing children in making decisions and behaviors about their own health. The active involvement of students in physical activities also helps in controlling the behavior of SEN's students to become more disciplined. Sports intervention can reduce the negative behavior of SEN's students and can be an alternative treatment for ADHD disorders instead of treatment by taking medication (Mohd Arshad and Mohd Firdaus, 2020).

In addition, Cairone (2019) stated that SEN's students participation in APE activities is increasing when involving peers among typical students. Sansi et al., (2020) found that the Inclusive Physical Activity Program helps in improving the motor skills and social skills of SEN's students with autism spectrum disorder (ASD) and typical students from mainstream classes. This finding also has a positive effect on the typical student's attitude towards MBPK ASD disorders. The Inclusive Physical Activity Program is a method used not only to increase the physical needs of SEN's students with ASD disorders but also to help reduce inappropriate behavior problems such as frequent tantrums and self-injury (National Autism Center, 2015).

Research Methodology

Study Design

The researcher chose a qualitative research approach with a case study design to conduct this study taking into account the view (Creswell, 2012) which states that qualitative research design is suitable for exploratory research. Exploratory research is appropriate using the case study method. The researcher chose to use a qualitative approach and case study design to explore in more depth about the implementation method, the problems that occurred and the improvements that need to be made to the implementation of Adaptive Physical Education subjects for hearing impaired students in primary schools in the Federal Territory of Kuala Lumpur.

Respondents

The researcher used a purposive sampling technique in determining the selection of respondents based on set criteria. The respondents consisted of five special education teachers teaching adaptive physical education subjects at the special school needs for hearing impaired students. The researcher has set three selection criteria, (1) Special education teachers with Bachelor of Education level qualification. (2) Experience teaching hearing impaired students for at least three years. (3) Volunteer to be a respondent for this research.

Research Location

This study was conducted in two primary schools for hearing impaired students in the Federal Territory of Kuala Lumpur. The chosen schools are Sekolah Kebangsaan Pendidikan Khas Jalan Peel (SKPKJP) and Sekolah Kebangsaan Pendidikan Khas Kampung Baru (SKPKKB). The location of this study was chosen because these schools have hearing impaired students and implement Adaptive Physical Education subjects.

Data Collection Methods And Research Instruments

The data collection method for this study uses interviews and observations. This study was conducted through interviews to understand more details about the implementation of APE to hearing impaired students in the respondent's school. The interview method used in this study is a semi-structured interview. This interview method is implemented by the researcher on the respondents separately according to suitability and time of respondents. For the

observation method, the researcher chose to be an outside observer. The researcher uses this method because through observation, the researcher can see the activities of the implementation of APE carried out by the respondents in more detail, clear, thorough and accurate.

Data Analysis Method

This research used Grounded Theory pioneered by Strauss and Corbin (1990) to analyze the research data. This research used open coding, axial coding and selective coding before reporting the findings of the study using thematic analysis.

Research Findings

Background of Respondents

Table 4.1 below shows the demographic profile of the respondents according to information such as gender, experience of teaching hearing impaired students and experience of teaching Adaptive Physical Education subject.

Table 4.1
Demographic Information of Study Participants

Respondents experience of APE	Gender	Teaching experience for hearing impaired students	Teaching
PK 1	Male	10 years	8 years
PK 2	Female	5 years	4 years
PK 3	Male	12 years	12 years
PK 4	Female	8 years	3 years
PK 5	Female	9 years	9 years

The table above shows all respondents experienced in teaching hearing impaired students for 5 years to 12 years and experienced teaching APE for 3 years to 9 years.

Findings of the interview and observation study

These findings are divided into three parts based on the theme of the findings of the study obtained about the implementation of APE. The three themes are methods of implementation, problems encountered and suggestions for improvements of implementation APE for hearing impaired students.

Interview

The Implementation Method of Adaptive Physical Education

The findings of the interview explain the implementation method of APE in research locations based on statements by respondents. Table 4.2 below shows thematic analysis of APE implementation.

Table 4.2:

Thematic Analysis of The Implementation of Adapted Physical Education Elements

<i>Open Coding</i>	<i>Axial Coding</i>	<i>Selective Coding</i>
"teaching SEN based on course"	Implementation method of APE	Implementation of Adapted Physical Education
"using Physical Education modules and textbooks for typical students"		
"using sign language"	Teaching method during teaching and learning session	
"combine classes"		
"get the help of TAs"		
"use Teaching Aids from school sport store"	Use Teaching Aids	
"make Teaching Aids based on SEN's needed"		

The table above is adapted from The Coding Procedure of Straussian Grounded Theory (Strauss and Corbin, 1990)

Table 4.2 above shows three findings obtained from the implementation of APE for hearing impaired students. The findings are the implementation method, teaching method and the use of Learning Aids. This finding is further detailed in the Open Coding section based on statements made by respondents.

Problems that Occur in the Implementation of Adapted Physical Education

The findings of the interviews show the problems that occur with the implementation of APE at the research location based on the statements by the respondents. Table 4.3 below shows the thematic analysis that occurs during the implementation of APE in three thematic analysis methods, namely Open Coding, Axial Coding and Selective Coding.

Table 4.3

Thematic Analysis of Problem that Occur During the Implementation of Ape

<i>Open Coding</i>	<i>Axial Coding</i>	<i>Selective Coding</i>
"I have not yet gone to a course related to APE"	There is no APEn reinforcement course	Problems that occur with implementation APE
"I have never gone to a course"		
"APE course? So far, not involve yet"		
" only got a module for mainstream students"	There is no specific guide for the APE subject for hearing impaired students	
"the school does not use modules"		
"there is no APE teaching module provided"		
"so far there is no guide or special module for APE"		
"the activities in the PE textbook are a bit difficult and not suitable for SEN"	Difficulty adapting syllabus from mainstream textbooks	
"for the students, it is difficult for them to cooperate with the syllabus"		
"I also had to join another class at the same time"	Combine with other classes	
"we had to combine classes, for example like some classes skills for year 3 have to teach with year 1"		
"there are multiple disabilities students in my class"	Multiple disabilities student in hearing impaired students	
"Of course there are multiple disabilities in my class.. now there are more than before"		
"Hearing impaired students in the same class with multiple disabilities students"		
"It is quite difficult for deaf students to learn in terms of theory."	Difficulty understanding abstract theories and instructions	
"Theory is a big no for them"		
"It takes a lot of effort to understand theory."		

Table 4.3 above shows that there are six factors that cause problems during the implementation of Adaptive Physical Education for hearing impaired students. These factors have been expressed by respondents during the coding process.

Methods of Improving the Implementation of Adaptive Physical Education

The findings of the study explain the method of improving the implementation of APE based on the opinions and views of the study participants. Based on the coding method, the themes for this research question have been grouped as in Table 4.4 below.

Table 4.4

Thematic Analysis of Suggestion for the Improvement of the Implementation of Adaptive Physical Education

Open Coding	Axial Coding	Selective Coding
“there should be a special module for APE of deaf students”	Requirement of APE’s teaching module for hearing impaired students	Suggestion for the Improvement of the Implementation of Adaptive Physical Education
“Deaf students also need a DSKP of APE”		
“need to make a course for special education teachers who teach APE subjects”	Requirement of APE’s teaching course for special education teachers	
“The APE course is very necessary because not all education teachers have an optional minor Physical Education”		
“accompanying teachers and TA’s is very necessary”	Requirements for accompanying teachers and Teaching Assistants	
“having an accompanying teacher or two teachers for one class is more appropriate”		
“It is very necessary to have Ta’s because there are multiple disabled students, right, so TA’s are very necessary and very helpful.”		
“When there is an assistant teacher and this TA’s, God willing, indirectly the teacher who teaches can focus on teaching and learning”		
“the assistant teacher with this TA’s is indeed a necessity, especially for first year, second year and third year classes”		

Table 4.4 above shows the findings of interviews related to suggestions for improving the implementation of APE. Based on the thematic analysis conducted, there were three suggestions for improvement that were successfully obtained which were expressed by all respondents during the interviews.

Observation Method

The analysis of the observation checklist was performed based on the observation checklist records conducted by the researcher on the respondents while the respondents were undertaking the APE teaching and learning session with the hearing impaired students. The aspects observed are based on three constructs of the research question, namely from the implementation aspect, the problems faced and the steps to overcome the problems faced during the APE teaching and learning session.

Table 4.21

Below is the Observation of the Implementation of Ape

Implementation aspects Respondents didn't have	Respondents uses a consistent teaching		Respondents uses Teaching Aids correctly		Respondents uses sign guide of APE subject		Teachers language
	Yes	No	Yes	No	Yes	No	
Respondent 1	/		/		/		
Respondent 2	/		/		/		
Respondent 3	/		/		/		
Respondent 4	/		/		/		
Respondent 5	/		/		/		

The findings of the observation found that all study participants use Teaching Aids during teaching and learning sessions. The teacher also uses sign language well and correctly when giving instructions and stating the name of equipment and the carried out activities. From the aspect of students doing physical activities correctly based on instructions from the teacher, research indicated there were some students unable to do the activity properly and needed further help from teachers and TAs. In addition, the teacher also does not have a specific APE teaching guide and uses lesson plans that have been adapted from mainstream textbooks and Module of Physical Education for mainstream students. Next, Table 4.22 below is the observation of aspects of the problems faced by teachers during teaching and learning session on APE subject;

Table 4.22

Findings of Problems Faced By Teachers During Ape Teaching and Learning Sessions

Aspects of problems Students unable face by to follow the APE respondents teaching and session physical	Students can't understand the sign language well		There are multiple disabilities students in hearing impaired class		Insufficient time for APE subject learning due to problems		
	Yes	No	Yes	No	Yes	No	Yes
Respondents No							
Respondent 1		/	/		/		/
Respondent 2		/	/		/		/
Respondent 3 /	/			/	/		
Respondent 4 /	/			/	/		
Respondent 5	/			/	/		/

Findings of the observation above, there are several students from the class of respondents 1 and 2 unable to understand sign language delivered by the respondents. From the aspect of having multiple disabilities students in hearing impaired classes show all respondents facing the same problem. Aspects of time allocated for APE teaching and learning sessions found out that the allocated time of APE subject for respondent 3, 4 and 5 was relatively short and not enough. Next, the last aspect is that students unable to follow APE teaching and learning sessions because they have physical problems found out only one student with physical problems and cannot follow APE teaching and learning sessions well and needs help from TAs. Next, Table 4.23 below is the observation of aspects to overcome problems during the APE teaching and learning sessions;

Table 4.23

Findings of Suggestions to Overcome Problems During Ape Teaching And Learning Sessions

Steps to overcome Respondent repeat individually to Respondent show the more details	Respondent show the more details		Respondent demonstration activity at following		lead and teach sessions	
	Yes	No	Yes	No	Yes	No
Respondents						
Respondent 1	/		/		/	
Respondent 2	/		/		/	
Respondent 3	/		/			/
Respondent 4	/		/			/
Respondent 5	/		/		/	

Based on the problems that occurred during APE teaching and learning sessions, the respondents overcame the problem with a more detailed demonstration to the students. This finding shows all respondents give more focus when students are unable to understand the sign language instructions and can't follow physical activity well. From the teaching aspect, all teachers lead and teach individually or one to one to students facing problems during APE teaching and learning sessions. Next, three respondents repeat the activity of teaching and learning the following week when students are not achieving the teaching objective while two respondents do not repeat and do other activities to achieve set objectives.

Discussion

The elements of each research construct are explored by conducting interviews and methods observation of five special education teachers who teach at two special schools for hearing impaired students in Kuala Lumpur. The interview results of the respondents were transcribed and analyzed using Grounded Theory which is a thematic analysis method. As a result of the analysis, three main themes were successfully obtained; (1) implementation of APE subject, (2) the problems that occurred during the implementation of APE and (3) suggestions for improvement of APE for hearing impaired students.

Implementation of Adaptive Physical Education

Through the thematic analysis that has been carried out, there are three elements for the implementation of APE for hearing impaired students; (i) The method of implementing APE, (ii) The teaching method of APE during the teaching and learning session, and (iii) the use of Teaching Aids (TA). The three elements can be conceptualized into seven parts, that elements are teachers teaching APE subject according to course learning at college, teachers using Physical Education modules and textbooks for mainstream students, teaching methods of APE using sign language, combining classes during APE activities, getting help from Teaching Assistants, uses the Teaching Aids in school sports store and makes Teaching Aids based on the needs of the students.

Based on the coding method, the researcher found that four of the five respondents were teachers with the course of APE and another teacher was a teacher with a course of learning education. Zaccagnini (2005) stated that physical education teachers who teach hearing impaired children need to have a background in adaptive physical education, knowledge and skills in fitness and fitness training, proficient in using sign language, knowledgeable and proficient in teaching methodology and have a high level of professionalism. Next, the findings of the study found that all respondents used Physical Education modules and textbooks for mainstream students during APE class while the teaching method of APE used sign language as the main medium of communication. Therefore, teachers need to master sign language skills to facilitate teaching and learning sessions. According to Selvam and Anal (2022), sign language skills are one of the skills for hearing impaired student's teachers need to have because sign language is a medium of communication that is very necessary to implement effective teaching and learning. Beside that, the respondents also combined several classes and received assistance from the TA's during APE activities.

Next, findings also found that all respondents used Teaching Aids in school sports stores and made Teaching Aids based on the students' needs. Previous studies have found that the use of teaching aids has a positive effect on students' academic excellence and the teaching methods practiced (Charles, 2020). In order to attract students' interest, the TA used must be suitable for the level and ability of each student in the class because when the teacher uses the appropriate TA, the students will be able to understand the content of the lesson delivered more easily (Alizah and Zamri, 2019). This finding is also in line with Mohd Suhaimi et al., (2017) stated that teachers should be sensitive and innovative in planning their teaching activities to suit the material and level of the students they will be teaching because the integration between techniques, materials and activities will be able to have a greater impact and good for students' understanding and perception.

Problems that Occur During the Implementation of Adaptive Physical Education

This construct contained six elements that were successfully obtained based on the coding method carried out. The first finding was that there is no APE teaching reinforcement course for hearing special education teachers as stated by all respondents. This finding is also supported by Norizan, Zahidah and Che Wan (2013) stating that the challenge of special education teachers in teaching students with special needs is that there is no specific course accepted by teachers to help improve effectiveness in the teaching and learning process. In order to achieve and improve the quality of education, the performance of all staff involved in the education of students with special needs needs to be emphasized. Abdul Rahim et al., (2006) in his study also stated that factors affecting the teaching and facilitation process are incompetent teachers and lack of teacher training.

The next finding is that teachers do not have specific guidelines for teaching APE subjects. This finding has been stated by Safani and Hamdan (2011) regarding the Physical Education activities of special education teachers, there is no standard teaching format among the schools involved in the study. Most teachers teach SEN students based on their own teaching style. This problem also makes it difficult for teachers to adapt activity planning from mainstream textbooks. Nick et al. (2016) also support this statement by stating the problems that often happen to students with hearing problems, especially in the aspect of problems in terms of language skills. The findings of the study found that the difficulty of understanding a concept presented by the teacher as well as the teacher's skill in using Sign Language is one of the main challenges for special education students with hearing impaired.

In addition, hearing impaired students also face difficulties in understanding abstract theories and instructions. This issue occurs because hearing impaired students lack sign grammar related to Physical Education. Teachers also need to find new sign languages for materials or activities during teaching and learning sessions that are not included in mainstream textbooks. There are many challenges that need to be overcome in adaptive physical education for hearing impaired students such as the lack of teachers who are able to use sign language and also the lack of specific signs for some important words in physical education (Barboza et al., 2019). The production or introduction of new signs in physical education is very important especially when it involves the aspect of movement and then gives access to hearing impaired students to engage more actively. Mohd Hanafi et al., (2017) also stated that the challenges and obstacles that are often encountered in learning sign language for deaf students and deaf special education teachers are the lack of sign language resource reference books.

Next, the findings of the study found that there are SEN students of multiple disabilities in the hearing impaired special education and the APE class combined with some other classes to carry out joint activities. Abd Aziz and Siti Rubiyani (2018) also think that the presence of SEN students in their class will delay the teacher completing the syllabus. Constantin (2021) also stated that teachers should be able to observe and monitor the behavior of students with special education needs so that physical education teachers can record their progress especially in the form of movement games and socializing during class so that they can shape their behavior for the better. Therefore, the objective of a successful adaptive physical education class is for students to participate in physical education activities that all students can learn and be successful at. Adaptations and modifications make these goals attainable. Qualified teachers know the correct teaching strategies and equipment modifications needed in their classes (Wilkins, 2016).

Suggested Improvements to the Implementation of Adaptive Physical Education

The third construct has three elements that have been successfully identified, namely the need for APE teaching courses to be implemented for special education teachers for hearing impaired, teachers need APE teaching modules specifically for hearing impaired students and the needs of accompanying teachers and TA's during teaching and learning is carried out.

Findings of suggested improvements related to APE's teaching course requirements implemented for hearing special education teachers in line with the study conducted by Suhartika and Rosadah (2020) which states that special education teachers need to follow special training to enable them to carry out their role effectively to achieve and improve educational standards. There is a gap in the implementation of Adaptive Physical Education. One of the factors that make a difference to the implementation of this program is due to the ease of equipment and the level of competence of the teachers who teach the Adapted Physical Education subject (Yandika and Mohammad, 2022). Rosmary and Fidelis (2016) stated that teachers who have special qualifications in their respective fields also have better knowledge and skills in controlling the class. Grygas et al. (2017) think that the course for new teachers of special education or non-option teachers is very important because preparatory courses can increase the use of appropriate communication strategies for children with hearing problems as well as the participants of the study which consists of novice teachers think that this kind of course also improve social skills.

The next finding is that the respondents suggested that teachers for hearing impaired students need an APE teaching module that is specific to hearing impaired students. If the special education teacher has a specific teaching module and complete with sign language pictures related to Physical Education, it will make it easier for the teacher to prepare lesson plans. Beside that, teaching and learning sessions will be more effective and help teachers to deliver lessons more efficiently. This finding is supported by Schonert-Reichl (2017) who states that teachers are the engines that drive social and emotional learning programs and practices in the classroom and school. The skills and knowledge of teachers themselves greatly influence their students. Teachers are also an important factor to create an environment that is friendly to SEN students and guarantee a better quality of learning (Prakosha et al., 2018)

Future Study

The approach used in this study is in the form of a qualitative research approach with the case study method. The study sample is limited to hearing special education teachers who teach APE subjects at special needs schools for hearing impaired students in the Federal Territories only. Therefore, the proposed future study is to carry out a more extensive study in all special needs schools for hearing impaired students throughout the country using a quantitative approach with a survey design to find out the issues that occur during the implementation of teaching and learning of APE for hearing impaired students. In this way, the research carried out can be studied more deeply and obtain more extensive and accurate research findings so that it can provide accurate information to the Malaysian Ministry of Education to formulate the necessary improvement measures.

Conclusion

This study found that there are several issues and problems that occur during the implementation of APE subjects for hearing impaired students that need to be taken into account so that solutions and interventions can be implemented immediately. This study is also expected to provide exposure and knowledge to various parties and can help the Malaysian Ministry of Education to empower the skills and knowledge of teachers who teach APE subjects by organizing appropriate courses. In addition, building an APE teaching module complete with sign language for the use of teachers who teach APE subjects in hearing special education schools can also help special education teachers to empower effective teaching methods so that hearing impaired students can learn more effectively and achieve objectives of teaching and learning that has been planned.

Acknowledgement

Appreciation to Universiti Kebangsaan Malaysia for funding the research and publication of this article with code GG-2024-018.

References

- Aziz, A. S., & Siti Rubiyani, O. (2018). Pelaksanaan program pendidikan inklusif bagi murid berkeperluan khas bermasalah pembelajaran di Malaysia: satu tinjauan. *International Seminar on al-Quran in Contemporary Society 2018*, 15-16 September 2018
- Rahim, A. H., Johari, A. S., Jamaluddin, R., & Musa, I. (2006). Tahap minat, pengetahuan dan kemahiran, latihan guru dan beban tugas guru program pemulihan khas sekolah kebangsaan daerah Pontian, Johor. *Annual Conference on Teacher Education*, 1-21.

- Pendidikan, A 1996 (Akta 550), Peraturan-Peraturan & Kaedah-Kaedah Terpilih. (1996). Petaling Jaya: International Law Book Services.
- Akinoğlu, B., & Kose, N. (2018). Determination of physical fitness level in children with hemiparetic and diparetic cerebral palsy. *Turkish Journal of Physiotherapy and Rehabilitation* 2018;29:11-18.
- Akinoğlu, B., & Kocahan, T. (2018). Comparison of muscular strength and balance in athletes with visual impairment and hearing impairment. *Journal of Exercise Rehabilitation* 2018;14(5):765-770
- Alizah, L., & Zamri, M. (2019). Penggunaan alat bantu mengajar dalam pengajaran bahasa melayu menggunakan pendekatan pembelajaran berpusatkan pelajar. *International Journal of Education, Psychology and Counseling*, 4(33), 78-94.
- Barboza, C., Ramos, A., Abreu, P., & Castro, H. (2019). Physical Education: Adaptations and Benefits for Deaf Students. *Creative Education*, Vol. 10, No. 4, 714-725. doi: 10.4236/ce.2019.104053
- Cairone, J. A. (2019). The benefit of using peer buddies in adaptive physical education. Theses and Dissertations. 2709. <https://rdw.rowan.edu/etd/2709>
- Charles, M. L., & Ying-Leh, L. (2020). Peranan bahan bantu mengajar dan persekitaran maklum balas dalam meningkatkan kualiti pembelajaran pelajar. *Conference: National Research Innovation Conference (NRICon 2020)*, Kuching, Sarawak.
- Chen, S., Zhu, X., Androzzi, J., & Nam, Y. (2018). Evolution of a concept-based physical education unit for energy balance education. *Journal of Sport and Health Science*, 7, 353-362. <https://doi.org/10.1016/j.jshs.2016.06.011>
- Clark, B., & Mesh, J. (2016). A global perspective on disparities of gender and disability for deaf female athletes. *Sport Society* 2016;1:1-12.
- Constantin, I. L. (2021). Ways to accommodate students with special educational requirements and behavioral deviations in the physical education lesson. *Sciences of Human Kinetics*, Vol. 14(63) No. 1 – 2021. <https://doi.org/10.31926/but.shk.2021.14.63.1.20>
- Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Frydrych, L. A. K. (2012). Revisiting the concepts of arbitrariness and iconicity: implications for the linguistic status of sign languages. *ReVEL*, 10, 282-294. www.revel.inf.br
- Heddal, Y., & Khodja, A. (2018). The role of recreational sports physical activity in reducing some of the psychological pressure of students with hearing disabilities. <https://dspace.univ-ouargla.dz/jspui/bitstream/123456789/20851/1/S3502F.pdf>. [4 April 2023]
- Masyarakat, J. K. (2023). *Statistik OKU berdaftar di Malaysia*. <https://www.jkm.gov.my/jkm/index.php?r=portal/full&id=ZUFHVTB1NnJWM0EreGtwNC9Vb1hvdz09>. [20 Mac 2023]
- Jamila, K. M. (2005). *Pendidikan Khas Untuk Kanak-kanak Istimewa*. Kuala Lumpur: PTS Professional Publishing Sdn. Bhd.
- Jernice, T. S. Y., & Nonis, K. (2017). The motor skills of adolescents with hearing impairment in a regular physical education environment. *International Journal of Special Education*. Vol. 32, No. 3, 2017.
- Pendidikan, K. Malaysia. (2010). *Kurikulum Standard Sekolah Rendah Pendidikan Khas (KSSRPK) Pendidikan Jasmani*. Bahagian Perkembangan Kurikulum, Kementerian Pendidikan Malaysia.

- Pendidikan, K. Malaysia. (2018). *Kurikulum Standard Sekolah Rendah Pendidikan Khas (Ketidakupayaan Penglihatan (KSSRPK) Pendidikan Jasmani (Suaian) dan Pendidikan Kesihatan*. Bahagian Perkembangan Kurikulum, Kementerian Pendidikan Malaysia.
- Khumalo, B., Onyewandume, I., Bae, J., & Dube, S. (2013). An investigation into participation trends by wheelchair sports players at the Zimbabwe Paralympic Games. *Sport and Art*, 1, 1-12.
- Lavrin, G., Sereda, I., Kuczer, T., Grygus, I., Zukow, W. (2019). The results of student's survey on models of physical education in universities and motivations to encourage for active participation in physical education. *International Journal of Applied Exercise Physiology*. 8(2), 140-143.
- Mahvar, T., Farhani, M. A., & Khesal, A. A. (2018). Conflict management strategies in coping with students' disruptive behaviors in the classroom: systematised review. *Journal of Advances in Medical Education & Professionalism*, 6(3), 102-114.
- Martin, J. J. (2014). Adapted Physical Education. <https://www.researchgate.net/publication/260097540>. [15 March 2023]
- Arshad, M. Y., & Firdaus, M. A. (2020). Intervensi sukan terhadap murid gangguan kecelaruan tumpuan dan hiperaktif (ADHD). *Asia Pacific Journal of Educators and Education*, Vol. 35, No. 2, 131-143, 2020.
- Hanafi, M. M. Y., Mokhtar, M. T., Safani, B., & Faten, N. M. (2017). Pembelajaran bahasa isyarat murid pekak dan guru pendidikan khas program integrasi masalah Pendengaran. *Journal of ICSAR*, ISSN (print): 2548-8619; ISSN (online): 2548-8600, Volume 1 Number 2 July 2017.
- Suhaimi, M. O., Noor, S. S., Mohd. Uzi, D. (2017). Penggunaan bahan bantu mengajar guru matematik sekolah rendah. *Jurnal Pendidikan Sains & Matematik Malaysia*, Vol. 7, No 1, Jun 2017.
- National Autism Center. (2015). *Findings and conclusions: National Standards Project, Phase 2*. Randolph: National Autism Center.
- Hassan, N. S., Mustafa, C. O., Abdullah, Y., & Mohd Yusof, A. (2016). Analisis permasalahan pelajar cacat pendengaran dalam pembelajaran mata pelajaran pendidikan islam di Malaysia. *Ilmi Journal Volume 6 2016: 105-124*.
- Norizan, A.G, Zahidah Anisah, M., & Che Wan Takwa, C.W.A.B. (2013). Teachers' challenge in educating special children in special classes of three selectes primary schools, Kuala Terengganu, Terengganu, Malaysia. *Advanced In Natural And Applied Sciences*, 7(3), 284-291
- Prakosha, D., Kristiyanto, A., Gunarhadi., Salim, A., Sunardi. (2018). Perception of Physical Education Teachers on Adaptive Physical Education in Inclusive School. *International Journal of Pedagogy and Teacher Education (IJPTE)*, Vol.2 Issue 1. <https://10.20961/ijpte.v2il.17042>
- Rosemary, E., & Fidelis, E. A. (2016). Influence of teacher's factors on disruptive behaviour among senior secondary school students in IMO state Nigeria. *European Virtual Conference on Social Sciences Education and Law*, 1, 19-27.
- Bari, S. & Ali, H. M. (2011). Pendidikan jasmani suaian untuk pelajar berkeperluan khas. *Seminar Pendidikan Serantau ke - 6*. Kelana Resort, Seremban.
- Sansi, A., Nalbant, S., & Ozer, D. (2020). Effects of an inclusive physical activity program on the motor skills, social skills and attitudes of students with and without Autism Spectrum

- Disorder. *Journal of Autism and Developmental Disorder* (2021) 51:2254-2270. <https://doi.org/10.1007/s10803-020-04693-z>
- Schonert-Reichl, K. A. (2017). Social and Emotional Learning and Teachers. *The Future of Children*, 27(1), 137–155. <http://www.jstor.org/stable/44219025>
- Selvam, D., & Anal, A. (2022). Special education teachers' skills and knowledge in handling students with hearing problems in special education integration program. *Jurnal Pendidikan Bitara UPSI*, 15(1), 19-28. <https://doi.org/10.37134/bitara.vol15.1.3.2022>
- Stefano, S. (2011). Physical self-concept and self-esteem in adolescents and young adults with and without physical disability: the role of sport participation. *European Journal of Adapted Physical Activity*, 4(1), 38-53.
- Strauss, A. L., & Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Thousand Oaks, CA: Sage.
- Kasimun, S., & Majid, R. (2020). Tahap pengetahuan dan kemahiran dan tahap latihan guru pendidikan khas dalam pengajaran pendidikan khas. *Persidangan Antarabangsa Sains Sosial Dan Kemanusiaan Ke-5 (PASAK5 2020)*. e-ISBN: 978 967 2122 90 6
- Sydoruk, I., Grygus, I., Podolianchuk, I., Ostrowska, M., Napierała, M., Hagner-Derengowska, M., Kałużny, K., Muszkieta, R., Zukow, W., Smoleńska, O. (2021). Adaptive physical education for children with the down syndrome. *Journal of Physical Education and Sport*, Vol 21 (suppl.issue 5), art 371 pp 2790 – 2795, Oct 2021. DOI:10.7752/jpes.2021.s5371
- Teasdale, N., & Simoneau, M. (2001). Attentional demands for postural control: the effects of aging and sensory reintegration. *Gait Posture* 2001;14:203-210
- Undang-undang Malaysia. (2001). *Akta kanak-kanak 2001*. Percetakan Nasional Malaysia Bhd.
- Undang-undang Malaysia. (2008). *Akta Orang Kurang Upaya 2008 (Akta 685)*. MDC Publishers Sdn. Bhd.
- UNESCO. (1990). Meeting Basic Learning Needs : A Vision For The 1990s. *World Conference on Education For All : Meeting Basic Learning Needs* (pp. 45-49). Jomtien, Thailand: The Inter- Agency Commission.
- Persekutuan, W. K. (2013). *Peraturan-peraturan Pendidikan (Pendidikan Khas)*. Putrajaya: Jabatan Peguam Negara.
- Wilkins, D. M. (2016). Adapted Physical Education: Where Does It Stand?. *All Capstone Projects*. 225. <https://opus.govst.edu/capstones/225>
- World Health Organization (WHO). (2021). Deafness and hearing loss. <https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss> [26 Februari 2023].
- World Health Organization (WHO). (2023). Deafness and hearing loss. <https://www.who.int/news-room/fact-sheets/detail/deafness-and-hearing-loss> [20 Mac 2023].
- Yandika, F. R., & Mohammad, N. J. (2022). Pelaksanaan pendidikan jasmani adaptif di sekolah inklusi Surabaya. *JPK (Jurnal Pendidikan Khusus)*, 18(1), 2022, 70-77.
- Yildirim, S., Yuksel, R., Doganay, S., Gul, M., Bingol, F., Dane, S. (2013). The benefits of regular physical activity on hearing in visually impaired adolescents. *European Journal of Basic Medical Sciences* Vol 3(1):17-21. <https://doi.org/10.21601/ejbms/9195>
- Zaccagnini, K. J. (2005). How physical education teacher education majors should be prepared to teach students with hearing loss: a national needs assessment. *American Annals of the Deaf*, Volume 150, No. 3, 2005